MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT

COST OF SERVICE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2019-0374

Jefferson City, Missouri
January 15, 2020

** **Denotes Highly Confidential Information** **

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I. Executive Summary

Staff conducted a review in Case No. ER-2019-0374 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 The Empire District Electric Company's ("Empire") revenue requirement. This audit was in response to Empire's filing made on August 14, 2019, seeking to increase its retail rates approximately $26,516,638 on an annual basis.

Staff's recommended decrease of $22,053,036 in revenue requirement is based upon a test year for the twelve months ending March 31, 2019 with the use of an update period ending September 30, 2019. Staff's recommended decrease includes true-up estimates through January 31, 2020 with certain isolated adjustments for the retirement of the Asbury coal plant, which is planned to occur March 1, 2020. Staff recommends a return on equity ("ROE") of 9.25% for Empire. This ROE combined with recommended capitalization ratios and senior capital cost rate results in an overall return or cost of capital for Empire of 7.14%.

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 January 29, 2020.

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

Test Year: The test year income statement is the starting point for determining a utility's existing annual revenues, operating costs, and net operating income. In this case, the test year is the 12 months ending March 31, 2019.

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

True-Up: A true-up date generally is established when significant changes in a utility's cost of service occur after the end of the update period, but prior to the operation-of-law date, and one or more of the parties has decided these significant changes in cost of service should be considered for cost-of-service recognition in the current case. True-up audits may involve the filing of additional testimony and, if necessary, additional hearings beyond the initial testimony filings and evidentiary hearings scheduled for a case. The true-up cut-off date ordered in this case is January 31, 2020. Staff will file its true-up audit revenue requirement and recommendations as part of its surrebuttal filing scheduled for March 27, 2020.

Isolated Adjustment: Isolated adjustments are adjustments proposed to capture the financial impact of known and measurable events occurring outside of a test year/update period/true-up period that will have a significant or material impact on the cost of service. The inclusion of isolated adjustments in rates should not impact the overall matching of rate base, revenues and expense items. In this case, Staff is proposing that certain isolated adjustments associated with the impending retirement of the Asbury Unit be reflected in Empire's cost of service.

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

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

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

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

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

Staff Expert/Witness: Kimberly K. Bolin

II. Background

Empire provides electric utility service in Missouri, Kansas, Arkansas, and Oklahoma. As of September 30, 2019, Empire serves approximately 174,625 retail electric customers throughout its system of which approximately 155,567 are Missouri customers. Empire also provides water utility services in Missouri. Empire owns and services The Empire District Gas Company ("EDG"), an affiliated Missouri natural gas distribution business. Empire also owns and services The Empire District Industries, Inc. ("EDI") an affiliated Missouri non-regulated fiber optic business.

Empire merged with Liberty Utilities (Liberty) on January 3, 2017. Empire and Liberty are subsidiaries of Liberty Utilities, Co ("LUCo"). LUCo is wholly owned by Algonquin Power & Utilities Company (APUC). Liberty provides gas, water and sewer service in Missouri and other jurisdictions.

Empire last sought to change its Missouri jurisdictional electric retail rates in Case No. ER-2016-0023. As a result of the Missouri Public Service Commission ("Commission") Order Approving Stipulation and Agreement in that proceeding, Empire was granted an annual rate increase of $20,390,000, effective September 9, 2016.

Staff Expert/Witness: Kimberly K. Bolin

III. Test Year/True-Up Period

Empire filed its case based upon a test year of the twelve-month period ending March 31, 2019, and made adjustments to its case to reflect the impacts of anticipated changes through the true-up period ending January 31, 2020. These dates were adopted by the Commission in its Order Setting Procedural Schedule and Other Procedural Requirements issued on October 17, 2019, which set the test year as the 12 months ending March 31, 2019, updated through September 30, 2019, and trued-up to include known and measurable information through January 31, 2020.

Based on currently available information, Staff's revenue requirement as presented in its Accounting Schedules includes a measurement of all major cost of service components. Staff's quantification of Empire's revenue requirement as of September 30, 2019 is shown on Line 10 of Staff Accounting Schedule 1, Revenue Requirement. Staff's current estimate of the impact of the future true-up audit through January 31, 2020 and certain Asbury retirement isolated adjustments out through March 1, 2020 can be found on Line 11 of Staff Accounting Schedule 1, Allowance for Known and Measurable Changes/True-up Estimate.

For purposes of the true-up audit, Staff will update the following items through January 31, 2020; plant in service, depreciation reserve, other rate base items, payroll expense, payroll-related benefits, fuel and purchased power costs, depreciation and amortization expense, rate case expense, property taxes, related income tax effects, customer growth for revenues, SPP transmission revenues and expense, capital structure, and debt costs used in determining the rate of return.

Staff Expert/Witness: Kimberly K. Bolin

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

A. Summary

Staff estimated the market based cost of common equity ("COE"), and calculated an authorized return on equity ("ROE") recommendation, for Empire vertically integrated electric utility operations using a comparative COE analysis. Staff's analysis takes into account changes in economic and capital market conditions by employing several widely used COE estimation methodologies: the constant-growth discount cash flow model ("DCF") and the capital asset pricing model ("CAPM"). The comparative analysis method allowed Staff to calculate changes in authorized ROE from period to period by using the Commission's decision in the most recent Spire Missouri, Inc. ("Spire Missouri") rate cases[1] as a benchmark. To account for risk differentials between the regulated electric and regulated gas industries, Staff utilized two proxy groups: an electric proxy group and a gas proxy group. Staff's gas proxy group is the same gas proxy group Staff presented in the Spire Missouri rate cases.

[1] ***In the matter of Spire Missouri***, Case Nos. GR-2017-0215 and GR-2017-0216 **(*Report & Order,*** issued February 21, 2018) at page 35.

In the Spire Missouri rate cases, the Commission authorized Spire Missouri an ROE of 9.80%. At the time, Staff estimated a 6.96% COE for the gas proxy group, using market data from the period April, May, and June 2017. Staff's updated COE for the gas proxy group, using market data from the period September, October, and November 2019, is 6.21%, indicating that the COE for the gas proxy group has decreased approximately 75 basis point ("bps") since the Spire rate cases decision. Staff's current COE estimated for Staff's electric proxy group of 6.39% implies that the COE for the electric proxy group is 18 bps higher than for the gas proxy group. Based on its review of this information, Staff recommends an authorized ROE of 9.25%[2] for Empire District Electric Company. Staff also recommends that the Commission set Empire's allowed Rate of Return ("ROR") based on Empire's capital structure as of September 30, 2019. The summary of Staff's ROR recommendation is in the following Table:

Table 1. Allowed Rate of Return

			Allowed Rate of Return Using Common Equity Return of:		
	Percentage of Capital	Embedded Cost			
Capital Component			9.05%	**9.25%**	9.80%
Common Stock Equity	52.90%	-----	4.79%	**4.89%**	5.18%
Long-Term Debt	47.10%	4.76%	2.24%	**2.24%**	2.24%
Total	**100.00%**		7.03%	**7.14%**	7.43%

The details of Staff's analysis and recommendations are presented in Schedules PC-1 – PC-13 in Confidential Appendix 2.

B. Analytical Parameters

The determination of a fair ROR is guided by principles of economic and financial theory and by certain minimum Constitutional standards. Investor-owned public utilities such as Empire are private property that the state may not confiscate without appropriate

[2] 9.80% minus 57 (=75-18) bps = 9.23%, rounded up to 9.25%.

compensation. The United States Supreme Court has described the minimum characteristics of a Constitutionally-acceptable rate of return in two frequently-cited cases:[3] ***Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia***, and ***Federal Power Commission v. Hope Natural Gas Co***.

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

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

Embodied in these three principles is the economic theory of the opportunity cost of investment. The opportunity cost of investment is the return that investors forego in order to invest in similar risk investment opportunities that vary depending on market and business conditions.

Methodologies of financial analysis have advanced greatly since the ***Bluefield*** and ***Hope*** decisions.[4] Additionally, today's utilities compete for capital in a global market rather than a local market. Nonetheless, the parameters defined in those cases are readily met using current methods and theory. The principle of commensurate return is based on the concept of risk. Financial theory holds that the return an investor may expect is reflective of the degree of risk inherent in the investment, risk being a measure of the likelihood that an investment will not perform as expected by that investor. Any line of business carries with it its own risks and it follows, therefore, that the return Empire shareholders may expect is equal to that required for comparable-risk utility companies.

COE is a market-determined minimum return investors are willing to accept for their investment in a company compared to returns on other available investments. An authorized ROE, on the other hand, is a Commission-determined return granted to monopoly industries, allowing them the opportunity to earn fair and reasonable compensation for their investments.

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

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

Staff has relied primarily on the analysis of a comparable group of companies to estimate the COE for Empire, applying this comparable-company approach through the use of both the DCF method and the CAPM. Properly used and applied in appropriate circumstances, both the DCF and the CAPM can provide accurate estimates of utilities' COE. 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; therefore, Staff's recommended authorized ROE based on the COE, derived from comparison of peer companies, is consistent with the principles set forth in *Hope* and *Bluefield*.

C. Current Economic and Capital Market Conditions

Determining whether a COE estimate is fair and reasonable requires a good understanding of 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 COE should pass the "common sense" test when considering broader economic and capital market conditions.

1. <u>Economic Conditions</u>

The current economic climate is punctuated by a weakening global economy and volatility emanating from trade disagreements between the USA and China, and the pending withdrawal ("Brexit") of the UK from the European Union ("EU"). According to Bureau of Labor Statistics, gross domestic product ("GDP") grew 3.1%, 2.0% and 2.1% in the first, second and third quarters of 2019, respectively. Real GDP growth in 2017 and 2018 were 2.2% and 2.9%, respectively.[5] Because of the aforementioned concerns in the economy, the projections for economic activity point to a continued slowdown. In 2019, real GDP is expected to slow down to between 2.0% and 2.4%.[6] International Monetary Fund ("IMF") and Organization for Economic Co-operation and Development ("OECD") project averages of between 2.05% and 1.84% real GDP growths for 2020 and 2021, respectively. Long-run projections for real GDP is about 1.9% according to the Federal Open Market Committee ("FOMC").

Inflation, measured by Personal Consumption Expenditures ("PCE") for 2017 and 2018 was 1.7% and 1.8%, respectively.[7] Inflation is expected to be about 1.80% for the year 2019

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[5] https://www.bea.gov/news/2019/initial-gross-domestic-product-4th-quarter-and-annual-2018.
[6] FED: https://www.federalreserve.gov/monetarypolicy/fomcprojtabl20190619.htm.
[7] https://www.cbo.gov/sites/default/files/115th-congress-2017-2018/reports/53651-outlook-appendixd.pdf.

according to the Federal Reserve Bank of Philadelphia.[8] Long-term inflation should be expected to be near the Federal Reserve ("FED") 2% target.[9] The unemployment rate has continued to decline from 4.7% in January 2017 to 3.5% in November 2019. [10]

FOMC increased the FED target funds rate ("funds rate") nine times since December 2015, from 0 to 2.5%. In July, 2019 the FED cut the target rate by 25 basis points, its first rate cut since 2008, followed by two more in September and October. Slowdown in the global economy has necessitated such a move by the FED. The broad market experienced a sharp decline by the end of 2018. Dow Jones ended 2018 down 3.5% and S&P 500 ended 2018 down 4.4%. The Edison Electric Institute Index ("EEI Index") ended 2018 up 3.7%, indicating electric utilities' resilience as compared to S&P 500. Some analysts attributed the economic concern in part to the trade tariffs.[11] Brexit also continues to be a drag on the global economy. The FED has explicitly mentioned Brexit uncertainty as one potential factor weighing on the U.S. outlook, and it's certainly possible that a "no deal" Brexit could cause a period of volatility in global financial markets which, if it was sustained, might weigh on U.S. growth.[12]

30-year treasury yields fell throughout 2017 before rising in 2018 and then falling again in 2019. 30-year treasury yields were 3.02% in January 2017 and 2.77% by December 2017. 2018 saw yields rising from 2.88% in January to 3.10% in December 2018 before falling to 2.28 by November 2019 (*see* Schedule PC-3-2). Abroad, negative yields are common. In the European Union, bonds of up to 20-year maturity have negative yields.[13] Japan has had negative yields for over a decade. Low interest rates abroad have the effect of pushing down U.S. interest rates through the force of supply and demand. Lower yields abroad increase demand for U.S. debt securities with the effect of lowering yields in the U.S. The average 30-year Treasury bond yield for the 3-month period (April, May and June 2017) of Spire rate case analysis was 2.90%. The average 30-year Treasury bond yield was 2.21% in the 3-month period (September, October and November 2019) the period of analysis for the current rate case. That is a decrease of 69 basis points ("bps") (*see* Schedule PC-3-2).

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[8] https://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/2019/survq419.
[9] FED: https://www.federalreserve.gov/monetarypolicy/fomcprojtabl20190619.htm.
[10] https://fred.stlouisfed.org/series/UNRATE.
[11] EEI Q2 2019 Financial Update, at page 4.
[12] https://www.cnbc.com/2019/07/18/brexit-impact-on-the-us html.
[13] https://www.ecb.europa.eu/stats/financial_markets_and_interest_rates/euro_area_yield_curves/html/index.en.html.

Interest rates have a strong relationship with GDP and the inflation rate. Weakening GDP growth will prompt the Fed to cut interest rates as the Fed tries to stimulate the economy. Weakening GDP also signals to investors of a weakening economy, which causes investors to cut demand for treasury bonds and other debt securities. Low demand for treasury bonds causes prices to rise and yields to fall, creating a low cost of capital environment. Weak inflation also causes concern about economic growth, which prompts the Fed to cut interest rates. Because of weak economic growth and short-term interest rate cuts, long-term interest rates have fallen to levels lower than experienced during the period of Spire rate cases. With projected low GDP growth, interest rates are set to remain low and continue to support a low COE environment.

2. Capital Market Conditions

a. Utility Debt Markets

Interest rates are a key factor in determining a utility's COE, as stock investors demand a premium return over those offered by lower-risk, interest-bearing securities, such as U.S. Treasury bonds. An increase [decrease] in interest rates therefore, will increase [decrease] a utility's cost of equity, all else being equal.[14] The current utility debt market indicates a lower cost-of-capital than the period when the Commission ordered a 9.80% authorized ROE for Spire. Utility bond yields have been on a steady decline since January 2019. Average utility bond yields, as reported by Mergent Bond Record, declined from 4.48% in January 2019 to 3.5% in November 2019 (*see* Schedule PC-3-1).

Staff compared average utility bond yields in a three month period (April, May and June 2017) within the timeframe of the Spire Missouri rate case analysis, to a three month period (September, October and November, 2019) within the timeframe of the current case. The three-month average utility bond yield was 4.13% in the Spire rate case compared to 3.46% in the current rate case, a drop of 67 bps (*see* Schedule PC-3-1). As noted in the Edison Electric Institute, lower interest rates have boosted utilities stocks, "[d]riven by falling interest rates, the EEI Index gained nearly 16% through June."[15]

Although utilities' COE is not perfectly correlated to changes in utility debt yields, it is widely recognized in the investment community that regulated utility stocks are a close alternative

[14] Electricity Markets & Policy Group: https://emp.lbl.gov/sites/all/files/lbnl-1003952.pdf.
[15] Edison Electric Institute, Q2 2019 Financial Update, page 5.

to bond investments and, therefore, that the two values are highly correlated over time. As interest rates fall, utility stock prices rise, pushing COE down as investors substitute debt for utility stock in search for higher yields. In an article on September 3, 2019 CNBC reported that falling bond yields have lifted two sectors: real estate and utilities.[16]

b. Utility Equity Markets

Utility equities have outperformed the S&P 500 in the recent past. Over the past 4 years ending November 30, 2019, the S&P 500 Utilities sector outperformed the overall S&P 500 69.38% to 63.84%, respectively. Staff's electric and gas proxy groups had total returns of 67.47% and 73.83%, respectively, over the four-year period, well above the 63.84% for the S&P 500. As noted in the Edison Electric Institute in its Q2 2019 Financial Update, sustained low interest rates have caused the utilities to outperform the overall market "[t]he utility sector, widely seen as a defensive sector, typically underperforms a broad market advance. But the first half of 2019 also produced a surprising and steady decline in long-term interest rates in the U.S. and overseas" (EEI Q2 2019 Financial Update, page 4). In the long-term, total returns on the S&P 500 are expected to be greater than total returns on utility stocks because overall, companies in the S&P 500 have higher growth rates than utilities. In times of volatility and economic uncertainty, investors move their investments into utilities, increasing demand and consequently pushing utilities' valuations higher than the overall market.

To further gain insight on what is happening in the utility equity market, Staff analyzed utility price to earnings ("PE") ratios and dividend yields. Staff's electric proxy group's PE ratio for the time period (April, May and June, 2017), corresponding to the time period during the Spire rate cases, was 23.49x compared to 31.45x in the current period (September, October and November, 2019), corresponding to the time period of Staff's analysis for the current case. The gas proxy group's PE ratio in the same periods increased from 25.26x to 32.10x. Dividend yields for electric and gas proxy groups fell from 3.74% to 3.00% and from 2.64% to 2.46%, respectively.

There is an inverse relationship between PE ratios and COE. At any given point in time, the PE ratio gives you the price of the company (per share) divided by earnings per share. The reciprocal of this is called earnings yield – a metric comparable to dividend yield. At a high PE

[16] https://www.cnbc.com/2019/09/03/plunging-bond-yields-have-lifted-these-two-stock-sectors-to-record-levels html.

ratio, earnings yield (dividend yield) is low, which translates into low COE. Higher PE ratios and lower dividend yields today than the period of Spire rate cases indicate a lower COE.

D. Empire Operations

Empire provides electric service in an area of approximately 10,000 square miles in southwest Missouri and the adjacent corners of the states of Arkansas, Oklahoma, and Kansas. Empire's revenue components are as follows: 93.3% electric, 5.7% gas and 1% other. According to Moody's Investors Service, Empire is regulated by Missouri Public Service Commission, Kansas Corporation Commission, the Corporation Commission of Oklahoma, the Arkansas Public Service Commission and the Federal Energy Regulatory Commission ("FERC").[17] Empire's service area encompasses 133 incorporated communities in 26 counties in the four state area. Most of the communities in the Company's service area are small, with only 35 containing a population in excess of 1,500. Only 12 communities have a population in excess of 5,000, and the largest city, Joplin, Missouri, has a population of approximately 50,000. Empire serves approximately 155,000 customers. The economy in the Company's service area is diversified, and includes small to medium manufacturing operations, medical, agricultural, entertainment, tourism, and retail interests.

On January 1, 2017, Empire was acquired by Liberty Utilities, Co. ("LUCo") which is owned by Algonquin Power & Utilities Corp. ("APUC"). APUC serves approximately 800,000 customers in twelve states across the United States through its electric, gas, water and waste water utilities. In addition to its regulated utility business, APUC also operates its Liberty Power business, which owns approximately 1.36 GW of renewable generation in the United States and Canada.

While most of its day-to-day operations remain the same, there have been some changes in the Company's operations since the LUCo acquisition. For example, the Company is no longer publicly traded, although APUC is listed on the New York and Toronto Stock Exchanges. Another difference is that Empire is now part of a larger corporate family that operates other electric, gas, and water utilities, providing opportunities for collaboration across the business to share best practices and expertise.

[17] Moody's Investors Service, Credit Opinion, January 16, 2019.

With the passage of Senate Bill 564 in 2018, Empire will have the opportunity to improve its operations by cutting its regulatory lag. Moody's noted in its Credit Opinion on January 16, 2019, "On a positive note, Missouri Senate Bill 564, passed in June 2018, is expected to provide a more supportive regulatory framework, thereby reducing regulatory lag and opening the possibility of greater spend in Missouri."(Empire's Moody's Credit Opinion, January 16, 2019) The bill provides the ability for electric utilities to update their rates in between general rate cases to account for changes in customer usage due to weather or conservation. Alternatively, utilities can institute plant in service accounting to defer and recover 85% of total depreciation expense and return on qualifying electric plant placed in-service."[18]

E. 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 (3) an evaluation of a fair and reasonable authorized ROE.

1. Capital Structure

Staff analyzed Empire's capital structure since its acquisition by LUCo. LUCo is the primary debt issuer for the entire LUCo family. All existing Empire debt was retained by Empire when the merger happened. New debt and refinancing of maturing debt will occur on the LUCo bond platform. Liquidity is to be provided via a single consolidated credit facility at LUCo.

In the 'Stipulation and Agreement' in the merger case, No. EM-2016-0213, Empire agreed that if its per books capital structure is different from the per books capital structure of the entity on which it relies for financing , Empire shall be required to provide evidence in subsequent rate cases as to why its per book capital structure is the most economical for purposes of determining its revenue requirement. Empire's consolidated capital structure is composed of 52.90% equity and 47.10% debt as of September, 30, 2019. Liberty's capital structure is composed of 53.00% equity and 47.00% debt. Staff accepts Empire's per books capital structure.

[18] Moody's, in its credit opinion on January 16, 2019.

2. Embedded Cost of Debt

Staff recommends the use of Empire's consolidated embedded cost of debt for purposes of setting its ROR, which is 4.76% as of September 30, 2019.

3. Cost of Common Equity

Staff estimated Empire's cost of common equity through a comparable company cost-of-equity analysis using the proxy group of electric utility companies, applying DCF and CAPM analyses. Staff also estimated the current cost of equity for the gas utility proxy group Staff presented in the Spire rate case to determine any change in the COE since the Commission authorized a 9.80% ROE. Combining the estimates and applying them proportionately allowed Staff to estimate a reasonable authorized ROE (*see* Schedule PC-13). Staff compared its recommendation to recent authorized ROEs of other Commissions as a check on the reasonableness of Staff's ROE recommendation.

a. The Proxy Group

Staff used a proxy group consisting of companies that are predominantly vertically integrated, regulated, electric utilities to estimate changes in the cost of equity since Spire's last rate case. Staff ensured companies in the proxy group are confined to vertically integrated, regulated, electric utility operations by starting with the list included in the Edison Electric Institute's[19] ("EEI") regulated electric utility index, and then screened these companies further by ensuring that they:

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

[19] EEI is an association that represents all U.S. investor-owned electric companies. It classifies electric public utilities as 'regulated' and 'mostly regulated', with 'regulated' having 80% or more total assets regulated.

- generate at least 80% of income from regulated utility operations (*see* Schedule PC-5)

b. The Constant-growth DCF

Staff started its evaluation of the electric utility industry's COE by 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. 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 D_1/P_0, the expected next 12-months' dividend divided by current share price, is the dividend yield. Staff calculated the dividend yield for each of the comparable companies by dividing the consensus analysts' expected dividend per share over the next four quarters (*see* Schedule PC-10-1) by the average daily closing stock prices for the three months ending November 30, 2019.[20] The projected average dividend yield for the electric utility proxy group is approximately 3.14%.

c. 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 10-Year and 5-Year historical earnings per share ("EPS") for each of the comparable companies and also the 5-Year SNL projected EPS. The 10-year and 5-year historical average were 3.66% and 3.11%, respectively (*see* Schedule PC-9-3). The average

[20] The monthly high/low averaging technique minimizes the effects of short-term stock market volatility on the calculation of dividend yield. P_0 is calculated by averaging the highest and the lowest price for each month during the selected period.

consensus long-term growth rates in EPS for the companies was 5.16% as of November 30, 2019. (*see* Schedule PC-9-3).

While Staff may accept the argument that electric utilities' EPS can grow over the next five years at a growth rate of approximately 5.16%, a rate which is higher than the consensus GDP long-term growth rate estimates of about 4.4%[21], 3.8%[22] and 3.9%[23], it would be unreasonable to conclude that this higher growth rate is sustainable in perpetuity. This growth rate 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 over the long term. Since 2009, companies in the S&P 500 have retained about 65% of their earnings for reinvestment.[24] Staff's electric proxy group has had about 20% earnings retention rate. During the same time period, the electric utilities in general have retained an average 26% of their earnings for reinvestment. Utilities should not be expected to grow at rates as robust as the S&P 500's growth rate because of their lower retention rates. With authorized ROEs in the 9.00% to 10.00%[25] range, sustainable growth model indicates growth rates in the 2.34% to 2.60%[26], a far cry from an average of 5.16%. Staff's electric proxy group has an average of 3.11% EPS growth rate in the past five years (*see* Schedule PC-9-3).

There are stark statistics that point to a continued slowdown in electricity usage, and consequently, growth. Growth in electric use is tied to economic and population growths. World Bank recently estimated U.S. population growth to be around 0.60%[27] annually. The U.S. economy is projected to grow at a nominal rate of about 4.00%[28] annually. For developed countries like the United States, electricity usage is projected to be even lower than economic growth due to decrease in the use of electricity. The U.S. and other developed countries are moving away from manufacturing-based economies to service-based economies. Service-based economies tend to use less electricity than economies with high levels of industrial activity. This further dismisses the notion that electric utilities will grow at 5.16%, perpetually.

[21] https://data.oecd.org/gdp/nominal-gdp-forecast.htm.
[22] CBO estimates 1.8% for the next decade plus 2% projected CPI.
[23] EIA projects 3.9% through 2050.
[24] Aswath Damodaran: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/spearn htm.
[25] Average authorized ROEs have ranged between 9.00% and 10.00% in the last 5 years.
[26] Using the 26% retention rate. Growth = .26*.09 = 2.34% and, .26*.1 = 2.60%.
[27] https://data.worldbank.org/indicator/SP.POP.GROW?most_recent_year_desc=false.
[28] Nominal growth rate which is real growth rate (about 1.9%) plus expected inflation (about 2.0%).

A projected long-term nominal GDP growth rate[29] should be conservatively ascribed as an upper constraint when testing the reasonableness of growth rates used to estimate the cost of equity for a regulated electric utility. A high-end estimate for nominal GDP of 4.4% is reasonable.

It is important to consider actual experience in dividend growth achieved by electric utility companies and the basic characteristics of electric utility stocks when determining a reasonable expected growth rate in the DCF. It is critical to remember that the growth rate used in the DCF is supposed to represent the expected capital gains (growth in the stock price) of the utility. Considering that over long-term holding periods a majority of utility investors' return from investing in utility stocks have been from the payment of the dividend, it is simply illogical to expect the growth component of the return to be higher than the dividend yield. Results of the DCF place the electric utility proxy group's dividend yield currently at 3.14%. Making the assumption that capital gains could equal the dividend yield implies electric utility investors are requiring a total return of 6.28% for electric utility stocks. While this may seem low for purposes of setting the authorized ROE, it is definitely in the realm of reasonableness for COE for regulated utility stocks. Although Staff considers it unlikely that the fundamental characteristics of electric utility stocks will cause returns from capital gains to be much higher than dividend returns, because historical dividend growth has been approximately 4.0% and expected dividend growth over the next five years is expected to be higher, Staff used a constant growth rate of 4.20% to 5.00% to arrive at a COE estimate of between 7.34% to 8.14% (*see* Schedule PC-10-1). Staff also used this growth rate to maintain consistency with the growth rate range assumed in the Spire rate cases.

d. 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

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

pure time value of money (measured by the risk free rate), the reward for bearing systematic risk (measured by the market risk premium), and the amount of systematic risk incurred by the asset (measured by Beta). The general form of the CAPM is as follows:

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

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

R_f is the risk-free rate;

β is Beta; and

$R_m - R_f$ is the market risk premium.

For inputs, Staff relied on historical capital market return information through the end of 2018. For the risk-free rate (R_f), Staff used the average yield on 30-year U.S. Treasury bonds for the three-month period ending November 30, 2019; that figure was 2.21%. For beta (β), Staff relied on Market Intelligence betas[30].

The average beta for the proxy group was 0.54. For the market risk premium ($R_m - R_f$) estimates, Staff relied on the historical difference between earned total returns on stocks and earned total returns on bonds.[31] The first risk premium (6.00%) was based on the long-term arithmetic average of historical return differences from 1926-2018. The second risk (4.50%) premium was based on the long-term geometric average of historical return differences from 1926 to 2018. The results using the long-term arithmetic average risk premium and the long-term geometric risk premium are 4.63% to 5.43% (*see* Schedule PC-11-1) for the electric proxy group and 4.91% to 5.81% for the gas proxy group (*see* Schedule PC-11-2). The gas proxy group's CAPM results from the period of Spire rate cases was 6.08% geometric and 7.14% arithmetic, for an average decrease of 125 bps from that point to the current period (*see* Schedule PC-12).

F. Tests of Reasonableness

Staff has tested the reasonableness of its recommendation by reviewing past authorized ROEs in other jurisdictions.

[30] Staff used Market Intelligence Excel beta generator template.
[31] From Duff & Phelps *2019 Valuation Handbook: A Guide to the Cost of Capital.*

Average Authorized Returns

Although Staff believes it has appropriately considered this Commission's recent authorized ROE and capital structure decisions for purposes of its recommendation in this case, Staff recognizes that the Commission may also be interested in recent authorized ROEs and capital structure decisions for other electric utility and gas utility companies throughout the country. For consideration of authorized ROEs and capital structures for other electric utility and gas utility companies, the chart below presents information compiled and published by Regulatory Research Associates (RRA) which details the average authorized ROEs by Commissions around the U.S. in rate cases from 2015 – 2019, along with the percentage of common equity to total capital. These are averages for fully litigated vertically integrated electric and gas cases.

Table 2: Past 5 Years Authorized ROEs

Year	Electric		Gas	
	ROE%	Equity%	ROE%	Equity%
2015	9.85%	49.54%	9.60%	49.94%
2016	9.77%	48.91%	9.54%	50.07%
2017	9.74%	48.90%	9.725	49.885
2018	9.68%	45.66%	9.57%	50.63%
2019	9.36%*	49.15%	9.73%	51.13%

**Data through December 4, 2019 for fully ligated and vertically integrated cases*

Source: Regulated Research Associates, an offering of S&P Global Market Intelligence

G. Conclusion

In light of recent Commission decisions, Staff believes an authorized ROE in the range of 9.05% to 9.80% is fair and reasonable for Empire. Considering information Staff has reviewed, Staff recommends the Commission authorize a ROE of 9.25.

A ROE range of 9.05% – 9.80% leads to an ROR range of 7.07% to 7.43% for Empire (*see* Schedule PC-13). Using the point recommended authorized ROE of 9.25%, results in an allowed ROR of 7.14% for Empire. Empire's ROR was calculated by applying an embedded cost of long-term debt of 4.76% and an allowed return on common equity of 9.25% to a capital structure consisting of 52.90% common equity and 47.10% long-term debt

Staff Expert/Witness: Peter Chari

V. Rate Base

A. Plant in Service

Accounting Schedule 3, plant in service, reflects the rate base value of Empire's plant in service by account, updated through September 30, 2019, to be later trued-up through January 31, 2020. Empire records its water, non-utility operating, Empire District Gas, fibercom, MO water, and MO Midstates gas general plant in service balances on its electric books. To ensure that Empire's electric customers only pay for rates associated with Empire's electric service, Staff adjusted Empire's plant in service to remove Empire Water, Empire District Gas, Empire District Industries, Inc. (EDI) Liberty Water, Liberty Midstates Gas and non-utility operations portions from the Company's general plant for electric rate case purposes.

Staff Expert/Witness: Courtney Barron

B. Depreciation Reserve

Accounting Schedule 6, Depreciation Reserve, reflects the rate base value of Empire's depreciation reserve by account, updated through September 30, 2019, to be later trued-up through January 31, 2020. Since Staff removed portions of the general plant that are allocated to Empire Water, Empire District Gas, Empire District Industries, Inc. (EDI), Liberty Water, Liberty Midstates Gas and non-utility operations portions, Staff also removed portions of the associated deprecation reserve for these plant accounts.

Staff Expert/Witness: Courtney Barron

C. Cash Working Capital

Cash Working Capital ("CWC") is the amount of funding necessary for a utility to pay day-to-day expenses incurred in providing utility services to its customers. Cash inflows from payments received by the Company and cash outflows for expenses incurred by the Company are analyzed using a lead/lag study. The lead/lag study involves analysis of the timing of when funds are paid to suppliers and when the utility receives the good or service compared to when the utility receives revenues from customer bills for the utility services it provides. Analysis is also performed for pass-through expenses where funds are collected and remitted such as sales taxes and employee payroll withholdings.

The CWC requirement can be negative or positive. If the requirement is negative, it demonstrates that the utility's customers are providing the working capital for the test year, which indicates customers paid for the utility's expenses before the Company incurred them. Under this circumstance, CWC would represent a reduction to rate base. A positive CWC requirement indicates that the utility pays its expenses before receiving payment from the customers, which means that the shareholders are providing the funds. In this instance, CWC would represent a rate base addition.

In this case, Staff performed a full lead/lag study specific to costs incurred during the 12 month period ending March 31, 2019, and also reviewed the lead/lag study sponsored by the Company's consultant Timothy Lyons. In addition to the revenue lag, Staff reviewed the following expenses for the lead/lag study: cash vouchers, power plant fuel expenses, purchased power, payroll, employer payroll taxes, employee vacation time, 401k, life/Accidental Death & Dismemberment (AD&D) insurance, pension and OPEB expense, incentive compensation, interest expense, property taxes, Federal and State income taxes, Public Service Commission (PSC) assessment expense, employee payroll withholdings, federal and state unemployment taxes, sales taxes, use taxes, and municipal gross receipts taxes.

Staff accepted the Company's proposed revenue lag and its proposed expense lags for the following: payroll, Federal Unemployment Tax (FUTA) and State Unemployment Tax (SUTA). Staff performed an analysis of these items and determined the Company's calculation was reasonable.

Staff performed a thorough analysis and adjusted the following expense lags: employer payroll taxes, employee payroll withholdings, coal, natural gas, oil, purchased power, PSC assessment, property taxes, pension and OPEB expense, 401k, incentive compensation, accrued vacation, life/Accidental Death & Dismemberment (AD&D) insurance premiums, Federal and State income taxes, interest expense and cash vouchers. Staff also accounted for bad debt expense by removing the dollar amount from cash vouchers and listing a zero day lag since this is a non-cash item.

When Staff calculates an expense lag the date the utility makes the payment is used to calculate the lag. Staff has an outstanding request for the payment dates for oil and purchased power invoices. For purposes of this filing, Staff used the due dates to calculate the expense lag for oil and purchased power. Staff will review the oil and purchased power expense lags once the payment dates are received and address any changes in rebuttal testimony.

Sales tax and gross receipts taxes are collected by Empire District Electric Company and then remitted to the taxing authorities based on the taxing authorities' due date. These taxes are included on ratepayer bills and the Company collects and remits the tax for the taxing authority. Since a service is not provided to the ratepayer by the Company, measurement of the revenue and expense lag calculations start with the beginning point of the collection lag for sales and gross receipts taxes. The collection lag is the period of time between the day the bill is placed in the mail by the Company and the day the Company receives payment from the ratepayers. As a result, Staff recommends a shortened revenue and expense lag for the sales tax and gross receipts tax.

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

Staff Expert/Witness: Jared Giacone

D. Prepayments

Staff's recommended treatment of prepayments is to examine each prepayment account individually in order to determine an appropriate measure that most accurately predicts the ongoing future expense of a particular prepayment account, and then to include the prepayments in Empire's rate base. Prepayments are the costs a company incurs and pays in advance. Prepayments are treated as an asset and are reflected in the utility's rate base. Due to the lack of a discernable trend, Staff has included a 13-month average, ending September 30, 2019 in the rate base in the amount of $6,954,889.

In the prior rate case, ER-2016-0023, KCP&L Land Lease (165352) was excluded from investments. KCP&L Land Lease is a cash account, not an actual investment in utility assets. It is excluded in this case for prepayments as well.

Staff Expert/ Witness: Angela Niemeier

E. Materials and Supplies

Staff's recommended treatment of materials and supplies (M&S) is to examine each account individually in order to determine an appropriate level that most accurately reflects the ongoing future expense of a particular account. M&S represent an investment in inventory for items such as spare parts, electric cables, poles, meters, and other miscellaneous items used in daily operations and maintenance activities by Empire to maintain Empire's production facilities and electric system. Empire holds a variety of M&S in inventory so the items can be readily available when needed in performing its utility operations. Staff analyzed these M&S accounts from September 30, 2018 to September 30, 2019. Staff reviewed and analyzed historical balances from 2015 to current for M&S to determine if there is a discernible trend. Data reveals an overall upward trend. After reviewing the data, Staff included the most current 13-month average of $31,582,948 in rate base.

Empire's electronic recording system included both water and electric utility inventory; therefore, an adjustment entry was made to remove the water portion of M&S from Empire's electric M&S. Staff used a 13-month average of Empire's water inventory to determine the level of the M&S inventory that needed to be eliminated from Empire's rate base in this proceeding.

Staff Expert/ Witness: Angela Niemeier

F. Customer Advances

Customer advances are funds typically provided to Empire in order to ensure that Empire builds electric infrastructure in areas that have potential for future development. These advances are also used by the utility to establish electric service for potential future customers without investing a substantial amount of money at the risk of the utility and its other customers. Customer advances are included in the rate base as an offset, reducing the amount of overall investment that customers must supply as a return to the utility.

Staff reviewed historical balances for customer advances and performed an analysis to determine if there is a discernible trend; data from 2015 to current revealed that there is a slight upward trend. Staff included the 13-month average of customer advances, ending September 30, 2019, as an offset to Empire's rate base.

Staff Expert/Witness: Angela Niemeier

G. Customer Deposits

Customer deposits are funds required to be provided by certain customers taking electrical service from Empire as a security against potential loss arising from failure to pay for utility service. These funds are deducted from Empire's rate base, as they are cost-free funds received from Empire customers. Staff reviewed historical balances for customer deposits and performed an analysis to determine if there was a discernible trend. There was a gradual upward trend in Customer Deposits. Staff included a representative ongoing level of $13,610,695 as an offset to rate base, which is based on a 13-month average from September 30, 2018 to September 30, 2019.

Staff calculated interest expense based on the level of customer deposits included in Staff's rate base schedule. Staff utilized the formula included in the tariff (JE-2003-0707) to calculate the customer deposit interest; this formula is the most current prime interest rate, as published in the Wall Street Journal, as being in effect on the last business day of December of the prior year, plus 1%. The prime rate listed in December 2018 was 5.50%. Therefore, the reasonable rate applied to customer deposits, prime rate plus 1%, is 6.50%. The amount of interest, $886,274, is included as an adjustment in Staff Accounting Schedule 10.

Staff Expert/Witness: Angela Niemeier

H. Fuel Inventories

Coal Inventory - Staff used the results of its fuel model to calculate the annual amount of coal used by each Empire generating plant to meet its total company normalized native load. Empire operates in four retail jurisdictions: Missouri, Arkansas, Kansas, and Oklahoma. "Native load" is the kilowatt or megawatt demand placed upon Empire's electric system by its regulated retail electric customers. To determine the amount of coal inventory, the average daily burn by unit must be calculated. The average daily burn by unit is derived by dividing the annualized tons burned by the difference between 365 days and the number of annual planned outage days. Then, the average daily burn is multiplied by an appropriate number of days of inventory for each plant resulting in a burn inventory. The number of days of inventory of Powder River Basin ("PRB"), or "western" coal, for the Asbury 1 unit was set by Empire at or around 60 days. The PRB coal in 2019 was to be supplied by western coal suppliers Peabody Coal Sales through December 31, 2019.

Staff has also used a 60-day calculation to establish Empire's rate base investment in the coal inventory maintained both at KCPL's Iatan Generating Stations (Empire is a 12% owner of Iatan 1 and 2) and Plum Point Energy Associates, LLC's Plum Point Energy Station (Empire is a 7.52% owner of Plum Point).

Staff multiplied the resulting burn inventory for each unit by the delivered cost of coal per ton for that unit as calculated by Staff. To this total, Staff added the fixed cost of basemat coal established in the prior Empire rate case, Case No. ER-2011-0004, for each unit, except for Plum Point. Basemat coal is the bottom portion of a coal pile that is not usable as fuel due to contamination by soil, clay, and other contaminants. The basemat coal for the Plum Point unit is capitalized as part of plant in service costs. The total cost of the burn inventory and basemat coal was multiplied by Staff's energy jurisdictional factor to arrive at the Missouri allocated amount, with the result reflected as part of Fuel Inventories in Accounting Schedule 2, Rate Base.

Fuel Oil Inventory - Staff used the 13-month average inventory quantities and a weighted average price for oil inventory levels as reported in the Company's Coal and Oil Inventory Reports provided in response to Staff's Data Request No. 0018.

Gas Stored Underground – Empire did not renew its natural gas storage agreement with Southern Star Central Gas Pipeline, Inc. ("SSCGP") when it expired on March 31, 2016. Therefore, Staff will not include any inventory cost for Gas Stored Underground in rate base.

Staff Expert/Witness: Amanda C. McMellen

I. Accumulated Deferred Income Taxes ("ADIT")

Empire's ADIT represents, in effect, a net prepayment of income taxes by customers prior to tax payment by Empire. For example, because Empire is allowed to deduct depreciation expense on an accelerated basis for income tax purposes, the amount of depreciation expense used as a deduction for income taxes purposes by Empire is considerably higher than the amount of 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 tax reserves to the future. The net credit balance in the ADIT accounts reserve represents a source of cost-free funds to Empire. Therefore, Empire's rate base is reduced by the ADIT balance to avoid having customers pay a return on funds that are provided cost-free to the Company. Generally, deferred income taxes associated with all book-tax timing differences created through the ratemaking process should be reflected in rate base. Staff has decided to take this approach in calculating the ADIT rate base offset amount in this case.

The deferred tax impact associated with the past tax timing differences reflected in Staff's rate base offset include amounts associated with the following major components: Accelerated Depreciation, Loss on Hedge Transactions, Gain on Hedge Transactions, License Software Amortization, Loss on Reacquired Debt, Ice Storm Expenses, Deferred Federal Tax Asset-Miscellaneous, Deferred Tax Liability-Iatan Deferred Charges, Contributions in Aid of Construction, Post-retirement Benefits – Pensions, Capitalized Interest, and Deferred Tax Net Operating Loss.

Staff Expert/Witness: Keith D. Foster

J. Vegetation Management Tracker Regulatory Asset

Per the Stipulation and Agreement in Case No. ER-2016-0023, the Vegetation/Infrastructure tracker was discontinued and a regulatory asset was established in the amount of $2,182,407 (the balance as of March 31, 2016). The asset was to be amortized over five years. The annual amortization of this asset is $436,381. The unamortized balance as of September 30, 2019 is $854,776.

Staff Expert/Witness: Kimberly K. Bolin

K. Iatan and Plum Point Carrying Costs

Iatan 1

Pursuant to Empire's regulatory plan approved by the Commission in Case No. EO-2005-0263, Empire deferred certain "carrying costs" associated with the Iatan I AQCS investment past its in-service date into Account 182308, Iatan Deferred Carrying Costs. (The deferral of carrying costs after a projects' in-service date is also known as "construction accounting"). In the *Report and Order* in KCPL's Case No. ER-2010-0355, the Commission disallowed certain costs that had been booked to the Iatan accounts. The effect of these disallowances reduced the balance of the Iatan I AQCS plant balance. In Empire's Case No. ER-2012-0345, Staff removed any construction accounting allowances associated with the portion of Iatan 1 AQCS approved disallowances that were allocated to Empire from its rate base and expense amortization calculations. In the current case, Staff used the September 30, 2015 balance ($4,306,937) from the most recent rate case, Case No. ER-2016-0023 and the annual amortization expense included in Staff's Accounting Schedules in Case No. ER-2012-0345, to determine the unamortized balance of $3,968,021 as of September 30, 2019 to include in rate base.

Iatan 2

Pursuant to Empire's regulatory plan approved by the Commission in Case No. EO-2005-0263, Empire deferred certain "carrying costs" associated with the Iatan 2 generation unit investment past its in-service date into Account 182332, MO IatanII Df Chr ER-2010-0130. In the *Report and Order* in KCPL's Case No. ER-2010-0355, the Commission disallowed certain costs that had been booked to the Iatan accounts. Staff has removed any construction accounting allowances associated with the portion of Iatan 2 disallowances that were allocated to Empire from its rate base and expense amortization calculations. The balance of Iatan 2 carrying costs was also reduced by Empire's deferral of fuel and purchased power expense savings it had incurred due to the addition of Iatan 2 to its generating system from the unit's in-service date through June 30, 2012. Staff used the September 30, 2015 balance ($2,342,397) from the most recent rate case, Case No. ER-2016-0023, and the annual amortization expense included in Staff's Accounting Schedules in Case No. ER-2012-0345, to determine the unamortized balance of $2,163,085 as of September 30, 2019 to include in rate base.

Plum Point

Pursuant to Commission approval of the *Non-Unanimous Stipulation and Agreement and Joint Proposal Regarding Certain Procedural Matters* dated February 25, 2010, in Case No. ER-2010-0130, Empire deferred certain "carrying costs" associated with the Plum Point generating unit investment past its in-service date into Account 182331, MO PlumPT Df Chgs ER-2010-0130. Based on the results of its Construction Audit and Prudence Review for Plum Point (submitted in Case No. ER-2011-0004), Staff recommended one disallowance to Empire's Plum Point plant balances. Staff used the September 30, 2015 balance ($109,533) from the most recent rate case, Case No. ER-2016-0023, and the annual amortization expense included in Staff's Accounting Schedules in Case No. ER-2012-0345, to determine the unamortized balance of $101,585 as of September 30, 2019 to include in rate base.

Staff Expert/Witness: Kimberly K. Bolin

L. SWPA Hydro Reimbursement

On September 16, 2010, Empire received a payment in the amount of $26,563,700 from the Southwestern Power Administration (SWPA) to compensate Empire for the expected financial impact of a future reduction in capacity at its Ozark Beach hydroelectric plant. The reduction in capacity at Ozark Beach is due to the federal Energy and Water Development Act of 2006, which requires a decrease in available head waters at Ozark Beach. In Case No. ER-2011-0004, Empire agreed to flow the SWPA payment back to the customers over a ten-year period via a tracker mechanism. Staff has included the unamortized balance of $2,100,623 of this regulatory liability as an offset to rate base.

Staff Expert/Witness: Angela Niemeier

VI. Allocations

A. Corporate Allocations

1. <u>Background</u>

Empire's last electric rate case, ER-2016-0023, was settled among the parties. There was a provision made in the settlement that within two weeks of the filing (6/20/16) of the Stipulation And Agreement, Empire, Staff, and OPC would jointly propose a procedural schedule in Empire's Cost Allocation Manual ("CAM") docket, Case No. AO-2012-0062. Empire, Staff, and OPC did so in a filing on July 29, 2016. After the conclusion of Case No. ER-2016-0023, in Case No. EM-2016-0213, the Commission approved the sale of all of the common stock of Empire to Liberty Utilities (Central) Co. and Liberty Sub Corp.,[32] subsidiaries of Algonquin Power & Utilities Corporation ("APUC"). On October 19, 2016, in Case No. AO-2012-0062, Empire, Staff, and OPC, via a *Unanimous Stipulation and Agreement and Joint Request to Suspend Procedural*

[32] Liberty Sub Corp. was a special purpose corporation formed for the sole purpose of merging with and into Empire, with Empire emerging as the surviving corporation.

Schedule ("Unanimous Stipulation And Agreement"), advised the Commission that if the acquisition approved in Case No. EM-2016-0213 closed, Empire should initiate a new proceeding by filing a proposed CAM within six (6) months. The acquisition closed on January 1, 2017, and the Commission closed Case No. AO-2012-0062 on July 5, 2017.[33]

On June 30, 2017, Empire; The Empire District Gas Company ("EDG"); Liberty Utilities (Midstates Natural Gas) Corp. ("Liberty Midstates"); and Liberty Utilities (Missouri Water), LLC ("Liberty Water") filed an Application for Approval of CAM, Conditional Request for Variance, and, if Necessary, Request for Waiver in Case No. AO-2016-0360. The CAM attached to the parties' Application is applicable to APUC and its subsidiaries, and includes an Appendix 9, which contains additional terms and conditions specifically applicable to Empire, EDG, and Liberty Midstates. While the Commission has yet to approve the CAM filed in Case No. AO-2017-0360, since January 1, 2017, the various services directly or indirectly provided to Empire by APUC and its subsidiaries have been allocated based on the allocation procedures described within that CAM.

This CAM was also the basis for corporate allocations by Midstates Natural Gas in their most recent rate case (Case No. GR-2018-0013). Many of the issues raised by Staff in the GR-2018-0013 case relative to corporate allocations were deferred to the CAM case. Therefore, Staff does not intend to revisit those issues in this rate case.

However, on June 27, 2018, Staff filed a motion to open a working docket, File No. AW-2018-0394, for a review and consideration of rewriting and writing of existing and new Affiliate Transaction Rules. Numerous comments were received concerning the draft affiliate transaction rules, and on July 17, 2019, the Commission ordered Staff to file a new draft rule for its consideration; Staff did so on September 16, 2019. Consequently, on December 30, 2019, the parties to Case. No. AO-2017-0360 filed a *Status Report and Joint Motion to Stay Proceeding* until completion of the workshop docket and a formal rulemaking respecting the Affiliate Transaction Rules. The Commission, in its January 10, 2020, *Order Staying Proceeding*, granted the parties' joint request.

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[33] Paragraph 11 of the Unanimous Stipulation and Agreement in Case No. AO-2012-0062 states as follows:

> 11. Neither the Staff nor OPC will file a complaint against EDE and/or EDG or provide support for any claim or allegation against EDE and/or EDG on the basis that EDE and/or EDG is or has been non-compliant with the Commission's affiliate transactions rules because EDE and/or EDG are conducting and/or have conducted affiliate transactions without Commission approved CAMs.

2. Allocations

The Corporate Allocation process for Empire flows from many different levels of the corporation and yet, the processes followed at each level are very similar. At its simplest, there are two types of allocation: direct and indirect. Direct allocations to Empire, and other affiliates, occur when the work performed by a corporate entity can be directly related to a specific affiliate, regulated utility, or unregulated utility. On the other hand, indirect allocations occur when the services performed by a corporate entity benefit more than one affiliate, regulated utility, or unregulated utility. The following describes, in general, the allocation process for each of the corporate entities.

Algonquin Power & Utilities Corporation ("APUC")

As described in APUC's CAM, there are several services APUC provides as a benefit to its subsidiaries: financing, financial control, legal, executive and strategic management, and related services. Any expenses associated with these services are billed at cost, with fully burdened labor rates. All labor costs that are directly related to a specific subsidiary are charged directly to that entity. With the exception of corporate capital, indirect costs are totaled for a month and then allocated using a Corporate Allocation Method described in the CAM between Liberty Utilities Canada ("LUC") and Liberty Power. The indirect costs allocated to LUC are further allocated to the individual utilities, which includes Empire, using a Utility Four-Factor allocation methodology. Both direct and indirect allocations are billed monthly to each affected subsidiary.

Staff applied an adjustment for the Bonus (Short Term Incentive Plan), Long Term Incentive Plan ("LTIP"), and Stock Options expenses for APUC executives allocated by APUC to its business units. Staff's review of how these incentives are awarded to the executives found that they were awarded for increasing shareholder value, not as a benefit to the ratepayers. Therefore, Staff applied adjustments to remove from the test year the portions of these expenses that were both directly and indirectly allocated to Empire.

Liberty Utilities (Canada) Corporation ("LUC")

As described in APUC's CAM, LUC provides services separately to Liberty Utilities ("LU") and Liberty Power, and together as shared services. Shared services are provided within LUC under the business unit of Liberty Algonquin Business Services ("LABS").

The services provided to LU include: executive, regulatory strategy, energy procurement, operations, utility planning, administration, and customer experience. All costs incurred that are directly related to a specific utility are charged directly to that utility. Costs that are not directly related to a utility are indirectly allocated to its regulated utilities using a Utility Four-Factor Methodology described in the CAM. These indirect allocations include labor, non-labor, and capital costs.

The services provided to Liberty Power include: executive, energy services, asset management, business development, and operations. These services are provided by specific LUC employees who support Liberty Power and, therefore, all associated costs are directly allocated to Liberty Power.

Shared services from LUC are the costs that benefit both the group of subsidiary companies owned by LU and Liberty Power and administered under the LABS-Canada business unit. All costs incurred that are directly related to a specific affiliate company or business unit are directly charged to that company or business unit. Costs that are not directly related to a specific utility are indirectly allocated between the regulated and unregulated business units using two Corporate Allocation Methods described in the CAM: one for Business Services indirect costs and another for Corporate Services indirect costs. The Utility Four-Factor Methodology described in the CAM is then used to allocate the indirect costs for the regulated businesses to the individual regulated utilities.

Both direct and indirect allocations are billed monthly to each affected subsidiary.

Liberty Utilities Service Corporation (“LUSC”)

LUSC employs most of the U.S.-based utility employees, who are assigned to specific utilities. As such, the majority of employees’ fully loaded labor costs are directly charged to the utility for whom each supports, via timesheet tracking. There are some employees who provide shared services that benefit both LU and Liberty Power through the LABS U.S. business unit. A sampling of these shared services includes customer care and billing, Information Technology (IT) support, and human resources. As with LUC, all costs incurred that are directly related to a specific affiliate company or business unit are directly charged to that company or business unit. Costs that are not directly related to a specific utility are indirectly allocated between the regulated and unregulated business units using two Corporate Allocation Methods described in the CAM:

one for Business Services indirect costs and another for Corporate Services indirect costs. The Utility Four-Factor Methodology described in the CAM is then used to allocate the indirect costs for the regulated businesses to the individual regulated utilities.

Both direct and indirect allocations are billed monthly to each affected subsidiary.

Empire District Electric

As is discussed earlier in this Report, Empire is engaged in both regulated and non-regulated business operations. Included in Appendix 9 to the CAM, are the additional allocation procedures to be followed by each of the Missouri Regulated Utilities which is the collection of Empire (including its water operations), EDG, and Liberty Midstates. Appendix 9 describes the methods for assigning and allocating costs to the regulated electric, gas, and water operations, as well as to the various non-regulated operations. With some exceptions, this has many of the same allocation procedures that existed prior to APUC's acquisition of Empire. Under the Missouri Regulated Utilities' cost allocation system, costs are either directly assigned to business units (referred to as "The Direct Bill Method"), indirectly allocated to the business units, or allocated through use of a general allocation factor.

Under the direct assignment approach, Empire directly assigns certain costs to its regulated electric operations either by use of vendor invoices or by labor charges. In the case of assignment by vendor invoice, each vendor invoice that includes charges for goods and services that directly benefit a specific business unit has the invoiced costs directly assigned to the appropriate corresponding business unit. In the case of assignment by labor, all employees are required to record their time electronically based on the amount of time each employee spends each month working for each business unit. The system then allocates a portion of that employee's salary, including associated payroll taxes and fringe benefits, to the appropriate business unit.

Empire's indirect allocation factor is based upon a "unit of service method," which is employed by the Company in the event that incurred costs cannot be directly billed to the individual business units as described above. Empire uses the unit service method based on certain unit drivers. Examples of Empire's unit drivers are as follows: number of vouchers, number of active customers, number of purchase orders, and number of personal computers. An allocation rate is then calculated based on information obtained from various general ledger entries and adjusted periodically.

For costs that cannot be directly assigned, or that have no unit drivers, the Company uses a modified "Massachusetts Formula" as a general allocation method it refers to as a "Corporate Allocation Method." A "Massachusetts Formula" is a general allocation factor based upon three (3) separate measurements of directly assigned costs, which is used to allocate a company's common costs that cannot be reasonably directly assigned or indirectly allocated to a company's business units. The modified "Massachusetts Formula" used by Empire consists of the averages of (1) profit margin, (2) payroll, and (3) net property, plant, and equipment. It is used to allocate common costs that apply to the regulated activities of Empire, EDG, and Empire's water operations. Staff modified some of the various allocation factors to reflect Staff's adjusted numbers that were included in its cost of service. Please reference Staff's Exhibit Modeling System ("EMS") that was filed with its cost of service report in this case for the allocation factors used by Staff.

Staff has a concern regarding Empire's allocation methodologies. It appears that Empire may not properly assign a portion of its common costs to its non-regulated operations. Such a methodology would overstate the costs to provide electric service while understating the cost to provide non-regulated operations. Staff has proposed an adjustment to account for these common costs, which is described below.

3. <u>Corporate Expenses</u>

Due to Staff's concern with the reliability of Empire's current approach of allocating its corporate costs to its non-regulated activities, as described in Corporate Allocations, Staff has proposed an adjustment to remove a portion of costs related to Empire District Industries, Inc. ("EDI") allocated to Empire in the test year.

Staff Expert/Witness: Keith D. Foster

B. Jurisdictional Allocations

Jurisdictional allocation factors are used to allocate demand-related and energy-related costs to the applicable jurisdictions. Fixed costs, such as the capital costs associated with generation and transmission plant, are allocated on the basis of demand. Variable costs, such as fuel, are more appropriately allocated on the basis of energy consumption. In this case, demand-related and energy-related costs are divided among three jurisdictions: Missouri Retail

Operations, Non-Missouri Retail Operations and Wholesale Operations. The particular allocation factor applied is dependent upon the type of cost that is being allocated.

1. <u>Demand Allocation Factor</u>

Demand refers to the rate at which electric energy is delivered to a system to match the requirements of its customers ("load"), generally expressed in kilowatts ("kWs") or megawatts ("MWs"), either at an instant in time or averaged over a specified time interval. System peak demand is the largest electric requirement ("load") that occurs within a specified period of time, (e.g. hour, day, month, season and year) on a utility's system. Since generation units and transmission lines are planned, designed, and constructed to meet a utility's anticipated system peak demands, plus required reserves, the contribution of each of Empire's three jurisdictions: Missouri Retail Operations, Non-Missouri Retail Operations and Wholesale Operations, coincident to the system peak demand, *i.e.*, each jurisdiction's demand at the time of the system peak, is the appropriate basis on which to allocate these facilities. Thus, the term coincident peak ("CP") refers to the load, generally in kWs or MWs, in each of the jurisdictions that coincides with Empire's overall system peak recorded for the time period in the corresponding analysis. Staff is utilizing a Twelve Coincident Peak ("12 CP") methodology to determine demand allocation factors for Empire. This methodology is appropriate for an electric utility, such as Empire, that experiences similar system peak demands in both summer and winter months. An electric utility that experiences dominant peaks only in the summer months might consider the use of a Four Coincident Peak ("4 CP") methodology.

Staff determined the demand allocation factor for each jurisdiction using the following process:

a. Identify Empire's peak hourly load in each month for the test year, April 2018 through March 2019, and sum the hourly peak loads.

b. Sum the particular jurisdiction's corresponding loads for the hours identified in (a). above.

c. Divide (b). by (a). above.

The result is the allocation factor for each of Empire's jurisdictions:

Retail Operations:	
Missouri -	.8393
Non – Missouri -	.1065
Wholesale Operations:	.0542

2. Energy Allocation Factor

Variable expenses, such as fuel, are allocated to the jurisdictions based on energy consumption. The energy allocation factor, for each individual jurisdiction, is the ratio of the normalized annual kilowatt-hour ("kWh") usage of each particular jurisdiction to the total normalized Empire kWh usage. The kWh usage data includes adjustments for anticipated growth, annualizations, and non-normal weather. Staff witness Michelle A. Bocklage provided the growth and annualization adjustments. Staff witness Michael L. Stahlman provided the weather and days adjustments. Staff has calculated the following energy allocation factors for the particular jurisdictions:

Retail Operations:	
Missouri -	.8240
Non – Missouri -	.1109
Wholesale Operations -	.0651

Staff witness Keith D. Foster used these demand and energy jurisdictional allocation factors in determining Staff's recommended cost of service for Empire in this case.

Staff Expert/Witness: Alan J. Bax

VII. Income Statement

A. Rate Revenues

Introduction

Since the largest component of operating revenues results from rates charged to Empire's Missouri 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 that Empire charges to Missouri retail customers for electricity is appropriate.

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: Caroline Newkirk

Definitions

Operating Revenues are composed of Retail Rate Revenue and Other Operating Revenue. Each is defined respectively as follows:

Retail Rate Revenue: Test year rate revenues consist solely of the revenues derived from the current rates Empire charges for providing electric service to its Missouri retail customers (i.e., native load and customer charges). Empire's charges are determined by multiplying each customer's usage by the per unit rates established in its tariff. Empire's tariff provides that different rates apply to different types of charges (demand vs. energy) and different times of the year (summer vs. winter); and to customers in different rate classes (differentiation by type and amount of use). 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.

Other Operating Revenue: This category includes revenues from such items as forfeited discounts, reconnect charges, rent from electric property, and other miscellaneous charges.

Staff Expert/Witness: Caroline Newkirk

The Development of Rate Revenue in this Case

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 update period.

The two major categories of revenue adjustments are known as "normalization" and "annualization." Normalization adjustments eliminate the impact from revenues of test year events that are unusual and unlikely to be repeated in the years when the new rates from this case are in effect. To eliminate the impact of test year weather on revenues is an example of a normalization adjustment. Annualizations are adjustments that re-state test year results as if conditions known at the end of the update period had existed throughout the entire test year. Adjustment for customer growth is an example of an annualization.

Staff Expert/Witness: Caroline Newkirk

1. Update Period Adjustment

For purposes of this case, Empire used the test year ending March 31, 2019 as a starting point for any usage and revenue adjustments. Empire then updated usage and corresponding revenues for changes in customer growth. Although Staff will also use the retail revenues from the test year ending March 31, 2019, as a starting point, Staff will update the retail revenues and usage for changes in normalized and annualized sales through the end of July 31, 2019, to provide a more current basis for the revenue calculation.

On October 17, 2019, the Commission issued the Order Setting Procedural Schedule and Other Procedural Requirements setting the test year as "the twelve-month period ending with March 31, 2019, updated to September 30, 2019, and trued-up to include known and measurable information through January 31, 2020". Due to delays in receiving data from Empire directly impacting revenue calculations, Staff was unable to fully calculate revenues through the entirety of the update period. Therefore, in Staff's direct filing revenues are updated through July 31, 2019. Staff anticipates updating revenues for the remainder of the update period and true up period.

Staff Expert/Witness: Michelle A. Bocklage

2. Normalization and Annualization of Billing Determinants

Staff normalized and annualized billing determinants for the Residential Service (RG), Commercial Service (CB), Small Heating Service (SH), Total Electric Building Service (TEB), and General Power Service (GP) rate classes, based on the normalized and annualized kWh factor.[34] For example, if the normalized and annualized kWh factor is 0.97 for the month of September in the RG rate class, then the total actual usage for that month and that rate class is decreased by 0.03, or 3%.

Staff adjusted actual billing determinants to equal the normalized and annualized monthly kWh using the relationship between actual average usage per customer and normalized and annualized average usage per customer. Staff also used the relationship between percentage of usage priced in the first rate block and the second rate block to distribute normalized and annualized monthly kWh to the rate blocks for rate classes RG, CB and SH. This calculation resulted in normalized usage by rate block, which was then converted to total normalized and annualized revenues by multiplying rate block usage by the appropriate rates.

The GP and TEB class billing units were similarly adjusted; however, the rate classes were subdivided by voltage with separate normalization and annualization adjustments being applied to each voltage level.

The overall difference between Empire's actual billing determinants and rate revenue and Staff's recommended normalized and annualized billing determinants and rate revenue results in Staff's normalized and annualized kWh and revenue adjustments.

Staff Expert/Witness: Michelle A. Bocklage

3. <u>Adjustments for Non-Missouri classes</u>

Staff adjusted the RG, CB, SH, TEB, and GP classes' usage for non-Missouri customers for weather both to provide normalized kWh and for the days adjustment. Once Staff applied the growth adjustment, the final normalized and annualized usage was provided to Staff witness Michael L. Stahlman for inclusion in calculations for Net System Input ("NSI"), and to Staff witness Alan J. Bax for inclusion in calculations for jurisdictional allocations.

Staff Expert/Witness: Michelle A. Bocklage

[34] The normalized and annualized factors represent the impact of the weather normalization adjustment and the 365 day adjustment on actual usage calculated by Staff witness Michael L. Stahlman.

4. **Rate Switching**

During the test year, excluding residential customers, there was a net switch of approximately 4 customers who switched rate classes. Table 1, below, shows a summary of the number of all customers that switched between RG, CB, SH, TEB, and GP classes.

Update Period Rate Switchers		2018	2018	2018	2018	2018	2018	2018	2018	2018	2019	2019	2019
		Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Res Gen	RG	2	2	2	2	0	0	0	0	0	0	0	0
Comm	CB	-10	-9	-8	-4	-3	-1	0	4	1	0	0	0
Comm SH	SH	-2	-1	0	0	0	1	0	0	0	0	0	0
Gen Pow	GP(ALL)	8	8	9	8	7	4	1	0	-4	-1	0	0
TEB	TEB (ALL)	2	2	-1	-2	-3	-1	-1	0	0	0	0	0

The calculation of rate switchers could only be completed for the test year and not the update period because Staff did not receive the update period information from Empire until December 11, 2019, which did not allow sufficient time for Staff to calculate the rate switcher adjustment for the update period.

Those customers who switched into and out of each of these classes were handled separately in order to reflect the rate class to which the customer switched. The billing units and revenues of these customers were removed from their original rate code and their usage was added to their final rate code where it was re-priced to match rates in the final rate code.

Staff Expert/Witness: Michelle A. Bocklage

5. **Customer Growth (Annualization)**

Staff made customer growth adjustments to test year kWh sales and rate revenue to reflect the additional kWh sales and rate revenue that would have occurred if the number of customers taking service at the end of July 31, 2019 had existed throughout the entire test year. Staff calculated customer growth for the RG, CB, SH, TEB, and GP customer classes.

The only retail customer rate classes for which this approach is not taken is the Large Power ("LP") group and the Feed Mill and Grain Elevator Service ("PFM") group. The process used for the LP and PFM rate classes is described in the below subsection (7.) of the Report. Staff's customer growth adjustment to test year usage and resulting revenues for all retail customer groups combines the results of the analysis described above for RG, CB, SH, TEB, and GP in order to provide the annualized level of sales and revenues through the end of July 2019.

Staff Expert/Witness: Michelle A. Bocklage

6. Annualization of Excess Facility Charge Revenues

These revenues result from charges to customers for additional distribution facilities, such as utility poles, transformers, etc., provided in excess of the distribution facilities normally made available to similarly sized customers. Staff annualizes these revenues for changes in the distribution facilities provided during the update period to determine the revenue that the Company would have earned had these additional facilities been in use the entire update period.

Staff Expert/Witness: Michelle A. Bocklage

7. Large Power and Feed Mill and Grain Elevators Customer Annualization

Staff normalized and annualized billing determinants for the LP and PFM rate classes on an individual customer basis. As mentioned by Staff witness Michael L. Stahlman, the LP class was not weather normalized.

The annualization adjustments are for the period of August 1, 2018, through September 30, 2019. There were 36 customers in the Missouri LP rate class at the beginning of the update period: 4 customers switched from the GP class during the update period leaving 40 customers in the LP class at the end of July, 2019. Staff annualized the LP customers that entered the LP class in order to reflect 12 months of usage for each customer. There were no customers who left or entered the PFM class during the 12 months of the update period.

Staff will review the LP and PFM rate classes again for changes in the number of customers in each class during true-up. The overall difference between Empire's actual billing determinants and rate revenue and Staff's normalized and annualized billing determinants and rate revenue results in Staff's normalized and annualized kWh and revenue adjustments.

Staff Expert/Witness: Byron M. Murray

8. System Energy Losses

When determining the hourly loads used as an input in Staff's recommended fuel model, Staff accounts for system energy losses, which largely consist of the losses occurring in the electrical equipment (e.g., transmission and distribution lines, transformers, etc.) between an electric utility's generating sources and its customers' meters. In addition, Staff includes small, fractional amounts of energy that are either diverted (stolen) or unmetered (unmetered usage) as system energy losses.

Staff's basis for calculating system energy losses is that Net System Input (NSI) equals the sum of "Retail Sales" + "Wholesale Sales" + "Company Use" and "System Energy Losses." This can be expressed mathematically as:

NSI = Retail Sales + Wholesale Sales + Company Use + System Energy Losses

NSI, Retail and Wholesale Sales and Company Use are known quantities; therefore, system energy losses may be calculated as follows:

System Energy Losses = NSI – (Retail Sales + Wholesale Sales + Company Use)

The system energy loss percentage is the ratio of system energy losses to NSI multiplied by 100:

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

NSI is also equal to the sum of the Company's net generation and net interchange. Net interchange is the difference between off-system purchases and off-system sales. Net generation is the total energy output of each generating plant minus the energy consumed internally to enable the production of electricity at each plant. The output of each generating plant is monitored and metered continuously. The net of off-system purchases and off-system sales (Net Interchange) is also similarly monitored.

Staff calculated the loss percentage of Empire's system, for the twelve months ending March 2019, as 5.92% of NSI. Staff witness Michael L. Stahlman used this loss percentage in the development of hourly loads used in Staff's recommended fuel model.

Staff Expert/Witness: Alan J. Bax

9. <u>Normal Weather</u>

365-Days Adjustment to Usage

Calendar months and revenue months differ from one another because the periods they cover begin and end at different times. Calendar months coincide with the calendar, beginning on the first day of the month and ending on the last day of the month. Staff calculated a normalization adjustment to Empire's kWh usage to reflect a calendar year's (i.e., 365 days') worth of usage. Empire's customers' usage is measured and rate revenues are collected over a period known as a revenue month, which is the interval over which Empire reads customers' meters and issues bills. A bill rendered for a given revenue month may charge for usage in parts of two calendar months. Revenue months usually take their names from the calendar month in which the customer's bill is rendered. For example, assume a 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.[35]

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

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

Staff Expert/Witness: Michael L. Stahlman

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

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 Empire's service territory, therefore, it follows that Empire's electric load is linked with and responsive to temperature.

Empire's test year ran from April 1, 2018, through March 31, 2019. In an attempt to capture a more likely forward-looking indictor of non-weather electricity usage per customer, Staff used the most recent temperature and load data available and, therefore, based its analysis on a period of August 1, 2018, through July 31, 2019. Although Staff has subsequently received information through September 2019, preliminary review of the data did not suggest that it was likely to change the level of normalized usage per customer and there was insufficient time for Staff to complete and update the analysis.

Also at the time of this writing, Staff did not have billing cycle data per rate class through the update period. To better explain the importance of this data, in a rate case, Staff will get revenues based on a revenue month rather than a calendar month (e.g., you may get a bill on June 17th which is for usage between May 15th and June 15th, and all that usage is treated as the June revenue month). The sample mean data, which is a sample of rate class's usage for a given day, that Empire provided allows for a statistical relationship between weather and use to be determined for any given calendar day. Staff then uses the meter read schedule to apply that calendar day relationship to get the weather factor for any one of the twenty-one bill cycles in a revenue month. But without the billing cycle information, there is no really good method of determining the proper weight that bill cycles have to get a single weather factor for the entire revenue month (i.e. if there are more customers in one bill cycle than another, that one with the most customers should have more importance in determining the overall weather factor adjustment). Thus, in the absence of better information, Staff weighted each billing cycle equally. Staff Data Request No. 0142.2 is still pending on this subject.

The method and model used by Staff is similar to those used by Empire. Staff's model and methodology contained elements important in the class-level weather normalization process: use of daily sample means 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 Michelle Bocklage to be used in the normalization of revenues for weather sensitive classes, Residential (RES), Commercial Service (CB), Small Heating Service (SH), General Power Service (GP), and Total Electric Building Service (TEB).

Staff Expert/Witness: Michael L. Stahlman

Weather Variables

Historical Data Used to Calculate Weather Variables - Each year's weather is unique; consequently, test year usage, hourly loads, revenue, and fuel and purchased power expense need to be adjusted to "normal" weather so that rates will be designed on the basis of normal weather rather than any anomalous weather in the test year. In the quantification of the relationship between test year weather and energy sales, Staff used weather observations of Springfield Regional Airport ("SGF") in Springfield, Missouri for the period of August 1, 2018, through July 31, 2019.

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

Normal Weather - According to the National Oceanic and Atmospheric Administration ("NOAA"), a climate "normal" is defined as the arithmetic mean of a climatological element computed over three consecutive decades.[36] In developing climate normal temperatures, the NOAA focuses on the monthly maximum and minimum temperature time series to produce the serially-complete monthly temperature ("SCMT") data series.[37]

Staff utilized the SCMT published in July 2011 by the National Climatic Data Center ("NCDC") of the NOAA. For the purposes of normalizing the test year electric usage and

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

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

revenues, Staff used the adjusted T_{max} and T_{min} daily temperature series for the 30-year period of January 1, 1987, through December 31, 2016, at SGF. The series is consistent with NOAA's SCMT during the most recent NOAA 30-year normal period ending 2010.

There may be circumstances under which inconsistencies and biases in the 30-year time series of daily temperature observations occur, (e.g. such as the relocation, replacement, or recalibration of the weather instruments). Changes in observation procedures or in an instrument's environment may also occur during the 30-year period. The NOAA accounted for documented and undocumented anomalies in calculating its SCMT.[38] The meteorological and statistical procedures used in the NOAA's homogenization for removing documented and undocumented anomalies from the T_{max} and T_{min} monthly temperature series is explained in a peer-reviewed publication.[39]

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

Staff used a ranking method to calculate normal weather estimates of daily normal temperature values, ranging from the temperature that is "normally" the hottest to the temperature that is "normally" the coldest, thus estimating "normal extremes." Staff ranked MDTs for each month of the 30-year history from hottest to coldest and then calculated the normal daily temperature values by averaging the ranked MDTs for each rank, irrespective of the calendar date. The ranking process results in the normal extreme being the average of the most extreme temperatures in each month of the 30-year normals period. The second most extreme temperature

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

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

is based on the average of the second most extreme day of each month, and so forth. Staff's calculation of daily normal temperatures is not the same as NOAA's calculation of smoothed daily normal temperatures because Staff calculated its normal daily temperatures based on the rankings of the actual temperatures of the test year, and the test year temperatures do not follow smooth patterns from day to day.[40] More details of a ranking method for normal weather are explained in a peer-reviewed publication.[41] Using these normal daily temperatures, Staff calculated normal MDT for each day of the test year. I then used this information for weather normalization of the test year kWh usage and update period hourly loads.

Staff Expert/Witness: Michael L. Stahlman

Load Requirement at Transmission

Hourly load requirement is the hourly electric supply necessary to meet the energy demands of both the company's customers and the company's own needs. The hourly loads used in the analysis of the period August 2018, through July 2019, were obtained from Empire's data provided in accordance with 20 CSR 4240-3.190 (1)(C).

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

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

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

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

peak loads for each day. The adjustments for each day are added respectively to the actual average and peak loads for each day. Staff witness Michael L. Stahlman provided actual and normal daily temperatures used in this analysis.

The starting point for allocating both the weather-normalized daily peak and the weather-normalized average loads to the hours is the actual hourly loads. A unitized load curve is calculated for each day as a function of the actual peak and average loads for that day. The corresponding weather-normalized daily peak and average loads, along with the unitized load curves, are used to calculate weather-normalized hourly loads. This process includes many checks and balances, which are included in the spreadsheets that are used. In addition, the analyst is required to examine the data at several points in the process. For more information, the process is described in greater detail in the document "Weather Normalization of Electric Loads, Part A: Hourly Net System Loads".[42]

After weather-normalizing and annualizing usage for Empire's Missouri jurisdictional retail customer classes is completed, weather-normalized wholesale usage, as well as any non-Missouri jurisdictional usage, is added to produce an annual sum of the hourly net system loads that equals the adjusted test year usage, plus losses, and is consistent with Staff's Missouri jurisdictional normalized revenues.

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

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

10. <u>Economic Development Riders</u>

Staff calculated the normalized level of revenue forgone by Empire, by class, due to discounts provided under the Economic Development Rider ("EDR") and Limited Large Customer Economic Development Rider[43] ("LLCEDR") tariffs. Staff calculated this amount by applying

[42] "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.

[43] The purpose of the Limited Large Customer Economic Development Rider is to comply with Mo. Rev. Stat. Section 393.1640 (2018).

the discount percentage applicable under each customer's contract for each of the 12 months ending September 2019. Staff will update this calculation and resulting revenue adjustment as part of true-up. The dollars of revenue reduced due to the EDR/ LLCEDR discount was provided by rate schedule to Staff's revenue witness to be accounted for in Staff's total revenue calculated.[44]

Staff did not find any customers which currently need to be excluded from the EDR/ LLCEDR calculation, however, customers may be excluded in the future in the following instances: where documentation of the EDR/ LLCEDR contract is not provided, where a review of documentation provided indicates the customer did not qualify for the EDR/ LLCEDR or continued receipt of the EDR/ LLCEDR, or where the form of the EDR/ LLCEDR provided is improper. [45]

Staff recommends that Empire continue to review compliance with the EDR/ LLCEDR tariffs for each customer receiving the discount, including but not limited to the following terms:

1. Ensuring that the local, regional, or state governmental economic development incentives that are provided as qualification under the Availability provisions of Tariff Sheet Nos. 22, 22d, and 22e are actually awarded and accepted. Some of the EDR/ LLCEDR documents provided to the Commission include only an offer letter from a governmental economic development agency with no indication the incentives were ultimately accepted and conditions associated with the receipt of such incentives have been met and maintained.
2. Ensuring that an annual load factor of 50% or greater has been maintained in years three through five of service under the EDR, as applicable, pursuant to Tariff Sheet No. 22, Applicability Paragraph 1; or under the LLCEDR, 55% or greater has been maintained in years three through five of service, as applicable, pursuant to Tariff Sheet No. 22c, Availability/Eligibility Paragraph 4.
3. Review expansion customers to determine whether load shifting has occurred, pursuant to EDR Tariff Sheet No. 22a Incentive Provision Paragraph 2 or LLCEDR Tariff Sheet

[44] Per page 3, paragraph 12 of the Non-Unanimous Stipulation and Agreement filed in ER-2012-0345, Empire agrees to hold customers harmless in future general rate increase requests from any rates collected by Empire pursuant to the Economic Development Rider that are less than the rates a similarly situated customer would be charged pursuant to the applicable tariff rate.

[45] Limited Large Customers have just begun receiving the discount outside the test period or have not completed expansion work at this time. Those still in the expansion phase have provided projections for Annual Load Factor. Actual Load Factor will be reviewed in future rate cases as appropriate. Customers will need to remain in compliance continuously to receive discounts.

No. 22d Applicability Paragraph 5. If shifting has occurred, metering arrangements must be made to exclude shifted amounts from the metered amount subject to the EDR/ LLCEDR discount.

4. Ensure market value of capacity analysis is performed, monitored, and reported to Commission Staff and the Office of Public Counsel pursuant to SBEDR Tariff Sheet No. 22e Incentive Provisions Paragraph 4.

As part of the review, Empire should present documentation confirming the continued eligibility of each EDR/ LLCEDR customer under each item provided above. Pursuant to this review, customers not meeting continued eligibility requirements to receive the EDR/ LLCEDR discounts should be removed from the EDR/ LLCEDR calculation. At this time, Staff did not find any customers which currently need to be excluded based on EDR/ LLCEDR qualifications for discounts. Staff will continue to review and monitor the EDR/ LLCEDR customer program and may make further recommendations in this case or future cases.

Empire EDR Adjustments

The Empire EDR tariff prescribes a yearly rate discount schedule for the first through the fifth service contract years. Staff excluded $6,173.80 from the second year discount allowed for customer ** **. Billing for this customer's first two years of new service were reviewed by Staff. The February and September 2019 billing adjustments for the EDR discount exceeded the 25% second year discount rate by the excluded amount. All other EDR discount billing adjustments for this customer's first and second year were in compliance with the EDR tariff. There is only one customer receiving a discount under the EDR tariff.

There were no customers receiving discounts under the LLCEDR tariff for the 12 months ending September 2019. Three customers have completed applications and will qualify for LLCEDR discounts based on projected new load demand. One of these customers,** ., ** just began new service at the time of this review and Empire should be able to provide billing and LLCEDR discount data in the future. The other two qualifying customers have not started new or expanded service with Empire at this time.

Finally, Staff has verified that all Empire customers are currently participating in another Missouri Economic Development program or are approved for participation pursuant with the EDR/LLCEDR tariff requirement.

Staff Expert/Witness: Nancy L. Harris

11. Stub Period Tax Cut/Removal of Tax Impact

The test year rate revenues do not reflect the full amount of the reduction to Empire's tariffed rates ordered by the Commission on August 30, 2018 in Case No. ER-2018-0366, as a result of the federal tax rate reduction that became law earlier in 2018. As a result, test year revenues were overstated by the difference between the amount that was actually billed to customers during the test year and the amount that would have been billed if the federal tax rate reduction had been in effect throughout the entire test year. Staff has proposed an adjustment to remove the income tax impact to revenues for each rate class by multiplying the actual test year kWh for the months of April 2018 through August 2018 by the appropriate class' tax credit as established in the above case. Staff also removed amounts that were recorded as an offset to revenues during the test year for the stub period tax benefits.

Staff Expert/Witness: Kimberly K. Bolin

B. Other Revenues

1. FAC Revenues

Staff removed from test year revenues, the Fuel Adjustment Clause ("FAC") revenues. This adjustment is necessary to in order to calculate new retail rates. Brooke Mastrogiannis addresses Staff's recommendations for the FAC in Section XI of this report.

Staff Expert/Witness: Caroline Newkirk

2. 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 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 customers.

Staff Expert/Witness: Caroline Newkirk

3. Gross Receipts Revenues

For this item, Empire acts merely as a collecting agent and remits the taxes collected from customers to the appropriate taxing entities. The Gross Revenue Taxes ("GRT"), also known as city franchise taxes, included on a customer's bill are collected by the Company and remitted to the appropriate taxing authority. The GRT included on a customer's 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. GRT are reported as both a revenue and expense item on Empire's books. Staff has made adjustments to eliminate both the revenue and expense associated with GRT.

Staff Expert/Witness: Caroline Newkirk

4. Renewable Energy Credits ("REC")

Empire is currently receiving wind energy from the following counterparties: Greenlight Energy, Swiss Carbon, and Renewable Choice Energy. As a result of these contracts, Empire receives Renewable Energy Credits or Certificates ("RECs"), which are credits issued under the Center for Resource Solutions' "green-e" program to certify that one megawatt-hour of electricity has been generated by a facility engaged in the production of renewable energy, such as wind, solar or biomass. RECs are tradable and can be bought and sold. Since the REC Revenue for the 12 months ending September 30, 2019 was unusually low when compared to the two previous years, Staff normalized the three years ending September 30, 2019. Staff also removed any non-Missouri jurisdictional accounts from REC revenues.

Staff Expert/Witness: Caroline Newkirk

5. Coal Fly Ash Revenues

"Coal fly ash" is a byproduct created as a result of the burning of coal in generating stations to produce electricity. Fly ash has a number of possible industrial uses, primarily as an ingredient in concrete products. Over the past several years, Empire has been selling its fly ash to several different industrial companies to be used in concrete. By recycling fly ash, Empire not only receives a profit, but also provides positive environmental benefits. During the test year Empire collected $43,879 of revenue for the sale of this product. Staff analyzed three years of data based on the updated test year period of 12-months ending September 30, 2019. Since there has been a downward trend over the past three years, Staff left fly ash revenue amounts at test year.

Staff Expert/Witness: Caroline Newkirk

6. <u>Miscellaneous Revenues</u>

Empire's miscellaneous other revenues consist of forfeited discounts, rents from property, reconnect, and surge arrester fees.

Staff's analysis reflected a review of these revenue levels over a three-year period ending September 30, 2019. Based upon Staff's review, the miscellaneous revenue levels at a 12-month period ending September 30, 2019, appear reasonable for inclusion in customer cost of service.

Staff Expert/Witness: Caroline Newkirk

C. Amortizations

1. <u>Amortization of Ice Storm Costs</u>

In reviewing the records provided by Empire, Staff noted that it booked ice storm amortizations from other states, which are not recoverable in Missouri rates. Staff could not find any booked costs associated with ice storms in Missouri. Staff made an adjustment to eliminate the amounts of the ice storm amortizations from other states.

Staff Expert/Witness: Angela Niemeier

2. <u>Southwestern Power Administration ("SWPA") Hydro Reimbursement and Amortization</u>

As described previously in this Report, in Case No. ER-2011-0004, Empire agreed to flow the SWPA payment back to its customers over a ten-year period via a tracker mechanism. This yearly amortization, unlike other amortizations discussed in this Report, does not increase the Company's expense levels, but is a reduction or offset to expenses. Staff included an adjustment of $109,385 as an offset to expenses.

Staff Expert/Witness: Angela Niemeier

3. <u>DSM Cost Recovery</u>

Empire's Account 182318 contains costs of the Company's demand-side management ("DSM") programs that are in various stages of development and implementation. Staff participated in the previously authorized (and now expired) Customer Programs Collaborative ("CPC") and participates in the current authorized DSM advisory group established to assist Empire in the development of DSM programs. Based upon Staff's participation in these groups, as well as Staff's review of the costs in Account 182318, Staff has amortized the amounts incurred by Empire prior to the end of its Regulatory Plan (June 15, 2011) over ten years. Any amounts incurred after the end of the Regulatory Plan to date are amortized over a period of six years, consistent with the terms of the Commission's *Report and Order* in Case No. ER-2014-0351. Staff has removed the amortization of program expenditures from 2007 and 2011 since they expired in December 2017 as well as the amortization of the expenditures from 2008 and 2012 since they expired in December 2018. The DSM costs include the payments to Empire's customers that participate in the programs.

Staff Expert/Witness: Caroline Newkirk

4. <u>Amortization of Electric Plant</u>

Staff has adjusted the amortization reserve for electric plant intangible assets to reflect the updated balances through September 30, 2019, the end of the update period for this case. The amortization reserve balance as of September 30, 2019, is $21,933,340 and was included as an offset to rate base in Staff's Accounting Schedules. Staff will review this recommendation again in true-up.

Staff Expert/Witness: Courtney Barron

5. <u>Amortization of PeopleSoft Intangible Asset</u>

Staff has adjusted the intangible asset for the PeopleSoft software costs to reflect the updated balances through September 30, 2019. The regulatory asset balance, as of the end of the update period September 30, 2019, is $93,909 and was included as an addition to rate base in Staff's Accounting Schedules. Staff will review this recommendation again in true-up.

Staff Expert/Witness: Courtney Barron

6. **Amortization Expense**

When Empire converted to PowerPlan, all the one hundred accounts were grouped into a single account number (111000) in the company's general ledger. The company provided the sub-ledger that broke out each individual account grouped under account number 111000. Staff reviewed all of Empire's amortization expense booked under account number 111000. Staff made an adjustment to increase this expense to reflect the annualized amortization based on updated information through September 30, 2019.

Staff Expert/Witness: Courtney Barron

7. **Tornado Accounting Authority Order ("AAO") Amortization**

The Commission issued an order on November 30, 2011, that approved and incorporated the Stipulation and Agreement in Empire's Application for an Accounting Authority Order, Case No. EU-2011-0387. In that Stipulation and Agreement, the parties agreed to allow Empire to defer to Account 182.3 Other Regulatory Assets the following items: incremental operations and maintenance expenses associated with the repair, restoration and rebuild activities associated with the May 22, 2011 tornado; and depreciation and carrying charges equal to its ongoing Allowance for Funds Used During Construction rates associated with tornado-related capital expenses. The company agreed that if it filed a general rate case in Missouri by June 1, 2013 (which it did), then Empire would begin to amortize over a ten year period the deferral balance beginning at the earlier of: 1) the effective date of new rates implemented in its next general rate case or rate complaint case; or 2) June 1, 2013. As of September 30, 2019, Empire had a deferred balance of $1,408,802 in Account 182.3 for tornado related expenses. Staff has not included this in rate base because of the Commission's long-standing policy of "sharing" the financial impact of extraordinary events, such as tornado expenses, through exclusion of the unamortized portion of an accounting authority order deferral from rate base. The annual amortization calculated in the last rate case, ER-2016-0023, has not changed, therefore, Staff included the same annualized amount in this case.

Staff Expert/Witness: Kimberly K. Bolin

8. **Iatan Carrying Costs Amortization**

Pursuant to earlier agreements, Empire deferred certain carrying costs (monthly debt and equity-derived carrying charges) and monthly depreciation for its Iatan 1 AQCS

Account 182308 – Iatan Deferred Carrying Costs, Iatan 2 Account 182332 – MO IatanII Df Chg ER-2010-0130, and Plum Point Account 182331 – MO PlumPt Df Chgs ER-2010-0130. This deferral of carrying costs on the Iatan 1 AQCS, Iatan 2, and Plum Point investments was authorized under previous agreements approved by the Commission. In Empire's Case No. ER-2012-0345, Staff recommended amortization of these carrying costs into the cost of service using a composite amortization rate derived from dividing the total depreciation expense for each plant by the total plant balance for each plant. Staff used these composite rates and calculated amortization amounts of $84,729 for Iatan 1 AQCS, $44,828 for Iatan 2, and $1,987 for Plum Point. Staff used the same amortization amounts in this case.

Staff Expert/Witness: Kimberly K. Bolin

9. Iatan and Plum Point O&M Tracker Regulatory Asset

Per the Stipulation and Agreement in Case No. ER-2016-0023, the Iatan and Plum Point O&M trackers were discontinued and regulatory assets were established in the following amounts;

Discontinued Tracker	Asset as of March 31, 2016	Annual Amortization
Iatan Common	$759,080	$253,027
Iatan 2	($196,421)	($65,474)
Plum Point	$110,308	$36,769

All three regulatory assets were to be amortized over three years. Amortizations began mid-September 2016. These assets were fully amortized mid-October 2019. Staff removed this amortization expense from the test year and Staff did not include any balances for these assets in rate base since they have expired.

Staff Expert/Witness: Kimberly K. Bolin

10. Amortization of Excess ADIT

The Tax Cuts and Jobs Act was signed into law in December 2017, and as part of that a reduction in the corporate tax rate required the revaluation of accumulated tax timing differences that were previously valued at 35% to be revalued at 21%. This excess deferred tax value is required to be returned to customers based on whether the excess deferred taxes are protected or unprotected. Protected excess ADIT is the portion associated with accelerated depreciation tax timing differences that must be "normalized" for rate making purposes and where the flow back of excess ADIT cannot be returned to customers any more quickly than over the estimated life of the assets that gave rise to the ADIT. Unprotected excess ADIT is the portion of the deferred tax reserve that resulted from normalization treatment of tax timing differences other than accelerated depreciation.

The Commission ordered Empire in Case No. ER-2018-0366, to record a regulatory liability for the difference between the excess ADIT balances at 35% versus 21%. Recovery of the deferred amounts was to be determined in Empire's next general rate proceeding. Staff recommends inclusion of the amortization of the return of excess ADIT in rates for Empire electric customers in this rate proceeding. The impact of this issue is reflected on the Income Tax Schedule in Staff's Accounting Schedules.

Staff Expert/Witness: Kimberly K. Bolin

11. <u>Stub Period Amortization</u>

On January 1, 2018, the Tax Cuts and Jobs Act (TCJA) became effective. Among other impacts, the TCJA dramatically reduced the federal income tax rates applicable to businesses, including regulated utilities.

In 2018, the Missouri Legislature approved a law that, among other provisions, allowed the Commission to reduce rates on a single-issue basis for electric utilities on account of the TCJA federal income tax rate reduction. (Single-issue treatment of TCJA impacts was only allowed for utilities, such as Empire, not already before the Commission in a general rate case filing at the time.) In Case No. ER-2018-0366, the single-issue rate proceeding opened for Empire, the Commission ordered Empire District Electric to reduce its rates by approximately $17.5 million effective August 28, 2018 in order to pass on to customers the annual ongoing savings related to the TCJA tax rate change. However, another issue was litigated in Case No. ER-2018-0366: how should the tax benefit from the TCJA that inured to Empire's benefit from January 1 to August 28, 2018 (i.e., the "stub period") be treated for accounting purposes? After hearings, the Commission ordered Empire to defer approximately $11.7 million of stub period tax savings benefits on its balance sheet as a regulatory liability for potential flow-back to customers, but with the ratemaking treatment of the regulatory liability reserved to Empire's next general rate proceeding.

In its Report and Order issued for Case No. ER-2018-0366, the Commission referred to the TCJA as an “extraordinary event,” and noted that none of the parties appeared to contest that characterization during the case. The Commission has often in the past ordered deferrals of costs or savings associated with extraordinary events, and subsequently passed on those costs/savings to customers in rates through amortizations of regulatory assets (deferred costs or expenses) or regulatory liabilities (deferred revenues or savings).

Staff agrees with the Commission that enactment of the TCJA as a whole was an extraordinary event, and for that reason recommends that the entire amount of benefit that accrued to Empire in the stub period from the lower TCJA income tax rates should be flowed back to customers in rates through an amortization.

At this time, Staff finds an amortization period of five years appears to be appropriate for this item. Consistent with the common practice afforded in the past to regulatory assets and liabilities, Staff is not proposing to include the unamortized balance of the TCJA stub period regulatory liability in rate base.

Staff Expert/Witness: Mark L. Oligschlaeger

D. Fuel and Purchased Power Expense

1. Fixed Costs

Staff does not calculate within its fuel model those fuel and purchased power costs that do not vary directly with the amount of fuel burned. These costs are determined separately. The non-variable fuel costs included in fuel expense are typically referred to as fuel adders, described in the section below. The non-variable purchased power costs are referred to as capacity charges and these costs are annualized separately from purchased power energy costs.

Staff Expert/Witness: Amanda C. McMellen

a. Fuel Adders

The costs of fuel adders are determined separately from fuel model costs and are added to the level of fuel expense calculated by the model to determine overall fuel expense. The fuel adders in this case are natural gas transportation costs and freeze treatment costs for coal deliveries. Staff annualized the natural gas transportation expense based on Empire’s current contractual obligations with SSGCGP, which began on January 1, 2010. In regard to freeze treatment costs, all PRB coal delivered by rail to Asbury is subject to being sprayed with a side release for freeze conditioning during the winter months. However, Staff could not confirm that the treatment was applied consistently in order to determine an annualized cost. Therefore, Staff used the actual costs for freeze treatment incurred for the twelve months ending September 30, 2019 (the update period), to add to the total fuel costs.

Staff Expert/Witness: Amanda C. McMellen

b. Purchased Power – Capacity Charges

In addition to its ownership interest in the Plum Point unit through Plum Point Energy Associates, LLC, Empire has contracted for a reservation of an additional 51 MW capacity from Plum Point through a purchased power contract. For this 51 MW of power, Empire pays a fixed component and an energy component. The fixed amounts Empire pays are referred to as capacity charges. Generally, there is an amount for Plum Point operation and maintenance costs included within the energy charge. The fixed component is paid as a "demand charge," generally on a monthly basis, regardless of the level of power actually purchased. This amount is for the "right" to purchase the power in much the same way that natural gas utilities purchase reservation of capacity from pipelines through reservation payments. The demand charges are intended to cover part of the fixed expenses of operating a generating facility.

Staff's adjustment to purchased power expense in this case annualizes demand charges for Empire's Plum Point Purchase Power Agreement.

Staff Expert/Witness: Amanda C. McMellen

c. Fuel Prices

Generally, Staff computed its level of fuel expense using prices and quantities contracted by Empire for delivery in 2019, including prices and quantities agreed to in fuel contracts effective through December 31, 2019 (with one exception described in the "Coal Prices" section below), and for current freight contracts. These fuel prices include prices for coal, natural gas, and oil, as well as associated transportation charges.

Staff Expert/Witness: Amanda C. McMellen

d. Coal Prices

Staff determined its coal price by generation facility based on a review and analysis of Empire's current coal purchase and coal transportation contracts. Staff's recommended PRB coal prices reflect Empire's actual contracted coal purchase prices effective through December 31, 2019, and a 12-month average of transportation costs incurred through the update period, September 30, 2019. Staff's local bituminous coal price reflects Empire's actual contracted coal purchase price in effect December 31, 2019. According to Empire, they are not purchasing this coal in 2020, but are using what remains on the ground due to the retirement of Asbury. For the Plum Point unit, Staff's recommended coal prices reflect the actual contracted coal purchase and transportation prices in effect for 2019. For the Iatan 1 and 2 units, Staff's recommended coal prices reflect KCPL's projected weighted average contracted coal purchase and transportation prices for 2019.

Staff Expert/Witness: Amanda C. McMellen

e. Natural Gas Prices

The natural gas price recommended in this case by Staff of $2.46 per MMBtu is composed of two components: hedged and non-hedged ("spot") prices. Staff calculated the non-hedged component of natural gas prices using a twelve-month weighted average of Empire's actual commodity cost of natural gas purchased on the spot market during the twelve months ending September 30, 2019. The weighted average price for the non-hedged component is $2.265 per MMBtu. Staff calculated the hedged component of natural gas costs by applying a weighted average for the actual hedged purchases contracted for at September 30, 2019, that is applicable to Empire's forecasted gas needs for the twelve months ending September 30, 2019. The weighted average price for the hedged component is $2.643 per MMBtu. Staff weighted the hedged gas price at 52% of its overall gas price recommendation, as Empire has contracted to meet approximately 52% of its projected natural gas usage from October 1, 2018 through September 30, 2019, with hedged gas supplies. Empire's natural gas transportation costs are annualized and normalized separately as a part of fuel adders.

Staff Expert/Witness: Amanda C. McMellen

f. Fuel Oil Prices

Staff used a weighted average price of 1,560.48 cents per MMBtu to determine the fuel oil cost input in the fuel model in this case. Staff calculated this weighted average price by: (1) converting each month's number of barrels purchased over a 13-month period into gallons; (2) dividing a total month's purchase in gallons by that month's total purchase costs to derive an average monthly price per gallon; (3) summing the totals for the 13-month period to calculate a weighted 13-month average cost per gallon, which in this case is \$2.175311; and (4) converting this per gallon price into the cents per MMBtu, which is 1,560.48. Empire burns fuel oil mainly as a secondary fuel or, in some instances, for flame stabilization. Empire does maintain onsite storage at its various facilities in sufficient capacity that only occasional purchases are necessary. As a result, Empire does not contract for or hedge oil costs.

Staff Expert/Witness: Amanda C. McMellen

2. <u>Entergy Transmission Contract</u>

Empire has a contract with Entergy Solutions, Inc. for firm point-to-point transmission service to transmit power generated from the Plum Point Energy Station to Empire. Staff included an adjustment that annualizes the cost of this service at the current contract rate effective September 1, 2019.

Staff Expert/Witness: Ashley Sarver

3. <u>Heat Rate and Efficiency Testing</u>

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

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

The commission first authorized Empire's FAC in Case No. ER-2008-0308. The FAC was continued with modifications in Case Nos. ER-2010-0130, ER-2011-0004, ER-2012-0345, ER-2014-0351, and ER-2016-0023. Liberty-Empire is requesting that its FAC again be continued with modifications in this current general rate case proceeding.

Staff has conducted a review of the most recent heat rate/efficiency tests for Empire's generating units and found them to be reasonable based on comparisons with data filed in previous general rate case proceedings and known changes in power plant operating parameters. All of the testing dates submitted by Empire were found to be in accordance with the twenty-four (24) month requirement of 20 CSR 4240-3.161(3)(Q).

Staff Expert/Witness: Jordan Hull

4. Market Prices

For Case No. ER-2019-0374, Staff updated its production cost model to use multiple sets of market prices. This represents a change in method from Case No. ER-2016-0023.[46] The prices used are based on a three year average of the day-ahead prices for Empire's generating nodes and load node within the Southwest Power Pool Integrated Marketplace. Within the model, the unique market prices associated with each of the generating facilities are one of the determining factors for economic dispatching. This simulates how the actual market dispatches generation resources based on prices set by regional load requirements. The three year average calculated by Staff was incorporated into the production cost model as a reasonable forecast of market prices.

5. Planned and Forced Outages

Planned and forced outages are infrequent in occurrence and variable in duration. In order to capture this variability, the generating unit outages were normalized by averaging seven years of data that Empire provided to comply with 20 CSR 4240-3.190 and supplemental information provided in response to a Staff data request. For each thermal generating unit an equivalent forced outage rate and scheduled maintenance outage durations were calculated based on that data.

The outages defined for each thermal generating unit represent times that they are unavailable for dispatch within the market. Planned outages are scheduled during times of expected lower energy demand in order to minimize the impact of the temporary loss of generating

[46] Empire's generation portfolio includes a number of generating facilities that are geographically distant from each other and from Empire's service territory. Staff's decision to use multiple sets of market prices is intended to better account for the differences in market conditions experienced at each of those facilities.

capacity. Unplanned outages are applied in a random pattern to mimic the unforeseen nature of faults that may force a power plant offline.

6. <u>Contract Prices and Energy</u>

Staff's fuel model includes Empire's energy contracts with the Meridian Way and Elk River wind farms in Kansas and the Plum Point coal power plant in Arkansas. For the wind farms, Staff developed hourly energy production profiles by averaging historic generation records. The prices paid for the energy from Meridian Way and Elk River are set by the contracts Empire enters into with the wind farm owners. Generation for the coal power plant was calculated through the use of the production cost model. The energy price for the coal plant contract was adopted from Empire's fuel model workpapers.

7. <u>Variable Fuel Expense</u>

Staff uses the PLEXOS production cost model to perform an hour-by-hour chronological simulation of a utility's generation, energy sales, and energy purchases. Staff uses this model to determine annual fuel consumption, fuel expense, and the costs and revenues associated with the purchases and sales of energy. Staff applies constraints to the model in order to reasonably align power plant behavior with historical performance. This is done to simulate Empire's bidding strategy within the integrated market.

In this case, Staff's model meets all load requirements through market purchases at a defined load node. Simultaneously, each thermal generating facility is dispatched according to its own set of market prices. In each hour, the total generation from all sources is then summed and compared against the purchased energy required to satisfy load. If total generation exceeds purchased energy, then net sales are recorded for that hour. Conversely, if total generation is less than purchased energy, net purchases are recorded. In that way, net sales and purchases within the market are determined for each hour of the simulation.

Staff relied on data provided in Empire's workpapers for many of the operating characteristics of the thermal generating units in Empire's portfolio. These include maximum and minimum capacity, heat rate, primary fuel type, start-up fuel type, ramp rates, start-up costs, minimum up time, minimum down time, and variable operating and maintenance expense. Staff updated or separately calculated values for operating characteristics on an "as-needed" basis.

Staff estimates the variable fuel and purchased power expense for Empire for the update period, ending September 30, 2019, to be $117,419,091. This value includes revenue from net sales made in the integrated market.

Staff assumed continued operation of Empire's Asbury plant in its model to calculate variable fuel expense. Please see Section XIII of the Report, "Isolated Adjustments – Retirement of Asbury," for a discussion of Staff's overall position regarding rate treatment of Asbury in this proceeding.

Staff Expert/Witness: Charles T. Poston, PE

E. Payroll and Benefits

1. Payroll, Payroll Taxes and 401K

Staff adjusted Empire's test year payroll expense to reflect annualized levels of payroll, payroll taxes, and 401(k) benefit costs as of September 30, 2019. Staff calculated a reasonable overtime payroll level for Empire by multiplying an overtime percentage computed for the non-union and union employees based upon a two-year average of overtime hours actually incurred by the current rate paid for overtime as of September 30, 2019. Staff then divided that product by Staff's pro forma base payroll amount.

Staff determined an allocation rate for distributing the payroll adjustments by using the percentage of Empire's total electric payroll costs. After allocation between expense and construction based on a three (3) year Operation & Maintenance (O&M) average, Staff distributed the total amount of the adjustment to individual Federal Energy Regulatory Commission Uniform System of Accounts (FERC USOA) based upon the actual distribution by FERC account Empire experienced for the twelve months ending March 31, 2019. Staff's Accounting Schedule 10, Adjustments to the Income Statement, reflects all payroll adjustments, segregated by the FERC USOA Account, to reflect Staff's total adjustment required to restate the test year payroll to an annualized level as of September 30, 2019.

Staff calculated payroll taxes based upon September 30, 2019, wage levels and current tax rates. This included Federal Unemployment Taxes ("FUTA"), State Unemployment Taxes ("SUTA"), and Federal Insurance Contributions Act ("FICA") tax. The Company's 401(k) benefit costs were annualized by applying Empire's actual 401(k) match rate for each employee to the annualized payroll as of September 30, 2019.

Staff Expert/Witness: Ali Arabian

2. Payroll Benefits

Empire currently offers its employees Dental, Vision, Healthcare, and Life Insurance benefits. Staff performed an analysis of the employee benefit costs included in Account 926 from the general ledger. Staff annualized each expense by examining the individual costs over a 36 month period to determine the appropriate amount to include for each expense. Staff performed a three year average through the update period to annualize these expenses ending September 30, 2019.

Staff Expert/Witness: Ali Arabian

3. FASB Accounting Standards Codification ("ASC") 715-60 (formerly FAS 106) – Other Post-Employment Benefit Costs ("OPEBs")

In Case No. ER-2006-0315, the signatory parties entered into a *Non-Unanimous Stipulation and Agreement as to Certain Issues*, addressing the ratemaking treatment for annual other post-employment benefit costs (also known as "OPEBs") under FASB ASC Subtopic 715-60, formerly known as Financial Accounting Standard No. 106 ("FAS 106"). OPEBs primarily relate to medical benefits owed by Empire to Company retirees. The 2006 agreement was later modified by the *Stipulation and Agreement as to Certain Issues* reached in Case No. ER-2008-0093, ER-2010-0130, ER-2011-0004, ER-2012-0345, ER-2014-0351 and ER-2016-0023. (Collectively, Staff will refer to the *Stipulations and Agreements* regarding OPEB expense ratemaking from the 2006 rate case to current as the "OPEB Agreements.") These OPEB Agreements were intended to ensure that the amount collected in rates for OPEBs were based on the FAS 106 cost recognized by the Company for financial reporting purposes, using a methodology similar to that used to determine FAS 87 pension cost. In addition, the OPEB Agreements were intended to ensure that Empire contributed the full amount of the OPEB expenses it collected in rates into an external trust fund. The OPEB Agreements also called for the use of a OPEBs tracker mechanism to quantify the difference over time in the OPEBs rate allowance provided to the Company, and the Company's annual actual OPEBs expenses under FAS 106.

In this case, Staff has complied with the terms agreed upon by the signatories to OPEB Agreements approved by the Commission in Empire's last six electric rate cases for ratemaking treatment of OPEBs costs. Empire's OPEB costs in this case were based upon the Company's actuary report from CBIZ Cottonwood for the fiscal period ending December 31, 2018. Staff will update the OPEB costs, tracker balance and amortization in its True-Up testimony. The results of Staff's review of Empire's OPEB costs to date are as follows:

> 1. The Company's ongoing FAS 106 cost recognized in rates in this case is $333,619.
>
> 2. Empire has over-recovered its FAS 106 expense in rates compared to its actual level of expense since the Company's last rate case. The balance in the Regulatory Liability account as of September 30, 2019, was ($4,768,543), which is to be amortized over five years as a reduction to expense in the amount of ($953,709).
>
> 3. Rate base is reduced by the level of regulatory liability associated with Empire's ongoing OPEBs tracker mechanism, $4,768,543.

Staff Expert/Witness: Ashley Sarver

4. <u>Accounting Standards Codification ("ASC") 715-30 (Formerly FAS 87 and FAS 88) Pension Costs</u>

In Case No. ER-2004-0570, the Staff, Empire and other parties entered into a *Stipulation and Agreement as to Certain Issues*, addressing, among other items, the ratemaking treatment for annual pension cost under FASB's ASC Subtopic 715-30, formerly known as Financial Accounting Standard No. 87 ("FAS 87"). Staff will refer to pensions as FAS 87 and FAS 88 in this report. This agreement, and thus treatment of annual pension cost, was later modified by each of the later *Stipulation and Agreement as to Certain Issues* entered into in Case Nos. ER-2006-0315, ER-2008-0093, ER-2010-0130, ER-2011-0004, ER-2012-0345, ER-2014-0351 and ER-2016-0023. (Collectively, Staff will refer to the *Stipulations and Agreements* regarding pension expense ratemaking from the 2004 rate case to current as the "Pension Agreements.") These above-referenced Pension Agreements provide for Empire to generally have its pension rate allowance set equal to its most current annual level of pension expense as calculated under FAS 87. Furthermore, these agreements established a tracker mechanism for Empire's pension expense, in which any excess or deficit in the Company's pension rate allowance, as compared to its ongoing levels of FAS 87 expense, is to be treated as a regulatory asset or liability. The resulting pension tracker regulatory asset or pension tracker regulatory liability is then to be included in Empire's rate base, and amortized as an addition or reduction to pension expense over a five-year period.

Pension cost under FAS 87 has been reflected in Staff's income statement for this case in a manner consistent with the ratemaking treatment agreed upon by the signatories to all of the stipulation and agreements approved by the Commission in Empire's last seven electric rate cases. Empire's rate base, as determined by the Staff, includes the FAS 87 Regulatory Asset, which represents the cumulative difference between FAS 87 pension costs recovered in rates and FAS 87 pension costs recognized in the financial statements between rate cases.

FAS 88 deals with the current recognition of gains and losses related to settlements and curtailments of pension plans. The Company's employees have the option at retirement to accept annuity payments or a lump sum distribution. A lump sum distribution, for purposes of FAS 88, is a settlement requiring the recognition of a gain or a loss. According to Case No. ER-2010-0130, Appendix C of the Stipulation and Agreement for treatment of special events for pensions and OPEB states this regulatory asset or liability will not be added to rate base (since it is not a cash item), and it will be amortized over five years beginning when new rates are implemented in the Company's next general electric rate increase or decrease proceeding before the Commission. Therefore, Staff did not include rate base treatment for FAS 88. The FAS 88 test year cost was averaged over a two year period in order to determine ongoing FAS 88 expense.

Additionally, Staff has included a prepaid pension asset ("PPA") in rate base in the amount of $18,865,955. The PPA represents the cumulative amount of pension contributions in excess of actual costs as of September 30, 2019. These contributions were made to prevent the pension plan from becoming "at-risk" as defined under the Pension Protection Act, and to meet the obligations of the Pension Benefit Guarantee Corporation.

Empire's pension costs in this case were based upon the Company's actuary report from CBIZ Cottonwood as of January 1, 2019. Staff will update the pension costs, tracker balance and amortization in its True-Up testimony. The results of the Staff's review to date of Empire's pension costs are as follows:

1. The Company's ongoing FAS 87 expense recognized in rates in this case is $1,275,179 and FAS 88 $6,573,354.

2. Empire has under-recovered its FAS 87 expense in rates compared to its actual level of expense since the Company's last rate case. The balance in the Regulatory Asset account at September 30, 2019, was $457,014, which is to be amortized over five years as an expense in the amount of $91,403.

3. FAS 88 settlement adjustment in the amount of $11,576,868 is to be amortized over five years as an expense in the amount of $2,315,374.

4. The amount to be included in rate base for Empire's ongoing pension expense tracker mechanism as a Regulatory Liability is ($182,978).

5. An amount of $18,865,955 is included in Empire's rate base as a prepaid pension asset.

Staff Expert/Witness: Ashley Sarver

5. Incentive Compensation

Staff reviewed Empire's portfolio of incentive compensation plans offered to its employees. In the past, Empire had one incentive plan called the Management Incentive Compensation Program ("MIP"). The MIP offered awards to Empire senior officers for the achievement of certain pre-set goals. However, with the Liberty merger, the program has changed. There is now one Long Term Incentive Plan ("LTIP"), and three different short term incentive plans: the "Empire Legacy Bonus/Incentive Plan", the Shared Bonus Plan ("SBP"), and the Short Term Incentive Plan ("STIP"). The name for the incentive plan associated with Empire's original employees is the "Empire Legacy Bonus/Incentive Plan." As a part of the Liberty merger transition process, employees who have Directors and above within their title (such as Department Heads) were moved to the Liberty Utilities Short Term Incentive Plan ("LU STIP") in 2017. The Liberty-Empire Information Technology team has also moved to the Liberty Utilities short term bonus plans (STIP and SBP). It is expected that the rest of the LU-Empire employees will be moved to the Liberty Bonus Plans for the 2020 payout. Based upon this review, Staff is proposing adjustments to the Company's incentive compensation expense.

a. Short Term Incentive Plans

In order to determine the appropriate amount to include, Staff reviewed the incentive metrics used to measure parent and divisional goals and the actual award received. Staff disallowed all the actual awards associated with the performance measure of meeting earnings per share targets. Any incentive goals associated with enhancing the value of a utility's stock price and the achievement of these goals benefits Empire's shareholders, not Empire's ratepayers; therefore, Staff has removed this expense from inclusion in rates.

The STIP and SBP award calculations are as follows:

STIP Incentive Plan Calculations:

STIP Payout $*= Eligible Annual Base Salary X Target Bonus % X Pro-ration Factor X STIP Weighting.*

STIP Weighting*= 70%*(Parent Scorecard Result) +10%*(Divisional Objective Result) +20%*(Personal Objective Achievement)*

SBP Bonus Plan Calculations:

SBP Payout $*= Eligible Annual Base Salary X Target Bonus % X Pro-ration Factor X SBP Weighting.*

SBP Weighting*= [85%*(Parent Scorecard Result) +15%*(Divisional Objective Result)] * Individual Multiplier*

Parent Scorecard:

Both the STIP and the SBP weighting calculations reference a "parent scorecard". The unified parent scorecard for APUC, Liberty Utilities, and Liberty Power is the same for both plans and is broken down as follows:

Objectives	Definitions	Weighted %
Customers and Communities	Conduct Operations Safely and Responsibly	15%
	Deliver a Satisfactory Customer Experience	10%
Our People and Team	Foster Employee Engagement through Effective Leadership	10%
Our Processes	Efficient and Effective Management of Capital Re-Investment Programs	10%
	Advance "Customer First" business Process Overhaul	5%
Our Efficiencies	Maximize Operating Efficiency by Managing to Budgets	30%
	Reduce Cost of Capital through Prudent Investments	20%
		100%

Staff has disallowed the 50% percent associated with the "Our Efficiencies" objective of the parent scorecard so that they are assigned to shareholders.

Divisional and Personal Scorecard:

While all employees under the STIP and SBP plan use the same parent scorecard, the divisional scorecard varies for each of the following eight divisions: LABS, Renewable Generation, Corporate Development, Transformation, Regulated Utilities- Head office, Regulated Utilities- East, Regulated Utilities- Central, and Regulated Utilities- West. Staff reviewed each divisional scorecard to disallow any incentive metric associated with the performance measure of meeting earnings per share targets or enhancing the value of a utility's stock price. Although the personal achievement/individual multiplier varies by employee, Staff is using a conservative flat rate of 20% across all employees for its calculation of incentive pay. Staff has asked the Company to provide the exact percentages by employee and may update the 20% to actuals if they are provided.

Payout:

The payout for both STIP and SBP reference a "target bonus percentage". Staff averaged the target bonus percentage for the employees that were provided and applied that across all employees. Staff has asked the Company to provide the target bonus percentage for every employee and may update the average to actuals if they are provided.

b. Long Term Incentive Plan ("LTIP")

In Empire's past rate cases, Staff also recommended a disallowance of long-term stock incentive compensation awarded to Empire's executive management, which results in the issuance of stock annually that is considered to be part of the senior officer's total compensation. The senior officers do not have any specific goals to meet in order to be granted these stock options. Awarding these stock options benefits Empire's shareholders, not Empire's ratepayers. Additionally, unlike other expense recognition in the income statement, expense recognition for equity-based incentive compensation does not result in a cash outlay by Empire. Staff has eliminated stock options recognized as an expense in this case consistent with the Commission's *Report and Order* in Case No. ER-2006-0315.

Staff Expert/Witness: Caroline Newkirk

6. <u>Supplemental Executive Retirement Plan ("SERP")</u>

Certain management employees receive benefits under Empire's Supplemental Employee Retirement Program ("SERP"). The provisions of Accounting Standards Codification 715-30, formerly FAS 87, are used to calculate the annual financial reporting expense accrual for this plan. Due to the fact that the benefits from this retirement program are not available to a broad range of employees, the Internal Revenue Service ("IRS") designated this program as a "non-qualified" plan. In a non-qualified plan, the expense is not "pre-funded" and only the amounts paid to beneficiaries are tax deductible. Therefore, Staff's policy has been to limit utilities' rate recovery of this item to actual benefit payments to employees, if reasonable. Staff reviewed a five year period ending September 30, 2019 to determine the reasonable ongoing level for SERP. Due to an upward trend in actual payments, Staff used the 12 months of actual payments ending with the end of the update period (September 30, 2019) to determine the annual costs of the SERP for inclusion in rates for this case.

Staff Expert/Witness: Ashley Sarver

F. Southwest Power Pool Revenues and Expenses

1. <u>SPP Transmission Revenues</u>

Empire receives revenues from the Southwest Power Pool ("SPP") to reimburse it for costs associated with transmission of electricity to other SPP members. Staff reviewed the monthly amount of revenues received from SPP since April 2014 for any trends in the data that would indicate a revenue amount other than the test year revenue amount would be appropriate to include in the cost of service. Staff's review determined the total amount of revenues received in the period of October 2018 through September 2019, which is the end of the update period in this case, is the most appropriate amount to use to normalize the SPP Transmission revenues.

2. <u>SPP Transmission Expenses</u>

The SPP is a not-for-profit, regional transmission organization ("RTO") which maintains functional control over the transmission assets of its members and provides transmission service through its Federal Energy Regulatory Commission ("FERC") approved open access transmission tariff ("OATT"). SPP's costs of providing transmission service must be recovered from its member companies, including Empire. As with the SPP Transmission Revenues, Staff reviewed the monthly amount of SPP transmission expense since April 2014 for any trends in the data that would indicate an expense amount other than the test year expense amount would be appropriate to include in the cost of service. Staff's review determined the total amount of expense incurred for twelve months ending September 2019, which is the end of the update period in this case, is the most appropriate amount to use to normalize the SPP Transmission expense.

3. Ancillary Services Market Revenue and Expense

Empire began participating in SPP's Ancillary Services Market ("ASM") in March 2014. Empire entered the ASM to acquire ancillary services for its retail load and also to be able to provide these services to other SPP members from its own generation when available. Ancillary services generally refer to the services necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the transmission system.[47] Staff reviewed the monthly amount of ASM revenues and expenses since April 2014 for any trends in the data and determined the average of the three-year period ending September 2019, the end of the update period for this case, is the most appropriate method for annualizing ASM revenues and expenses.

4. Miscellaneous SPP Related Revenues and Expenses

Empire also has received certain miscellaneous revenues and incurred expenses as a result of participating in SPP's Integrated Market ("IM") beginning in March 2014. Staff reviewed the monthly amount of these revenues and expenses since April 2014 for any trends in the data and determined the average of the three-year period ending September 2019, the end of the update period for this case, is the most appropriate method for annualizing these revenues and expenses.

Staff Expert/Witness: Keith D. Foster

G. Operations and Maintenance ("O&M") Normalized Adjustments

Empire's operation and maintenance expenses for its generating facilities (production stations) tend to fluctuate from year to year, since unscheduled outages occur at irregular and unpredictable times, and major planned outages do not occur annually. Each maintenance account was reviewed and analyzed separately for each production station. The production facilities

[47] As defined, per the glossary on the SPP website, such as Operating Reserves.

examined included Iatan 1, Iatan 2, Iatan Common, Asbury, Riverton, State Line Combined Cycle, State Line 1, Energy Center, Ozark Beach, and Plum Point. These units were examined individually because each of them is on a different maintenance cycle and to group them would have either overstated or understated the final annualized maintenance costs. These adjustments were then combined where possible in an effort to reduce the volume of adjustments.

The Staff's proposed production operation and maintenance normalization adjustments pertain to Empire's non-labor maintenance costs only; labor maintenance costs are handled as part of the Staff's overall payroll adjustments.

1. Iatan 1

Staff noted the Iatan 1 production station is on a six-year major operation and maintenance cycle. For that reason, Staff used a six-year average of operation and maintenance costs to develop its adjustment for Iatan 1 maintenance expense. Empire owns only 12% of the Iatan 1 unit.

2. Asbury

The Asbury maintenance expense is based on a five-year overhaul schedule of the boiler and turbine. Staff's adjustment is based upon a five-year average of operation and maintenance costs.

3. Riverton

A tracker for Riverton's O&M costs was originally established in Case No. ER-2014-0351. In Case No. ER-2016-0023, the Stipulation and Agreement "recommended a continuation of the use of the tracker mechanism for Riverton 12 O&M expense, because it was recently converted from a simple cycle to a combined cycle unit, there is no operational history by which to determine an appropriate level of Riverton O&M costs. As such, the parties agree that this is an extraordinary situation that allows for the use of a tracker mechanism."

For this case, Staff is recommending a discontinuation of the O&M tracker. Riverton 12 was converted to a combined cycle unit on May 1, 2016. Therefore, there are over three years of actual cost information for non-labor O&M costs as of the end of the test year period for this proceeding.

Staff reviewed five years of data; however, it is most appropriate to use a three-year average due to the fluctuation in cost due to Riverton 12 being converted to a combined cycle unit on

May 1, 2016. Therefore, Staff's adjustment is based upon a three-year average of operation and maintenance costs as of March 31, 2019, the end of the test year period.

4. Riverton 12 O&M Tracker

Additionally, in this case, Staff analyzed the Riverton 12 O&M costs beginning August 1, 2015, when the tracker started, through September 30, 2019, the update period for this case. For this same time period, Staff then calculated the total O&M costs, which were above the established tracker base and included the total in rate base as a regulatory asset. Staff recommends a five year amortization of the regulatory liability incurred for Riverton 12.

5. State Line Combined Cycle ("SLCC") and State Line Common

The SLCC operation and maintenance expense is based on a five-year overhaul schedule of the boiler and turbine. Empire owns 60% of the SLCC unit, with Westar Energy ("Westar") owning the remaining 40%. Staff subtracted 40% of SLCC expenses incurred in the period ended September 30, 2015, to adjust out Westar's portion of test year expenses. Staff then applied an adjustment based on a five-year average of Empire's portion of operation and maintenance costs. Empire is responsible for 66.7% of the State Line Common operation and maintenance expenses, while Westar Energy is responsible for the remaining 33.3%. Staff removed 33.3% of State Line Common expenses to adjust out Westar's portion of test year expenses. Staff then applied an adjustment based on a five-year average of Empire's portion of operation and maintenance costs.

6. State Line 1

Empire has had a contract with Siemens group related to the operation and maintenance of this production unit since June 29, 2001. The terms of the contract require Siemens to conduct maintenance service for the turbines, which are required to run for a specified number of hours per year. If a turbine does not meet the annual hour's requirement, a credit is due to Empire from Siemens; if the turbine exceeds the hours, then the Company incurs additional costs from Siemens. The nature of this expense varies greatly from year to year and, therefore, Staff is recommending using a five-year average to normalize this expense.

7. Energy Center and Ozark Beach

The Energy Center and Ozark Beach operation and maintenance expense is based on a five-year overhaul schedule of the boiler and turbine. Staff's adjustment is based upon a five-year average of operation and maintenance costs.

Staff Expert/Witness: Ashley Sarver

H. Other Expenses

1. Rate Case Expense

Staff reviewed Empire's actual rate case expense amounts incurred as of January 6, 2020, directly related to this case, based upon the traditional criteria of allowing rate recovery of all reasonable and prudent expenses, normalized over an appropriate period of time. On two occasions, Empire charted a plane to attend meetings in Jefferson City at a cost of $3,070.88 and $3,357.50. Staff has disallowed these requested amounts due to prudency. Instead Staff determined what costs Empire would have incurred if Empire employees would have driven to Jefferson City the night before the meetings. Staff included the costs for hotel rooms, breakfast and lunch for four employees for an allowed amount of $560 for each occasion.

Staff has normalized rate case expense over a two (2) year period. The ultimate amount of rate case expense incurred by Empire in this proceeding will be directly associated with the length of the case through the settlement conference and hearing process.

Empire is required to submit a depreciation study every five years. In Case No. ER-2016-0023, the last rate case, Empire submitted a depreciation study. This cost is being normalized over a five-year period.

Staff Expert/ Witness: Angela Niemeier

2. Rate Case Expense Sharing

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

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

1) Rate case expense sharing creates an incentive and eliminates a disincentive on the utility's part to control rate case expenses to reasonable levels;

2) Both ratepayers and shareholders benefit from the rate case process. The ratepayer is receiving the opportunity to be provided safe and adequate service at a just and reasonable rate and the shareholder is receiving an opportunity to receive an adequate return on investment;

3) It is fair and equitable to expect shareholders to carry a reasonable portion of the rate case burden; and

4) There is a high probability that some recommendations advocated by utilities through the rate case process will ultimately be found by the Commission to not be in the public interest.

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

Generally, utility management has a high degree of control over rate case expense. Attorneys, consultants, and other services can either be provided by in-house personnel or can be acquired from an outside party. Rate case expenses subject to a sharing mechanism do not include internal labor costs as these are included in the cost of service through the payroll annualization and are not incremental expenses resulting from the rate case process. These costs are fully paid for by ratepayers.

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

The Commission ordered a sharing of Kansas City Power & Light's (KCPL) rate case expenses in its Report and Order in Case No. ER-2014-0370:

> The Commission finds that in order to set just and reasonable rates under the facts of this case, the Commission will require KCPL shareholders to cover a portion of KCPL's rate case expense. One method to encourage KCPL to limit its rate case expenditures would be to link KCPL's percentage recovery of rate case expense to the percentage of its rate increase request the Commission finds just and reasonable. The Commission determines that this approach would directly link KCPL's recovery of rate case expense to both the reasonableness of its issue positions and the dollar value sought from customers in this rate case.
>
> The Commission concludes that KCPL should receive rate recovery of its rate case expenses in proportion to the amount of revenue requirement it is granted as a result of this Report and Order, compared to the amount of its revenue requirement rate increase originally requested. This amount should be normalized over three years. The Commission also finds that it is appropriate to require a full allocation to ratepayers of the expenses for KCPL's depreciation study, recovered over five years, because this study is required under Commission rules to be conducted every five years. [Footnotes omitted][48]

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

> It is understood that some of the issues litigated in this case do not directly affect the overall revenue requirement granted by the Commission; but it is also clear that the vast majority of litigated issues do have a direct or indirect impact on the revenue requirement. Accordingly, percentage sharing is a reasonable approach to correlating recovery of rate case expense to the relationship between the amount of litigation that benefited both ratepayers and shareholders and that which benefited only shareholders[49].

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

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

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

> cover half with the exception of the cost of customer notices and the depreciation study.[50]

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

Staff Expert/Witness: Kimberly K. Bolin

3. Dues and Donations

Staff reviewed the list of membership dues paid and donations made to various organizations that Empire charged to its utility accounts during the test year. For the starting point in this case, Staff recommends adjustments to exclude various dues and donations that were included by Empire in its above-the-line expense accounts. In ***Re: Missouri Public Service, a Division of UtiliCorp United, Inc.,*** Case Nos. ER-97-394, *et al., Report and Order,* 7 Mo.P.S.C.3d 178, 212 (1998), the Commission stated:

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

Staff excluded dues that do not have any direct benefit to ratepayers and were not necessary for the provision of safe and adequate service. Allowing Empire to recover these expenses through rates causes the ratepayer to involuntarily contribute to these organizations. Examples of dues excluded from recovery in the rate case, based on the Commission's *Report and Order* mentioned above, are dues paid to Amazon, Sam's Club, and Twin Hills Golf and Country Club. Area Chamber of Commerce dues were allowed, but National and State Chamber of Commerce dues were disallowed as being duplicative costs to the local Chamber of Commerce organizations. An example of a donation that was excluded was a donation to Missouri S&T Alumni Association. No further adjustments are necessary for this case.

Staff Expert/Witness: Courtney Barron

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

4. Edison Electric Institute ("EEI") Dues

According to information obtained from the EEI website (www.eei.org), EEI is an association of investor-owned electric utilities and industrial affiliates. I determined that a primary function of EEI is to represent the interests of the electric utility industry in the legislative and regulatory arenas. This role includes EEI's engagement in lobbying activities.

In Case No. ER-83-49, a KCPL rate increase case, the Commission stated its determination that EEI dues:

> …would be excluded as an expense until the company could better quantify the benefit accruing to both the company's ratepayers and shareholders.

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

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

> . . . The argument that allocation is not necessary if the benefits lessen the cost of service to the ratepayers by more than the cost of the dues misses the point.
>
> It is not determinative that the quantification of benefits to the ratepayer is greater 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 EEI dues if there is benefit accruing to the shareholders from EEI membership as well. The Commission finds this to be the case. The Company has been informed in prior rate cases that it must allocate its quantified benefits from membership in EEI. That has not been done herein. Therefore, no portion of EEI dues will be allowed in this case.

Empire failed to quantify ratepayer and shareholder benefits from its participation in EEI; therefore, I removed total EEI dues included in the test year of $179,693 from Empire's cost of service. No further adjustment is necessary for this case.

Staff Expert/Witness: Courtney Barron

5. Insurance Expense

Insurance expense is the cost of protection obtained from third parties by utilities against the risk of financial loss associated with unanticipated events or occurrences. Utilities, like non-regulated entities, routinely incur insurance expense in order to minimize their liability (and, potentially that of their customers) associated with unanticipated losses. Staff made an adjustment to annualize Empire's insurance expense to reflect the premiums paid as of July 2019.

Staff Expert/Witness: Ali Arabian

6. **Customer Deposit Interest Expense**

See the discussion in Section V.G. concerning Rate Base - Customer Deposits.

Staff Expert/Witness: Angela Niemeier

7. **Property Tax Expense**

Utility companies are required to file a valuation of their utility property with their respective taxing authorities at the beginning of each assessment year, which is January 1st. Based on the information provided by the utility, the taxing authority will in turn send the company its "assessed values" for every category of the company's property. The taxing authority will then 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. 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 as of January 1st of the same year.

Staff determined its adjustment for property taxes by developing a property tax rate to be applied to total property as of December 31, 2018. Staff calculated the property rate by dividing the 2018 property taxes paid by the 2017 total property. This property tax rate was then applied to the total property as of December 31st, 2018, to arrive at the annualized property tax. Then the annualized property tax was added to the 2018 Plum Point taxes paid to arrive at total annualized property tax. The total annualized property tax was then subtracted from the total test year property taxes to derive the adjustment.

The owners of the Plum Point unit, including Empire, have an agreement with the City of Osceola, Arkansas; Mississippi County, Arkansas; Osceola School District No. 1 of Mississippi County, Arkansas; and Mississippi County Community College District of Arkansas, to make an annual Payment in Lieu of Taxes ("PILOT") instead of paying property taxes on the Plum Point unit in the normal manner. A PILOT agreement allows the owners of the Plum Point unit to pay one flat amount of property taxes on the Plum Point unit for 30 years with the potential for an extension at the end of the 30-year term, regardless of any additions or retirements made to the unit since its in-service date. To appropriately calculate the overall property tax amount for Empire, the amount of Empire's share of the Plum Point plant had to be subtracted from total plant in service so as not to be included in the development of the annualized property taxes. The set amount of PILOT taxes that Empire has agreed to pay for Plum Point was then added to the annualized property tax calculation to determine the total property tax adjustment. Staff will update its recommended level of property taxes as part of the true-up audit in this proceeding.

Staff Expert/Witness: Courtney Barron

8. Uncollectible/Bad Debt Expense

Bad debt, or uncollectible expense, is the portion of retail revenue that Empire is unable to collect from retail customers due to non-payment of bills. The final bill is due 21 days from the statement mailing date. If unpaid, on the second day after the due date, a collection notice is sent advising the customer the account will be turned over to a collection agency if unpaid or suitable arrangements are not made within 10 days. After the 10 days, any accounts that remain unpaid are written off and sent to a collection agency.

Staff examined the most recent five-year (April 2014 – March 2019) history of Empire's bad debt write-offs that were never collected (i.e., write-offs net of amounts subsequently collected). It is apparent from a review of this data that Empire's bad debt expense fluctuates from one year to the next. Therefore, Staff calculated a five-year average of the uncollectable percentage of bad debt to revenue, which was then applied to Staff's annualized and adjusted level of test year retail rate revenues to obtain the normalized level of bad debt expense.

Staff Expert/Witness: Caroline Newkirk

9. Advertising Expense

Staff evaluated Empire's advertising invoices and supporting information and classified its advertising into the five categories, as set forth in the Commission's April 23, 1986 ruling in *In re Kansas City Power and Light Company*, Case Nos. EO-85-185, EO-85-224. These five categories are general, safety, institutional, promotional, and political. They are described as follows:

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

Institutional and Political advertising are always disallowed by Staff. General and Safety advertising are always allowed by Staff. Promotional advertising can be allowed to the extent that the utility can provide cost justification for the advertisement.

Following this guidance, to calculate the adjustment Staff categorized each advertisement into one of the five above types and then excluded institutional, promotional and political advertising expenses.

Staff Expert/Witness: Angela Niemeier

10. <u>Software Maintenance Expense</u>

Empire has contracts, operating licenses, and agreements with vendors that provide maintenance, upgrades to software, and support for its computer software. Staff annualized the expense for each of the suppliers based on the current rate for each as recorded on the General Ledger as of September 30, 2019. Therefore, Staff made an adjustment of ($179,386) in Account 921 - Office Supplies to decrease the software maintenance expense to reflect the annualized amount of $826,000 as of September 30, 2019.

Staff Expert/Witness: Ashley Sarver

11. <u>Lease Expense</u>

Lease costs are those costs incurred by Empire for the leasing of its equipment and building space. Staff submitted Data Request No. 0048 to Empire asking for a list of all lease agreements (office, vehicle, computers, etc.) charged to Missouri electric operations, along with the lease costs and information concerning all changes to the lease amounts since October 2015. Staff examined these costs for the test year, updated through September 30, 2019. Staff included $5,392 annually for the Missouri Chamber of Commerce Educational Foundation lease. Staff determined this amount after allocating a portion of the lease to Empire water and gas. Staff included $392 annually for the AmeriCold lease. Staff determined this amount by annualizing the most current lease payment.

Staff Expert/Witness: Courtney Barron

12. Public Service Commission Assessment

The adjustment of $55,908 represents the difference between Staff's annualized PSC Assessment and the assessment amount included in the test year. The most recent PSC Assessment in effect for the fiscal year, July 1, 2019 to June 30, 2020, was used in the Staff's annualization.

Staff Expert/ Witness: Angela Niemeier

13. Injuries and Damages and Workers' Compensation

Empire maintains workers' compensation insurance for the benefit of its employees.The workers' compensation adjustment proposed by Staff annualizes this expense based upon the premiums in effect at July 2019 to reflect an ongoing and normal expense level for Empire.

From time to time, claimants sue Empire seeking payment of damages. If Empire loses the lawsuit, Empire will likely make a payout to the aggrieved party. Alternatively, it may choose to enter into an out-of-court settlement, also resulting in a payout.

Based upon generally accepted accounting principles, Empire is required to charge to current expense an estimate of its future payouts for injuries and damages claims. To determine a normalized level of this expense, Staff used a five-year average of actual injuries and damages and workers' compensation payments in its cost of service report, instead of relying upon accounting estimates. Staff applied an allocation of 50.00 percent to the five-year average of actual payments made for injuries and damages. The allocation of 50.00 percent represents the electric expense portion of the payments. The remaining amounts of the payments 50.00% are allocated to the Company's construction, water operations and below-the-line activities. Below the line refers to line items in the income statement that do not directly impact a company's reported profits. A five-year average of actual payments was used to normalize this expense because Staff's analysis shows a considerable fluctuation in the annual amount of payments from one year to the next.

Staff Expert/Witness: Ali Arabian

14. <u>Postage</u>

Staff annualized Empire's test year postage expense to reflect the postal increase that went into effect on January 27, 2019. Staff included a postal expense adjustment in the amount of $110,671 in its recommendation.

Staff Expert/ Witness: Angela Niemeier

15. <u>Credit Card Fees</u>

Currently, each Empire customer who pays her/his utility bill with a credit card is charged a transaction fee. Empire has proposed to begin recovering in rates the per-transaction fee associated with processing a customer credit card payment instead of the individual customer paying the fee. Staff recommends this cost be allowed recovery in rates. Staff has included an annualized amount for credit card processing fees for Empire, based on the number of actual credit card payments occurring during the test year, multiplied by the current fee per-transaction.

Staff Expert/Witness: Kimberly K. Bolin

16. <u>Outside Services</u>

Various outside (independent) contractors and vendors provide legal, auditing, and other services to Empire to carry out its operational activities as needed. Staff reviewed Empire's outside services expenses booked to Accounts 923045 and 923047 for the test year through the update period ending September 30, 2019. Staff normalized the amounts of outside services on a going forward basis by calculating a five-year average of incurred costs for these accounts in the amount of $2,326,254. Staff subtracted the five-year average of incurred costs from the test year total to determine the adjustment. This adjustment does not include outside services related to rate case expense. Outside services incurred for rate case purposes are booked in a separate account.

Staff Expert/Witness: Courtney Barron

17. <u>Weatherization Program</u>

Empire began administering its Weatherization Program, a low-income program ("Program"), throughout its service area following Case No. ER-2004-0570[51]. The Company

[51] Case No. ER-2004-0570, *In the Matter of the tariff filing of The Empire District Electric Company to Implement a General Rate Increase for Retail Electric Service Provided to Customers in its Missouri Service Area.*

worked with Empire's Demand Side Management Advisory Group ("DSMAG") composed of the Public Service Commission Staff, the Office of the Public Counsel, and the Department of Natural Resources-Division of Energy, providing the reporting data as to the portion of the budget spent and number of homes weatherized on a quarterly basis.

The program was given Commission approval in each following rate case, with the current program design ordered in Case No. ER-2016-0023. The current design arose from a Stipulation and Agreement filed on June 20, 2016, which the Commission approved August 10, 2016 in which the Signatories agreed:

> Empire would continue the program with an annual budget of $250,000 (increased from $225,000)[52]. The Signatories also agreed a process evaluation to be conducted of the Company's program by an independent evaluator to determine why funds for the program remain unspent, whether barriers exist to full utilization of Company funded weatherization fund, and will recommend solutions to remedy these barriers. The cost of the process evaluation was agreed should not exceed $15,000, funded through the Company's weatherization program funding.

Following the conclusion of Case No. ER-2016-0023, on August 4, 2016, a Stipulation and Agreement was filed in Case No. EM-2016-0213, *In the Matter of The Empire District Electric Company, Liberty Utilities (Central) Co. and Liberty Sub Corp. Concerning an Agreement and Plan of Merger and Certain Related Transactions*, where the signatories agreed:

> Empire and The Empire District Gas Company agree to provide DE an annual payment totaling up to 5% of the agreed to weatherization funds for a pilot program concerning the administration and monitoring of the funds (not to exceed an annual cap of $12,500) to the extent DE is utilized for the management of those funds. Said funds will be provided for a period of five years and be considered below the line and not recovered in future rates. Nothing in this paragraph will affect Staff's and OPC's ability to oppose funding for DE in future cases whether for Empire or any other utility. DE shall work with the OPC, Staff, and Empire to develop reporting standards for its administration and monitoring activities to be presented at the annual meetings with each location Community Action Agency.

Following Commission approval of the Stipulation and Agreement on September 7, 2016, the Company transitioned the administration of the program over to DE effective November 1, 2017 and the oversight of program fund allocations to the three Community Action

[52] *In the Matter of The Empire District Electric) Company for Authority to File Tariffs Increasing) Rates for Electric Service Provided to Customers) Case No. ER-2016-0023in the Company's Missouri Service Area,* Stipulation and Agreement, June 20, 2016, page 8, paragraph 16.

Agencies ("CAA") within the Company's territory, the Economic Security Corporation, the Ozark Area Community Action Corporation, and the West Central Missouri Community Action Agency.

With the assistance of the Community Action Agencies, Empire provides the agreed upon annual program report in EFIS. The report addresses progress of the Program, and provides an accounting of the funds received and spent on the Program during the preceding calendar year.

Since DE has administered the program the portion of the budget spent has increased along with the number of homes weatherized compared to the administration by the Company. During the 2018 calendar year, the Company provided $250,000 to DE for funding the weatherization program and an additional $12,500 for administration. Of the annual program budget $233,036 was spent by the CAAs for a total of 83 homes weatherized.

Staff recommends the Commission order 1) the continuation of the program at the current funding level until the Company's next general rate case and 2) the Commission order the Company to update the weatherization program tariff so it reflects the current program structure with program administration.

Staff Expert/Witness: Kory J. Boustead

18. <u>Low Income Pilot Program</u>

The Low-Income Pilot Program ("LIPP") is a currently approved tariffed program effective February 28, 2017 with a total program budget of $250,000 that shall run until either the budget is exhausted or until rates are implemented in Empire's next general rate case – i.e., this rate case, whichever occurs first. LIPP is an experimental program providing a 100 percent discount of the customer charge for Low Income Heat Energy Assistance Program ("LIHEAP") eligible customers as proposed in Case No. ER-2016-0023.

The Program was agreed upon, if Commission ordered, in the Stipulation and Agreement filed on June 20, 2016[53] followed by an approved order of the Commission on August 10, 2016[54]. The order set goals for the program to: 1) provide electric bill payment assistance to customers meeting the Program's eligibility requirements, and 2) evaluate the impact of the Program and to

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[53] Case No. ER-2016-0023 *In the Matter of The Empire District Electric Company for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.* Stipulation and Agreement, paragraph 13, h.

[54] Case No. ER-2016-0023 *In the Matter of The Empire District Electric Company for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area,* Order Approving Stipulation and Agreement, page 5-6. paragraph 5.

evaluate the impact a customer charge discount for program participants can have on the disconnection and bad debt rates for Empire both during and after participation in the program.

As of May 2019, 1,218 customers have participated in the program. 647 customers were disqualified from the program after an average of eight months as a result of defaulting on payments and 597 customers are still participating in the program for a total program length of 19 months. There were also losses of 277 participants which discontinued their service and received final bills (154 of which have been left unpaid).[55] Enrollment into the program is allowed at any time, however the majority of the enrollments took place during two timeframes 1) May-July 2017 and 2) January – March 2018. The Company attributes these surges in enrollments to peak weather and the timeframe they send applicant pool communication.

In Case No. EM-2016-0213, the Empire-Liberty Merger, filed August 23, 2016, the Company agreed to an annual in-person meeting with each of the local Community Action Agencies for the next five years in Joplin, at Empire's headquarters, with extended invitations to (at least) the Commission Staff, OPC, and the DE to discuss progress to date along with the Strengths, Weaknesses, Opportunities and Threats to Empire's low-income population. Empire has held three annual meetings to date 1) October 26, 2017; 2) November 2, 2018; and 3) November 8, 2019.

Staff recommends the Commission order 1) the continuation of the LIPP program at the current funding level until the Company's next general rate case; and 2) to remove the program spending cap at $250,000 and authorize Empire to use a regulatory asset or regulatory liability account to track incurred program expenses above or below the $250,000 program total as it is currently structured.

Staff Expert/Witness: Kory J. Boustead

VIII. Income Taxes

A. Current and Deferred Income Tax

1. <u>Current Income Taxes</u>

Current income tax for this case has been calculated by Staff largely consistent with the methodology used in Empire's most recent rate case, Case No. ER-2016-0023. Adjustments are

[55] Liberty Utilities Low-Income Program Stakeholder Annual Meeting, November 8, 2019, PowerPoint presentation.

made to net income to compute the current income tax expense. These adjustments are effectuated by taking adjusted net income and either adding to or subtracting from the net income various timing differences to obtain net taxable income for ratemaking purposes. (The term "timing differences" refers to the differences in time when certain costs can be deducted for purposes of determining financial statement net income and taxable income, respectively.) The adjustments are the result of various financial statement ("book") and tax timing differences as well as their implementation under separate tax ratemaking methods: flow-through versus normalization. The resulting net taxable income for ratemaking is then multiplied by the appropriate federal and state tax rates to obtain the current provision for income taxes. Staff used the current federal tax rate of 21 percent and the Missouri state income tax rate of four (4) percent effective January 1, 2020, in calculating Empire's 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.

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
- Non-Deductible Expense – Non-deductible meals and dues
- Contributions In Aid of Construction
- Book Amortization

Subtractions from Operating Income:

- Interest Expense – Weighted Cost of Debt times Rate Base
- Tax Depreciation – Straight-Line
- Tax Depreciation – Excess

2. Deferred Income Taxes

When a tax timing difference is reflected for ratemaking purposes in the deferred tax adjustment consistent with the timing used in determining taxable income for the calculation of current income tax payable to the IRS, the timing difference is given a "flow-through" treatment.

When a current year timing difference is deferred and recognized for ratemaking purposes consistent with the timing used in calculating pre-tax operating income in the financial statements, then that timing difference is given "normalization" treatment for ratemaking purposes. Deferred income tax expense for a regulated utility reflects the tax impact of "normalizing" tax timing differences for ratemaking purposes. Current IRS rules for regulated utilities, in effect, require normalization treatment for the timing difference related to accelerated depreciation.

For most utilities, it is necessary to break out a utility's tax depreciation into two separate components: tax straight-line depreciation and excess tax depreciation. Tax straight-line depreciation is different from book straight-line depreciation due to the different tax basis of property allowed under the tax code. Excess tax depreciation differs from straight-line book depreciation due to the higher depreciation rates allowed in the early years of an asset's life under the current tax code as compared to "straight-line" book depreciation rates. To calculate excess tax depreciation, Staff used the total tax depreciation amount included in the Company's filing in this case. Most tax basis differences were eliminated for assets placed into service after 1986 due to the Tax Reform Act ("TRA") enacted that year.

Staff Expert/Witness: Keith D. Foster

IX. Renewable Energy

A. Renewable Energy Standard ("RES")

The Missouri Renewable Energy Standard ("RES")[56] was enacted as a voter initiative petition in November 2008. Provisions of the resulting statute and regulations require Empire (and the other investor-owned utilities) to meet certain requirements regarding the use of renewable energy while not exceeding the one percent (1%) retail rate impact limit. The investor-owned utilities demonstrate compliance by retiring Renewable Energy Credits ("REC") in the commission-approved tracking system, the North American Renewables registry. A REC represents that 1 MWh of electricity has been generated from a renewable energy resource. A REC expires three years from the date the electricity associated with that REC was generated, however, a REC may be used for compliance in the calendar year it expired as long as it was valid at any time in that year.[57] When the investor-owned utilities retire a REC it means that action has been taken to remove the REC from circulation within the NAR system, in other words, it no longer can be traded, sold, or transferred to another party.

[56] Mo. Rev. Stat. Section 393.1020 (2000).
[57] 20 CSR 4240-20.100(1)(M) and 20 CSR 4240-20.100(2)(B).

The RES requires Empire to provide a rebate to its retail customers for installation of solar electric systems on their premises. Empire was previously believed to be exempt from offering solar rebates to its customers and exempt from the solar RES requirements. The exemption was challenged and on February 10, 2015, the Missouri Supreme Court issued an opinion that Empire was not exempt from these requirements. This resulted in Empire filing proposed solar rebate tariff sheets to offer solar rebates to its customers on May 5, 2015, that became effective May 16, 2015.[58]

For calendar years 2018 through 2020, the RES requires Empire to generate or purchase ten percent (10%) of its retail sales using renewable energy resources.[59] Empire must derive two percent (2%) of the renewable energy requirement from solar energy.[60] RECs can be banked for three (3) years and utilized for future compliance purposes.[61] Empire files annually a RES Compliance Plan and RES Compliance Report.[62] Each RES Compliance Plan provides information regarding the utility's plan for the current calendar year and the subsequent two (2) calendar years. The RES Compliance Report is a status report on the utility's compliance for the preceding calendar year. For the 2018 calendar year, Empire retired RECs from Ozark Beach Hydroelectric Project and the Elk River Windfarm for the non-solar requirement and S-RECs obtained from its customer-generators for solar compliance.[63]

Staff Expert/Witness: Claire M. Eubanks, PE

B. Solar Rebates

On May 5, 2015, Empire issued tariffs to establish solar rebate payments procedures, and to revise its net metering tariffs to accommodate the payment of solar rebates.[64] The tariff submitted under YE-2015-0322 became effective on May 16, 2015. Staff has amortized the costs over a ten-year period, based upon Staff's review of the costs recorded to date in Account 182377. Staff is using the September 30, 2019, balance of this regulatory asset in rate base in this case. Staff has also included an adjustment in the Income Statement to amortize these costs to expense.

[58] See Case No. ET-2015-0285.
[59] Mo. Rev. Stat. Section 393.1030 .1(1) (2000).
[60] Mo. Rev. Stat. Section 393.1030.1 (2000).
[61] "An unused credit may exist for up to three years from the date of its creation." Mo. Rev. Stat. § 393.1030.2 (2000).
[62] Empire filed its RES Plan for 2019-2021 and its RES Report for calendar year 2018 in EE-2019-0305; its 2019 RES Plan and RES Report is due on April 15, 2020.
[63] EE-2019-0305, *2018 Annual Renewable Energy Standard Compliance Report*, page 8.
[64] Order Approving Expedited Tariff, MoPSC File No. ET-2015-0285, page 1.

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: Caroline Newkirk

X. Depreciation

A. Depreciation Study

20 CSR 4240-3.160(1)(A) requires that a depreciation study, database and property unit catalog be submitted with a general rate increase request unless Staff received these items during the three (3) years prior to the rate increase request or before five (5) years have elapsed since last receiving said items. Empire references a depreciation study submitted in Case No. ER-2016-0023 on October 16, 2015, as meeting the requirement of 20 CSR 4240-3.160(1)(A). The depreciation study referenced by Empire was filed as Supplement Schedule TJS-2 to the Direct Testimony of Thomas J. Sullivan in Case No. ER-2016-0023. The study was updated through December 31, 2014. Empire has stated that it will file a depreciation study with the rate case planned to be filed for the 3rd quarter of 2020.[65] Empire is not requesting to change currently ordered depreciation rates in this case. Staff does not take issue with the current depreciation study, database and property unit catalog as long as a new depreciation study is submitted by October 16, 2020.

Empire has requested approval to utilize a 5% depreciation rate for new charging station assets that do not have a previously ordered rate. In response to Staff Data Request No. 0189, Empire stated that the expected service life of the equipment is 20 years and that there would likely be no salvage value according to the equipment vendor. With the limited history of electric vehicle charging and rapid advancement of technology in this area, the 20-year service life assumption seems reasonable, but this assumption should be revisited in the next general rate case, when the next depreciation study is available.

Staff Expert/Witness: Cedric E. Cunigan

[65] Direct Testimony of Sheri Richard page 7, lines 19 and 20.

B. Clearing Accounts

During the test year, Empire incurred depreciation for transportation equipment that was charged to expense through a clearing account. Empire has vehicles and power operated equipment in its fleets to maintain existing operations as well as to be used in construction related activities. The depreciation expense associated with assets is recorded in clearing accounts. The clearing accounts are then allocated to the various construction projects and other operations and maintenance expense accounts. In this current rate case, because depreciation expense is accounted for in Staff's Accounting Schedule 5, Staff made an adjustment to remove the depreciation amount booked to the clearing account for construction activities. The removed costs are charged to construction projects that will eventually be plant in service, in which the costs will be recovered through depreciation over the life of the assets.

Staff Expert/Witness: Kimberly K. Bolin

XI. Fuel Adjustment Clause ("FAC")

A. Policy

In summary, Staff makes the following recommendations regarding Empire's Fuel Adjustment Clause ("FAC"):

- Continue Empire's FAC with modifications;
- Include a revised Base Factor[66] in the FAC tariff sheets calculated from the Base Energy Cost[67] that the Commission includes in the revenue requirement upon which it sets Empire's general rates in this case;
- Order Empire to continue to provide monthly filings that will aid the Staff in performing FAC tariff, prudence, and true-up reviews;
- Clarify that the only transmission costs and revenues that are included in Empire's FAC are those that Empire incurs for Purchased Power and Off-System Sales; and

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[66] Base Factor is defined in Empire's Original Tariff Sheet No. 17u as "BASE FACTOR ("BF"): The base factor is the base energy cost divided by net generation kWh determined by the Commission in the last general rate case."

[67] Base Energy Cost is defined in Empire's Original Revised Tariff Sheet No. 17u as "Base energy cost is ordered by the Commission in the last rate case consistent with the costs and revenues included in the calculation of the Fuel and Purchased Power Adjustment ("FPA")."

- Order Empire to include Schedule E from the Stipulation and Agreement that was approved by Commission Order in Case. No ER-2016-0023 on August 10, 2016, either within the tariff or as an attachment to the tariff, to clarify the list of sub-accounts included and excluded within the Fuel Adjustment Clause.

At this time Staff does not have its estimate for the Base Factor for the FAC, but will provide it and a discussion on the calculation of the Base Factor when Staff files its Class Cost of Service/Rate Design Report on January 29, 2020. Staff will use the Base Energy Cost and the kWh at the generator from its fuel run to develop the Base Factor.

B. History

The Commission first authorized a FAC for Empire in its *Report and Order* in Empire's 2008 rate case, Case No. ER-2008-0093, and approved FAC tariff sheets in that case with an effective date of September 1, 2008. In general rate cases Case Nos. ER-2010-0130, ER-2011-0004, ER-2012-0345, ER-2014-0351, and ER-2016-0023, the Commission authorized continuation, with modifications, of Empire's FAC. The primary features of Empire's present FAC (tariff sheet numbers 17u through 17ac) include:

- Two 6-month accumulation periods: March through August and September through February;
- Two 6-month recovery periods: December through May and June through November;
- Fuel Adjustment Rate ("FAR") filings semi-annually not later than April 1 and October 1;
- One Base Factor for all calendar months of the year;
- A 95%/5% sharing mechanism;
- FAR rates for individual service classifications adjusted for the two Empire service voltage levels, rounded to the nearest $0.00001, and charged on each kWh billed; and
- True-up of any over- or under-recovery of revenues following each recovery period with a true-up amount being included in the determination of FAR for a subsequent recovery period.

The resulting changes to the Empire FARs ordered by the Commission are summarized in the **Continuation of FAC** section of this report. The Base Factor was originally set in Empire's 2008 general rate case and was changed as a result of the negotiated settlements in Empire's 2010, 2011, 2012, and 2016 general rate cases, and by Commission *Report and Order* in the 2014 general rate case.

Staff has filed seven prudence review reports[68] (File Nos. EO-2010-0084, EO-2011-0285, EO-2013-0114, EO-2014-0057, EO-2015-0214, EO-2017-0065, and EO-2018-0244) discussing its review of the costs and revenues of the Company's FAC. Staff found no evidence of imprudent decisions by the Company's management related to fuel, purchased power and net emission costs, off-system sales revenues and renewable energy credits revenues for the time periods reviewed[69].

C. Continuation of FAC

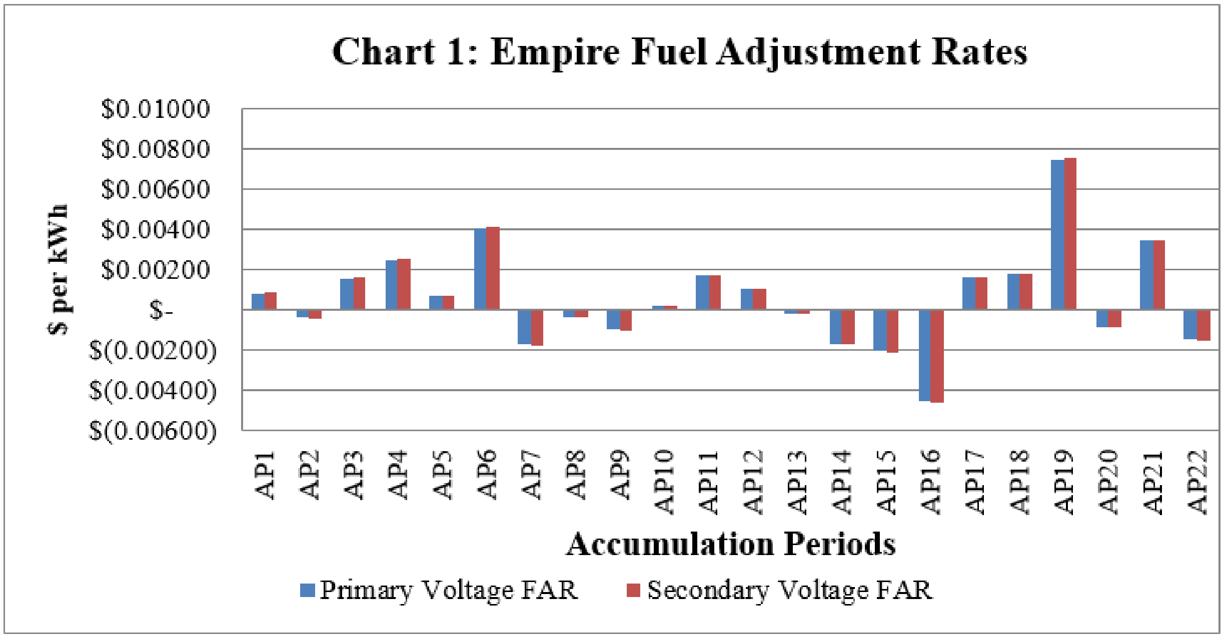
Staff recommends that the Commission approve, with modifications, the continuation of Empire's FAC.

The Company has filed for and received approval of changes to its fuel adjustment rates ("FARs") for Twenty-Two (22) completed accumulation periods ("AP") (AP1 through AP22). The primary and secondary voltage FARs for each accumulation period are reflected in Chart 1.

continued on next page

[68] 20 CSR 4240-20.090(11) Prudence Reviews Respecting RAMs [rate adjustment mechanisms]. A prudence review of the costs subject to the FAC shall occur no less frequently than every eighteen months.

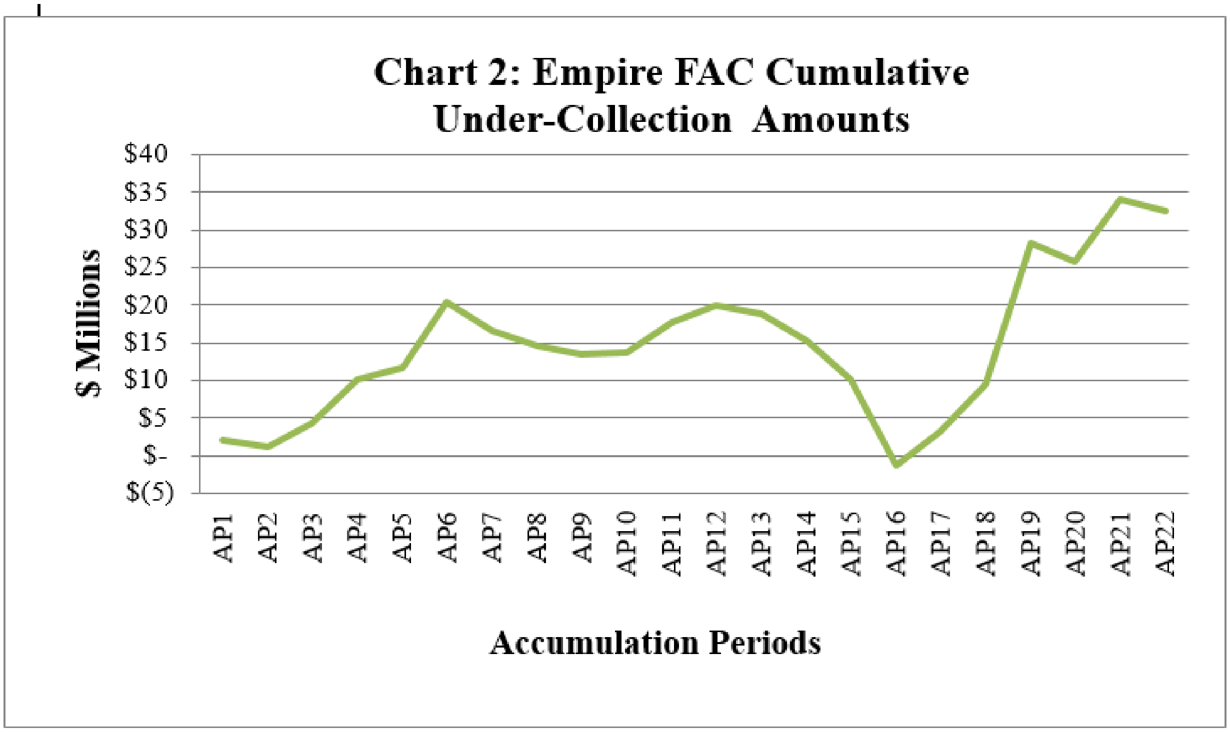
[69] In Staff's Sixth Prudence Audit Report, Case No. EO-2017-0065, OPC challenged Empire's financial losses on natural gas hedging including their hedging strategy, however the Commission's Amended Report and Order issued on February 28, 2018 states on page 22, "the Commission finds and concludes that Empire's natural gas hedging policy was prudent".



The Company's actual Total Energy Cost exceeded the then-effective Base Factors multiplied by monthly usage billed to Empire's customers' in twelve out of twenty-two completed accumulation periods. Actual Total Energy Cost include: 1) Empire's total booked costs as allocated to its Missouri retail jurisdiction for fuel consumed in the Company's generating units, including the costs associated with the Company's fuel hedging program; 2) purchased power energy charges, including applicable transmission fees; 3) Southwest Power Pool variable costs; and 4) air quality control system consumables, such as anhydrous ammonia, limestone, and powder activated carbon, and emission allowance costs. Actual Total Energy Cost does not include the purchased power demand costs, since these are considered to be fixed costs. Actual FAC costs are off-set by actual Revenue from Off-System Sales, actual Net Emission Costs, and actual Renewable Energy Credit Revenues. During ten accumulation periods (AP2, AP7, AP8, AP9, AP13, AP14, AP15, AP16, AP20, and AP22), Empire's Base Energy Cost exceeded actual Total Energy Cost; 95% of such excess amounts was returned to customers during ten recovery periods ("RP") (RP2, RP7, RP8, RP9, RP13, RP14, RP15, RP16, RP20, and RP22). In twelve of its accumulation periods (AP1, AP3, AP4, AP5, AP6, AP10, AP11, AP12, AP17, AP18, AP19, and AP21), Empire under-collected its actual Total Energy Costs, and 95% of the amounts of under-collection was recovered from Empire's Missouri customers during twelve RPs (RP1, RP3, RP4, RP5, RP6, RP10, RP11,RP12, RP17, RP18, RP19, and RP21).

At the conclusions of its general electric rate cases, during AP3, AP6, AP10, AP14, and AP17 – Case Nos. ER-2010-0130, ER-2011-0004, ER-2012-0345, ER-2014-0351, and ER-2016-0023, respectively – the Base Factors in Empire's FAC were re-set.

Charts 2 and 3 illustrate the following information for the twenty-two (22) accumulation periods: 1) cumulative under collection amount which is equal to Total Energy Cost ("TEC") less Net Base Energy Cost ("B") for Empire's Missouri jurisdiction,[70] and 2) percentage of cumulative under-collection amount which is equal to 100*(TEC-B)/TEC.



[70] For AP22, this is the amount on line 5 of Empire's 7th Revised Sheet No. 17ac.

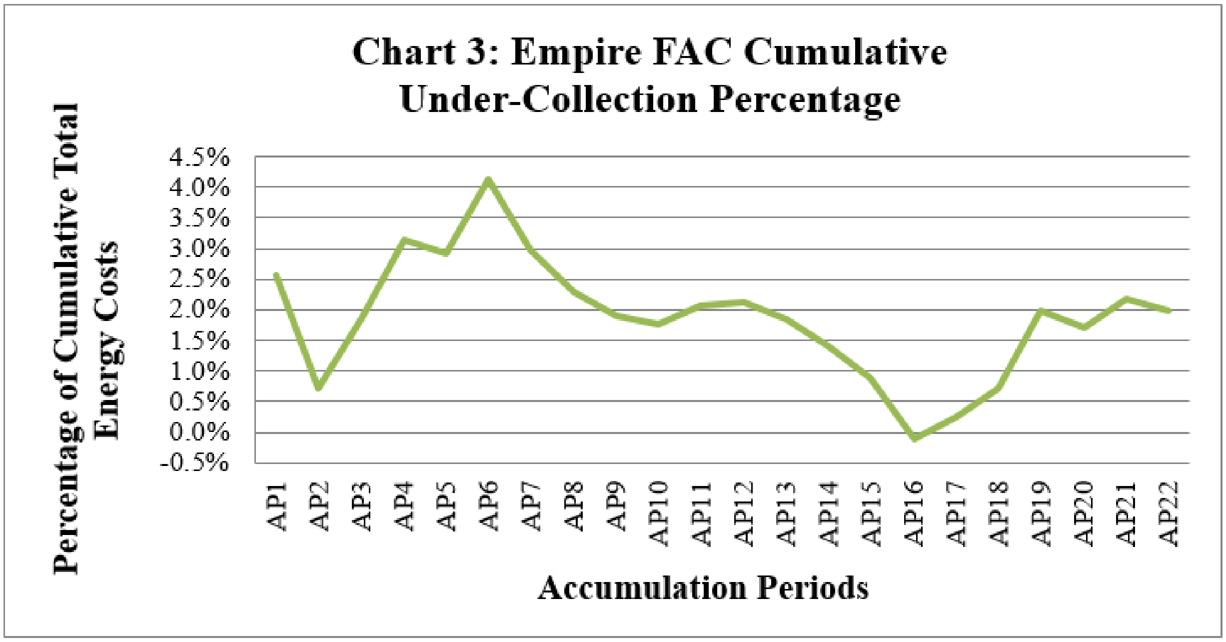


Chart 1 illustrates the variability of the FARs as a result of variations in each accumulation period's billed Base Energy Cost and actual Total Energy Cost. From Charts 2 and 3, Staff observes that the FAC cumulative under-collected amount over eleven years is approximately $33 million, or about 2.0 percent of total actual Total Energy Cost of $1.632 million during AP1 through AP22.

Staff recommends continuation of Empire's FAC with modifications. As shown in the previous charts and discussion, Empire's actual Total Energy Costs continue to be relatively large,[71] volatile, and beyond the control of the Company. In addition, the Southwest Power Pool ("SPP") conversion to the Integrated Marketplace ("IM") on March 1, 2014, represents a fundamental change in how Empire's generation is dispatched and how Empire serves its native load. By having an FAC that includes IM costs, the effects of the IM will flow through the FAC to both the Company and its customers in a timely manner.

D. Revising the Base Factor

Correctly setting the Base Factor in Empire's FAC tariff sheets is critical to both a well-functioning FAC and a well-functioning FAC sharing mechanism. For the reasons below,

[71] Empire's proposed Base Energy Cost for this case represents 24% of the requested total revenue requirement.

Staff recommends the Commission require the Base Factor in Empire's FAC be set based on the Base Energy Cost that the Commission includes in the revenue requirement which it sets Empire's general rates in this case.

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

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

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

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

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

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

Confidential Table 2 below contains a comparison of Empire's FERC account expenses and revenues, annual kWhs, cents per kWh, and Base Energy Cost approved in the last general rate case, Case No. ER-2016-0023, and Empire's proposed[72] Base Energy Cost in this case. Empire's proposed overall total Fuel and Purchased Power for the FAC base increased a total of 2.59% compared to the total fuel and purchased power for FAC base approved in Case No. ER-2016-0023.

continued on next page

[72] This proposed FAC Base Factor calculation can be found in Todd Tarter's Direct Testimony, Schedule TWT-3. This proposed FAC Base Factor calculation was also updated with Aaron Doll's Supplement Direct Testimony filed on December 20, 2019.

Confidential Table 2 - FAC BASE FACTOR CALCULATION

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E. Additional Reporting Requirements

Due to the accelerated Staff review process necessary with FAC adjustment filings,[73] similar to what it did in the last Empire rate case (Case No. ER-2016-0023), Staff recommends the Commission order Empire to continue providing the following information in between rate cases, to aid Staff in performing FAC tariff, prudence, and true-up reviews:

- Monthly Southwest Power Pool ("SPP") market settlements and revenue neutrality uplift charges;
- Notification to Staff within 30 days of entering a new long-term contract for purchased power, transportation, coal, natural gas or other fuel (natural gas spot transactions are specifically excluded);
- Notification to Staff within 30 days of changes to a purchased power contract;
- Monthly natural gas fuel reports that include all transactions (spot and longer term), including terms, volumes, price and analysis of number of bids;
- Every Empire hedging policy in effect at the time the tariff changes ordered by the Commission in this rate case go into effect;
- Notification to Staff within 30 days of any material change in Empire's fuel hedging policy and Staff access to new policies;
- Missouri Fuel Adjustment Interest calculation workpapers in electronic format with all formulas intact when Empire files for a change in its cost adjustment factor;
- Notification to Staff within 30 days of any revisions to Empire's internal policies for participating in the SPP and Staff access to the new policies;
- Access to all natural gas, nuclear fuel, coal, and transportation contracts and policies upon Staff's request, at Empire's corporate office in Joplin, Missouri; and
- Notification to Staff within 30 days of the effective date of every natural gas contract Empire enters into and Staff opportunity to review the contract at Empire's corporate office in Joplin, Missouri.

Staff Expert/Witness: Brooke Mastrogiannis

[73] 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.

F. FAC Voltage Adjustment Factors and Loss Study

Empire filed a request to continue its Fuel Adjustment Clause ("FAC") in the current case. Commission Rule 20 CSR 4240-20.090(13) requires an electric utility that desires to continue using a Commission authorized Rate Adjustment Mechanism ("RAM"), such as an FAC, to complete a jurisdictional system loss study of the corresponding system energy losses experienced in its delivery of electricity. This study must be based upon a consecutive twelve-month period, preferably a calendar year, and be conducted at least once every four years following the Commission's initial approval of the company's FAC.[74] Empire included a loss study in its workpapers submitted with its request that is in compliance with this regulation. This loss study contains system loss calculations/determinations based on data collected during calendar year 2017. Staff used the information in this loss study in developing the following recommended primary and secondary voltage level adjustment factors:

Voltage Level	Voltage Adjustment Factor
Primary	1.0429
Secondary	1.0625

These voltage adjustment factors account for the energy losses experienced in the delivery of electricity from the generator to the customer. These factors will be utilized in Staff's determination of Fuel Adjustment Rates ("FARs") that are applicable to an individual voltage service classification of a particular customer in the corresponding FAC tariff to be filed based on the Commission's order in this matter.

Staff Expert/Witness: Alan J. Bax

[74] 20 CSR 4240-20.090(13) states:

> (13) Rate Design of the RAM. The design of the RAM rates shall reflect differences in losses incurred in the delivery of electricity at different voltage levels for the electric utility's different rate classes as determined by periodically conducting Missouri jurisdictional system loss studies.
> (A) When the electric utility initially seeks authority to use a RAM, the end of the twelve- (12-) month period of actual data collected that is used in its Missouri jurisdictional system loss study must be within twenty-four (24) months of the date the utility files its general rate proceeding first requesting a RAM.
> (B) When the electric utility seeks to continue or modify its RAM, the end of the twelve- (12-) month period of actual data collected that is used in its Missouri jurisdictional system loss study must be no earlier than four (4) years before the date the utility files the general rate proceeding seeking to continue or modify its RAM.

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

XII. Customer Service

A. Overview Since Merger with Liberty Utilities

Background

In Case No. ER-2004-0570, the Missouri Public Service Commission ("Commission") ordered Empire District Electric Company ("Company" or "Empire") to provide monthly contact center data to the Commission Staff.[75] This data included staffing levels, call volumes, average speed of answer, and abandoned call rate. In addition, Company staff periodically met with Commission Staff to discuss contact center performance and customer service activity.

Empire's Continued Commitment to Contact Center Performance

In the Staff Stipulation and Agreement filed in its merger case with Liberty Utilities (Central) Co. and Liberty Sub Corp., Empire reiterated its commitment to providing quality contact center performance. A provision in this Stipulation and Agreement states that "Empire and Liberty will strive to meet or exceed the customer service and operational levels currently provided to their customers."[76] The Stipulation and Agreement also states that Company and Commission Staff personnel would meet on a periodic (such as quarterly) basis to review contact center and other service quality performance.[77] Commission Staff monitored contact center performance data in the monthly reports submitted by Empire and noted that 2017 and 2018 performance fell below premerger levels.

Company Meetings with Commission Staff Related to Contact Center Performance

Company personnel apprised Commission Staff of contact center performance at each periodic meeting held, as needed, since the merger docket. At the most recent meeting on November 6, 2019, the Company provided detailed information about the 2017 and 2018 decline in contact center performance, the remedial actions it has taken, and the improvements that have transpired.[78] In response to a Commission Staff data request, the Company described its remedial actions:

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[75] Report and Order, dated March 10, 2005, approving Stipulation and Agreement as to Certain Issues, filed Dec. 22, 2004 in Case No. ER-2004-0570.
[76] Page 10 of Staff Stipulation and Agreement, dated Aug 4, 2016 in Case No. EM-2016-0213.
[77] Page 10 of Staff Stipulation and Agreement, dated Aug 4, 2016 in Case No. EM-2016-0213.
[78] See Schedule 1, "Periodic Meeting with PSC, Case No. EM-2016-0213".

- In the last six months Liberty-Empire has added two additional CSR positions at the contact center and have posted an additional four positions in November 2019.
- An additional supervisor was added in October 2019, this addition will help support the new CSR's day to day interactions with our customers.
- Creation of Digital Customer Experience Team. This team responds to customer service inquiries through Facebook and Twitter during the hours of 7:00 a.m. to 10:00 p.m.
- In an attempt to reduce customer calls regarding meter estimations the Company has utilized contract employees to backfill meter reading as several meter readers have taken other positions with the Company.[79]

Statistics provided for the month of September 2019 indicated an abandoned call rate of 4% and an average speed of answer of 44 seconds.[80] The Company has an abandoned call rate goal of 5% or less and a goal for answering all calls within 30 seconds.[81]

Commission Staff's Analysis

Commission Staff opines that the Company is taking appropriate actions to address the unacceptable contact center performance that began in 2017, subsequent to the merger with Liberty Utilities. While it is unfortunate that performance fell, it was not until 2018 that the unsatisfactory performance became a concern warranting Commission Staff's attention. Based on its experience, Commission Staff agrees that turnover attributable to the Empire-Liberty merger is a common consequence of mergers and that replacement contact center staff productivity must increase before satisfactory performance levels are restored. Improvement trends are encouraging, and the Company has an opportunity to achieve its performance goals in the near-term future.

Commission Staff Recommendation

Commission Staff recommends that the Company management establish a deadline for meeting its contact center performance goals and communicate its progress toward reaching those goals in its monthly reports and periodic meetings with Commission Staff. Developing a deadline to achieve contact center goals should help ensure that satisfactory performance occurs in a timely manner. Commission Staff will monitor the Company's actions and progress toward restoring contact center performance to pre-merger levels.

Staff Expert/Witness: Gary Bangert

[79] Response to Commission Staff Data Request No. 0182 in Case No. ER-2019-0374.
[80] See Schedule 2, "Report 09-2019".
[81] See Schedule 1, "Periodic Meeting with PSC, Case No. EM-2016-0213".

B. Credit Card Fees

Current Payment Methods

Currently, customers may pay their bills from Empire by cash, check, money order, debit or credit card, and electronic bank draft through the customer's checking or savings account. Payments can be made in person at Empire's office locations, at Western Union (or another authorized collector service), at the Company's kiosk machines, by wire transfer, at third-party locations such as grocery stores, through online banking, or on the Company's website. At the website, customers may also set up paperless billing and make automatic payments from a checking or savings account.

Empire currently uses a third-party payment vendor, Western Union Speedpay, to process payments made by credit card.[82] Individual residential customers pay a $2.25 convenience fee for each transaction using this service.

Customer Survey Results

Customers are periodically given surveys and asked to provide feedback of their overall satisfaction with Liberty Utilities.[83] The Company stated that it uses these surveys to prioritize customer service issues needing improvement.[84] ** ________________________________ ____ ____ **[85] Company Witness Brent Baker also stated in his direct testimony that "Customers have consistently reported that ease of bill payment is a priority, including having no fees for card payments."[86]

Empire's Request

In this case, the Company proposes to eliminate credit card convenience fees for individual customers and to recover the costs associated with processing credit card payments in its overall cost of service, similar to the way bank fees are recovered.[87]

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[82] Data Request No. 0176.
[83] Direct Testimony Brent Baker, Empire District Electric Company, page 9.
[84] Direct Testimony Brent Baker, Empire District Electric Company, page 9.
[85] Data Request No. 0175.
[86] Direct Testimony Brent Baker, Empire District Electric Company, page 9.
[87] Direct Testimony Brent Baker, Empire District Electric Company, page 10.

Staff Analysis

The Company cannot project the number of customers that may pay bills by credit card if no convenience fee is charged to them,[88] but based on the high level of current participation, Staff anticipates that the total number of customers using this payment option will increase if there is no convenience fee. Mr. Baker notes a 36% increase in the number of credit card payments between 2016 (379,329 transactions) and 2018 (511,195 transactions).[89] Additionally, payment by credit card is consistently the second most utilized payment option for Empire customers, behind payment by mail.[90]

Empire conducted a request for proposal to obtain competitive costs for credit card processing. Ten companies were reviewed, and Kubra was selected as the Company's payment vendor. The Company anticipates Kubra will begin processing payments beginning the first or second quarter of 2020. In addition, Empire reviewed how other companies such as ComEd, Paymentus and Fiserv handle fees for paying by credit card, but did not offer insight into their findings.[91] Staff is awaiting response to a data request requesting more information of the current contract and the contract with Kubra.[92]

The Company has not analyzed the cost savings that may result if customers are able to pay by credit card with no convenience fee.[93] However, the Company states that it does expect more customers to take advantage of the option of bill payment by credit card with no fee charged. By doing so, the Company expects that it could reduce resources for processing payments by mail, customer walk-ins or phone calls, as well as collection efforts.[94]

Staff agrees that there is potential for savings in other areas if customers no longer pay a convenience fee for making a payment by credit card. However, the Company was unable to provide Staff with estimated savings to the Company, as well as what portion of the increased Company costs associated with credit card fees would be offset by operational savings.

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[88] Data Request No. 0178.1.
[89] Direct Testimony Brent Baker, Empire District Electric Company, page 9.
[90] Data Request No. 0177.
[91] Data Request No. 0180.
[92] Data Request No. 0180.1.
[93] Data Request No. 0179.
[94] Data Request No. 0179.

Recommendations

The Commission has previously approved requests to eliminate credit card convenience fees with the utility absorbing credit card processing services in the cost of service.[95] As discussed in Section VII.H., subsection 15 of this Report sponsored by Staff witness Kimberly K. Bolin, Staff is recommending in this case that convenience fees for customers paying bills by credit card be eliminated, with the cost of processing such payments to be included in the Company's cost of service. If the Commission approves this treatment, Staff recommends that the Company be ordered to track performance and savings to the Company and its customers from this initiative. Staff further recommends that Empire be required to monitor the level of customers using the credit card option, along with other questions such as: Have the number of payments by credit card increased? If so, by how much? Has eliminating a fee to pay by credit card resulted in savings to the customer and/or to the Company? If so, how much? How will the Company inform customers that there is no fee to pay their bill by credit card? Staff witness Kimberly K. Bolin is sponsoring the adjustments proposed by Staff in regard to inclusion in cost of service of customer credit card payment processing costs.

Staff Expert/Witness: Dana R. Parish

XIII. Isolated Adjustment – Retirement of Asbury

Ordinarily, appropriate ratemaking practice calls for measurement of all of the major components of utility cost of service (revenues, expenses, rate base) at a consistent point in time for ratemaking purposes (generally the true-up audit cut-off date for a rate case). However, the Commission has recognized there may be exceptions to this general rule, and for a long time has allowed parties to argue for inclusion in utility rates of "isolated adjustments" for events occurring after the true-up period. The Commission has stated that, for an isolated adjustment to be considered, the underlying event must have a known and measurable financial impact, and that inclusion in rates of the isolated adjustment would not inappropriately affect the overall matching in time of utility revenues, expenses and rate base.

In its direct testimony filed on August 14, 2019, Empire stated that it planned to retire the Asbury generating plant by no later than June 30, 2020, which was approximately five months

[95] Case No. GR-2017-0215 & GR-2017-0216, "In the Matter of Spire Missouri, Inc.'s Request to Increase Its Revenues for Gas Service."

after the true-up cut-off date that was later ordered in this proceeding. Empire did not include any adjustments reflecting the retirement of Asbury in its case. However, Empire stated in its testimony that an AAO was an option that could be used to address changes in operations and maintenance ("O&M") expense due to the retirement of the plant, for potential reflection of the changes in Asbury O&M expense in its next general rate case.

In Case No. EA-2019-0010, Empire's application for certificates of convenience and necessity to acquire interest in three wind project holding companies, Empire entered into a stipulation and agreement calling for use of an AAO to measure the changes in the types of Asbury capital costs, expenses and revenues that have been included in Empire's cost of service that Empire will no longer incur after retiring Asbury. However, in its Report and Order in that proceeding, the Commission did not approve that provision as it stated that it was too early to issue an AAO for the retirement of Asbury because the sale or retirement of the unit was not certain at that time. The Commission also said there was not sufficient evidence to show the sale or retirement would be extraordinary in nature, and thus eligible for an AAO. The Commission said when the retirement or sale of the unit did occur, parties could present proposals for deferrals of some or all Asbury costs and savings as part of a formal request for an AAO.

On November 13, 2019, Empire filed in this case an updated Asbury informational notice stating that the retirement of Asbury would occur no later than March of 2020. After this notice and further discussions with Empire, Staff has learned that Empire is planning on retiring the Asbury plant no later than March 1, 2020. The test year in this case is the 12 months ending March 31, 2019, updated through September 30, 2019, with a true-up audit cut-off date of January 31, 2020. The planned retirement of Asbury is outside of the true-up period by approximately one month.

Staff recommends that isolated adjustments to certain rate base related financial impacts of the retirement of the Asbury plant be included in this case. The amount of these adjustments will be known and measurable at the time of the Asbury retirement, well before the operation-of-law date in this proceeding. Accordingly, Staff intends to adjust plant-in-service and the accumulated depreciation reserve to reflect the retirement of the Asbury plant. Staff also intends to remove Asbury depreciation expense from this case. In addition, Staff will also remove any fuel inventory associated with Asbury from rate base. These adjustment amounts will be quantified and supported in Staff's surrebuttal/true-up testimony filing scheduled for March 27, 2019.

Empire's O&M expenses will also be affected by the retirement of Asbury, but many of these cost changes may not be fully known and measurable within the pendency of this rate case. For that reason, Staff recommends that a tracker mechanism be ordered by the Commission in this case to quantify the changes in the amounts of O&M expenses incurred by Empire associated due to the retirement of Asbury, with the tracked amount potentially includable in rates in Empire's next general rate proceeding. The items to be tracked include the portion of the change in Asbury net fuel/purchased power expense not flowing through the FAC, Asbury maintenance expense, and Asbury payroll expense and payroll related benefits.

Staff Expert/Witness: Kimberly K. Bolin

XIV. Appendices

Appendix 1 - Staff Credentials

Appendix 2 - Support for Staff Cost of Capital Recommendation

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF ALI ARABIAN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Ali Arabian

ALI ARABIAN

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D. Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF GARY BANGERT

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Gary Bangert

GARY BANGERT

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF COURTNEY BARRON

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Courtney Barron
COURTNEY BARRON

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF ALAN J. BAX

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

ALAN J. BAX

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF MICHELLE A. BOCKLAGE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Michelle A. Bocklage
MICHELLE A. BOCKLAGE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF KIMBERLY K. BOLIN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Kimberly K. Bolin
KIMBERLY K. BOLIN

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF KORY J. BOUSTEAD

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Kory J. Boustead
KORY J. BOUSTEAD

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D. Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF PETER CHARI

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

PETER CHARI

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF CEDRIC E. CUNIGAN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Cedric E. Cunigan
CEDRIC E. CUNIGAN

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF CLAIRE M. EUBANKS, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Claire M Eubanks

CLAIRE M. EUBANKS, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF KEITH D. FOSTER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

KEITH D. FOSTER

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF JARED GIACONE

STATE OF MISSOURI)
) ss.
COUNTY OF JACKSON)

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

Further the Affiant sayeth not.

Jared Giacone
JARED GIACONE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Jackson, State of Missouri, at my office in Kansas City, on this 13th day of January 2020.

Beverly M. Webb
Notary Public

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

BEVERLY M. WEBB
My Commission Expires
April 14, 2020
Clay County
Commission #12464070

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF NANCY L. HARRIS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Nancy L. Harris
NANCY L. HARRIS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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

D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF JORDAN HULL

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Jordan Hull

JORDAN HULL

JURAT

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D. SUZIE MANKIN
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OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF BROOKE MASTROGIANNIS

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Brooke Mastrogiannis
BROOKE MASTROGIANNIS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

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OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF AMANDA C. MCMELLEN

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

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

Further the Affiant sayeth not.

Amanda C McMellen

AMANDA C. MCMELLEN

JURAT

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AFFIDAVIT OF BYRON M. MURRAY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Byron Murray

BYRON M. MURRAY

JURAT

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In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF CAROLINE NEWKIRK

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Caroline Newkirk

CAROLINE NEWKIRK

JURAT

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AFFIDAVIT OF ANGELA NIEMEIER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Angela Niemeier

ANGELA NIEMEIER

JURAT

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D. SUZIE MANKIN
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In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF MARK L. OLIGSCHLAEGER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Mark L. Oligschlaeger

MARK L. OLIGSCHLAEGER

JURAT

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D. SUZIE MANKIN
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D Suzie Mankin

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AFFIDAVIT OF DANA R. PARISH

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Dana Parish

DANA R. PARISH

JURAT

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D. SUZIE MANKIN
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D Suzie Mankin

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OF THE STATE OF MISSOURI

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AFFIDAVIT OF CHARLES T. POSTON, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW CHARLES T. POSTON, PE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Staff Cost of Service Report*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

CHARLES T. POSTON, PE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

D. SUZIE MANKIN
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D Suzie Mankin
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In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2019-0374

AFFIDAVIT OF ASHLEY SARVER

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

Ashley Sarver
ASHLEY SARVER

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

D. SUZIE MANKIN
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State of Missouri
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D Suzie Mankin
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

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AFFIDAVIT OF MICHAEL L. STAHLMANN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

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

Further the Affiant sayeth not.

MICHAEL L. STAHLMANN

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 14th day of January 2020.

D. SUZIE MANKIN
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Notary Public