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*Issue(s):* *Rate of Return*  
*Witness:* *Jeffrey Smith*  
*Sponsoring Party:* *MoPSC Staff*  
*Type of Exhibit:* *Rebuttal Testimony*  
*Case No.:* *ER-2019-0335*  
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**MISSOURI PUBLIC SERVICE COMMISSION**  
**FINANCIAL AND BUSINESS ANALYSIS DIVISION**  
**FINANCIAL ANALYSIS DEPARTMENT**

**REBUTTAL TESTIMONY**

**OF**

**JEFFREY SMITH**

**UNION ELECTRIC COMPANY,  
d/b/a Ameren Missouri**

**CASE NO. ER-2019-0335**

*Jefferson City, Missouri*  
*January 2020*

\*\* Denotes Confidential Information \*\*

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1 **EXECUTIVE SUMMARY**

2 Q. What are the disagreements you have with the aforementioned witnesses'  
3 testimony?

4 A. Staff disagrees with Mr. Murray's, and Mr. Sagel's recommended capital  
5 structure, as well as their recommended costs of debt. Each of these issues is expanded upon  
6 within its respective section of this testimony. Although Staff disagrees with the inputs and  
7 results of Mr. Walters' cost of equity (COE) and ROE calculations, and there are nuances in  
8 Mr. Murray's COE inputs and results with which Staff does not agree, their recommended  
9 authorized ROEs are within the range of reasonableness; therefore, Staff will not expand on  
10 those disagreements. However, because the perverse inputs and results of Mr. Hevert's  
11 COE/ROE calculations manifest in an unreasonable authorized ROE recommendation, Staff  
12 will address Mr. Hevert's COE/ROE analysis directly.

13 **MR. HEVERT'S, MR. MURRAY'S, AND MR. WALTERS' COST OF EQUITY**  
14 **ESTIMATES**

15 Q. What common techniques are used to produce COE estimates and ROE  
16 recommendations?

17 A. Common techniques presented to public utility commissions, including the  
18 Federal Energy Regulatory Commission ("FERC"), for estimating the COE include Discounted  
19 Cash-Flow Models ("DCF"), the Capital Asset Pricing Model ("CAPM"), risk premium  
20 models, and comparative earnings analyses. However, a recent order by FERC adopted a new  
21 procedure, "rejecting the use of expected earnings and risk premium models, explaining that  
22 the former does not accurately reflect a utilities cost of equity while the latter is less likely to

Rebuttal Testimony of  
Jeffrey Smith

do so than the DCF model or capital-asset pricing model.”<sup>1</sup> A disadvantage inherent to estimation techniques, making them less reliable, is the personal bias witnesses introduce. Model inputs most readily susceptible to prejudice, and most debated among COE witnesses before this Commission are growth rates in DCF models and the risk premiums in CAPM models. When unreasonable inputs to models do not produce desired results, model designs become the subject of manipulation. In a paradigm where low capital costs are no longer considered anomalous, Staff recommend the Commission reject unreasonable model inputs and irregular model variants introduced to prejudice COE results. The chart below shows the high/low ranges of each witnesses COE methodology and results.

<b>Low/High Average COE Estimates Summary</b>					
	Hevert	Murray	Smith	Walters	Average
<b>DCF</b>					
Low	8.13%	NA	7.37%	7.83%	7.78%
High	9.93%	NA	8.17%	8.74%	8.95%
Average	9.03%	NA	7.77%	8.29%	8.36%
<b>Multi-Stage DCF</b>					
Low	NA	6.27%	NA	NA	
High	NA	7.18%	NA	NA	
Average <sup>1</sup>	NA	6.73%	NA	7.45%	7.09%
<b>CAPM</b>					
Low	8.18%	5.35%	4.61%	7.32%	6.37%
High	10.14%	6.06%	5.38%	9.47%	7.76%
Average	9.16%	5.71%	5.00%	8.40%	7.06%
<b>ECAPM</b>					
Low	9.60%	NA	NA	NA	
High	11.38%	NA	NA	NA	
Average	10.49%	NA	NA	NA	10.49%
<b>Risk Premium</b>					
Low	9.91%	NA	NA	8.90%	9.41%
High	10.06%	NA	NA	9.50%	9.78%
Average <sup>2</sup>	9.99%	6.25%	NA	9.20%	9.59%
<b>Expected Earnings</b>					
Low	6.00%	NA	NA	NA	
High	13.50%	NA	NA	NA	
Average <sup>3</sup>	10.29%	NA	NA	NA	
Witness Average	9.67%	6.22%	6.38%	8.33%	
Witness Recommended Range	9.80% - 10.60%	8.50% - 9.25%	8.75% - 9.75%	8.80% - 9.50%	
<b>Witness Point Recommendation</b>	<b>9.95%</b>	<b>9.25%</b>	<b>9.25%</b>	<b>9.20%</b>	

Notes: 1 Mr Walters performed one multistage DCF, the output of which was 7.45%  
2 Mr Murray's Risk Premium was a test of reasonableness and is not included in the Average  
3 Mr Hevert's Expected Earnings Analysis was a corroborating method and is not included in the Witness Average

<sup>1</sup> Hale, Z., FERC orders lowering transmission ROE gives sector more certainty, analysts say, Market Intelligence, November 22, 2019.

1 Q. Please summarize Mr. Hevert's estimated COE and resulting recommended  
2 authorized ROE.

3 A. Mr. Hevert's authorized ROE recommendation is 9.95%, which is at the lower  
4 end of his recommended range of 9.80% to 10.60%.<sup>2</sup> Mr. Hevert does not differentiate between  
5 the COE and authorized ROE. Mr. Hevert's COE methodologies include the Constant Growth  
6 DCF, the CAPM, the Empirical CAPM ("ECAPM"), and a Bond Plus Risk Premium model.<sup>3</sup>  
7 Mr. Hevert also presents an Expected Earnings analysis as a corroborating method. Mr. Hevert  
8 does not state the basis of the low or high end of his range, noting that, "in his view, factors that  
9 are commonly used to estimate the Cost of Equity likely indicate that a higher range than  
10 9.80 percent to 10.60 percent, and an ROE at the mid- to upper-end of such a range is  
11 appropriate. However, the company asked that [he] give considerable weight to recent  
12 Commissions orders."<sup>4</sup>

13 Q. Please summarize Mr. Murray's estimated COE and resulting recommended  
14 authorized ROE.

15 A. Mr. Murray's authorized ROE recommendation is 9.25%, which is at the high  
16 end of his recommended range of 8.50% to 9.25%.<sup>5</sup> Mr. Murray's COE estimation  
17 methodologies include the multi-stage DCF, and the CAPM. Mr. Murray also presents a Bond  
18 Plus Risk Premium approach as a test of reasonableness.<sup>6</sup> Mr. Murray differentiates between  
19 the COE and authorized ROE, and compares his current COE estimate to his COE estimate at

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<sup>2</sup> Hevert Direct, pg. 2, Ll. 15-19.

<sup>3</sup> *Ibid.* pg. 4, ll. 9-13.

<sup>4</sup> *Ibid.* pg. 3, ll. 13-16.

<sup>5</sup> Murray Direct, pg. 4, ll. 12-13.

<sup>6</sup> *Ibid.* pgs. 4-5, ll. 25-8.

1 the time the Commission awarded Ameren Missouri a 9.53% ROE in Case No. ER-2014-0258,  
2 noting that his 9.25% authorized ROE recommendation takes into account the fact that the COE  
3 has declined since Ameren Missouri's previous rate case.<sup>7</sup> Mr. Murray predicates his 9.25%  
4 authorized ROE recommendation on the Commission's acceptance of his recommended capital  
5 structure, consisting of 48% equity, indicating that he would recommend a lower  
6 authorized ROE if the Commission deviates from his recommended capital structure by  
7 authorizing a higher equity ratio.<sup>8</sup>

8 Q. Please summarize Mr. Walters' estimated COE and resulting recommended  
9 authorized ROE.

10 A. Mr. Walters' authorized ROE recommendation is 9.20%, which is near the  
11 midpoint of his recommended range of 8.80% to 9.50%.<sup>9</sup> Mr. Walters does not differentiate  
12 between the COE and authorized ROE. However, Mr. Walters notes that his COE estimates  
13 are on the high side, and provides historical information,<sup>10</sup> as well as capital market assessments  
14 from investment industry professionals,<sup>11</sup> which highlight reasonable expectations for inputs in  
15 COE models. Mr. Walters' COE estimation methodologies include the constant growth DCF,  
16 the multi-stage DCF, the CAPM, and a Risk Premium model.<sup>12</sup> The low end of Mr. Walters'  
17 recommended ROE range is based largely on the high-end of his DCF and low-end of his Risk  
18 Premium estimates; the high end of Mr. Walters recommended range is based largely on the

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<sup>7</sup> *Ibid.* pg. 4, ll. 1-5.

<sup>8</sup> *Ibid.* pg. 47, ll. 13-14.

<sup>9</sup> Walters Direct pg. 3, ll. 8-10.

<sup>10</sup> *Ibid.* pgs. 30-32, ll. 15-24.

<sup>11</sup> *Ibid.* pgs. 48-50, ll. 1-16.

<sup>12</sup> *Ibid.* pg. 18, ll. 9-12.

1 high-end of his risk premium and CAPM estimates.<sup>13</sup> To assess the reasonableness of his 9.20%  
2 authorized ROE recommendation, Mr. Walters employs a comparative analysis, comparing  
3 interest rates and the regulatory environment more recently to interest rates and the regulatory  
4 environment during the timeframe when Ameren Missouri received its current authorized  
5 ROE of 9.53%.<sup>14</sup>

6 Q. What is the fundamental disagreement you have with Mr. Hevert's COE/ROE  
7 analysis?

8 A. The fundamental disagreement Staff has with Mr. Hevert's COE/ROE analysis  
9 is his insistence that the COE and authorized ROE are the same.<sup>15</sup> Mr. Hevert states that there  
10 is a distinction between the ROE in the context of his Direct testimony and "the accounting  
11 measure sometimes referred to as the 'Return on Average Common Equity', however,  
12 Mr. Hevert does not detail what that distinction is.<sup>16</sup> Mr. Hevert's assertion of a distinction  
13 between the ROEs presented in his Direct testimony and ROE as an accounting measure renders  
14 his recommendation useless, because lacking an objective measurement technique, such a  
15 framework is without bound and resigned to pure speculation. Mr. Hevert's crude distinction  
16 between his ROE recommendation and ROE as an accounting measure is artifice to the fact that  
17 COE estimates are not, nor should they be, equivalent to authorized ROEs. Commissions  
18 recognize this fact in Orders, noting that an authorized ROE is not a guarantee, but an  
19 opportunity to earn a fair return.

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<sup>13</sup> *Ibid.* pg. 52, ll. 3-6.

<sup>14</sup> *Ibid.* pgs. 52-56.

<sup>15</sup> Hevert Direct, pg. ii.

<sup>16</sup> *Ibid.* pg. iii.

1           There is consensus among cost of capital witnesses in this proceeding defining the COE  
2 as the return required by investors to invest in equity securities.<sup>17</sup> If the COE and authorized  
3 ROE were in fact equivalent, companies consistently failing to earn their ROEs would find  
4 investors' demand waning. Lack of demand for that company's equity securities would drive  
5 down the price making it more expensive for said company to issue equity to finance operations.  
6 A company lacking access to investor capital would find it increasingly difficult to produce and  
7 provide services. As a matter of policy, it would be reckless for Commissions to authorize  
8 ROEs equal to the COE, because without guaranteeing that authorized ROE would be earned,  
9 Commissions would jeopardize companies' continued access to equity capital and the provision  
10 of the essential services that capital supports. As a matter of fairness, setting an authorized  
11 ROE equal to the COE would tantamount to confiscation, because if Commissions act as  
12 proxies for competition they would be reticent to the fact that the majority of companies in  
13 competitive markets earn ROEs above their COE.

14           Looking at earned ROEs by the electric utility companies in Mr. Hevert's proxy group,  
15 as compared to the lowest Commission authorized ROE in the country during the same  
16 timeframe, reveals that approximately 35% of the companies in Mr. Hevert's proxy group  
17 consistently earned ROEs lower than the lowest authorized ROE in the U.S. Considering  
18 Mr. Hevert's contention that the COE and authorized ROE are the same, and consensus among  
19 cost of capital witnesses in this proceeding that the COE is the return required by investors to  
20 invest in equities, companies consistently failing to earn at least the minimum authorized ROE  
21 would have difficulty attracting equity capital. However, capital markets do not subscribe to

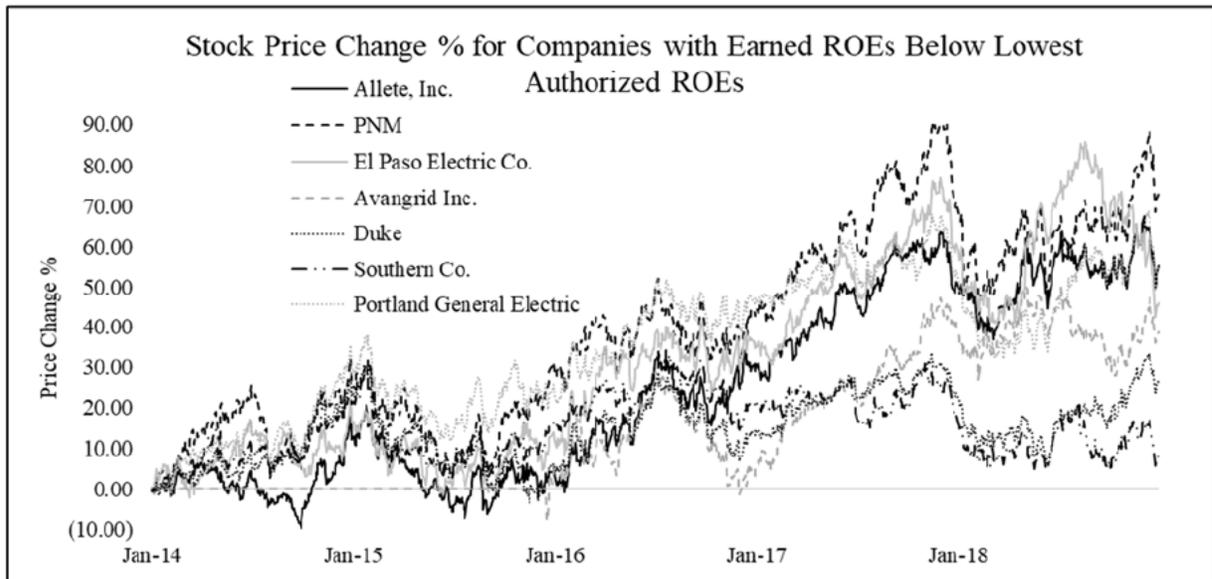
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<sup>17</sup> Hevert Direct, pg. ii, Cost of Equity; Murray Direct, Definitions/Abbreviations, COE; Smith Direct, pg. 11, ll. 6-8; Walters Direct, pg. 17, ll. 15-16.

1 the view that COE and authorized ROEs are the same. As can be seen in the charts below,  
2 companies in Mr. Hevert's proxy group consistently earning ROEs lower than the lowest  
3 authorized ROEs have had no trouble attracting capital. In fact, capital has flooded to their  
4 equity securities raising their price, leading to an average price appreciation of 43.17% for these  
5 companies over the five-year period from 2014 to 2018.

Earned Return on Common Equity (ROE) for Mr. Hevert's Proxy Group						
Company	FY2014	FY2015	FY2016	FY2017	FY2018	Average
<u>Avangrid, Inc.</u>	<b>3.46</b>	<b>1.98</b>	<b>4.18</b>	<b>2.52</b>	<b>3.92</b>	<b>3.21</b>
<u>PNM Resources, Inc.</u>	<b>7.31</b>	<b>1.72</b>	<b>7.52</b>	<b>5.38</b>	<b>5.70</b>	<b>5.52</b>
<u>Duke Energy Corporation</u>	<b>6.17</b>	<b>6.58</b>	<b>6.38</b>	<b>7.42</b>	<b>6.14</b>	<b>6.54</b>
<u>ALLETE, Inc.</u>	<b>8.50</b>	<b>8.24</b>	<b>8.39</b>	8.69	<b>8.24</b>	<b>8.41</b>
<u>Southern Company</u>	9.47	10.95	10.13	<b>3.37</b>	<b>8.28</b>	<b>8.44</b>
<u>Portland General Electric Company</u>	9.33	<b>8.25</b>	<b>8.39</b>	<b>7.86</b>	8.61	<b>8.49</b>
<u>El Paso Electric Company</u>	9.48	<b>8.19</b>	9.26	8.87	<b>7.31</b>	<b>8.62</b>
American Electric Power Company, Inc.	9.67	10.19	<b>3.51</b>	10.80	10.32	8.90
Eergy, Inc.	10.12	<b>8.66</b>	9.63	8.75	<b>7.88</b>	9.01
Hawaiian Electric Industries, Inc.	9.38	<b>8.44</b>	12.22	<b>7.81</b>	9.32	9.43
Pinnacle West Capital Corporation	9.57	9.88	9.56	10.09	10.12	9.84
NorthWestern Corporation	9.62	9.83	10.02	9.36	10.53	9.87
DTE Energy Company	11.18	<b>8.40</b>	9.12	11.41	10.80	10.18
Xcel Energy Inc.	10.33	9.46	10.39	10.22	10.65	10.21
Otter Tail Corporation	10.27	9.95	9.78	10.60	11.55	10.43
Alliant Energy Corporation	10.82	10.07	9.36	10.80	11.17	10.44
WEC Energy Group, Inc.	13.50	9.72	10.64	13.05	10.96	11.57
OGE Energy Corp.	12.60	<b>8.26</b>	9.99	16.97	10.83	11.73
CMS Energy Corporation	13.31	13.67	13.38	10.54	14.22	13.02
NextEra Energy, Inc.	12.92	12.76	12.38	19.41	17.14	14.92
Commission Authorized ROEs for all Electric Rate Cases in the U.S.						
	FY2014	FY2015	FY2016	FY2017	FY2018	Average
Average	9.91	9.85	9.77	9.74	9.60	9.77
High	12.00	12.00	11.60	11.95	11.20	11.75
Low	<b>9.17</b>	<b>9.00</b>	<b>8.64</b>	<b>8.40</b>	<b>8.58</b>	<b>8.76</b>
Notes: Companies with earned ROEs below the average low authorized ROE are <u>underlined</u> .						
Earned ROEs below the lowest authorized ROE for that year are in <b>bold</b> .						
Source: Market Intelligence						

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3 To show that the majority of companies in competitive markets earn ROEs above their  
4 COE, Staff used the high end of risk-free rates and market risk premiums presented in CAPM  
5 analyses, in Direct Testimony, by Mr. Hevert<sup>18</sup> and Staff<sup>19</sup> to calculate the COE for each  
6 company in the S&P 500.<sup>20</sup> Staff then compared each company's COE to its earned ROE.<sup>21</sup>  
7 Using Mr. Hevert's CAPM assumptions to estimate the COE for each company and comparing  
8 it to that company's earned ROE revealed that 282 of the S&P 500 companies (56.40%) earned  
9 ROEs higher than their COE, and that the median company earned an ROE 1.49 percentage  
10 points above its COE. Using Staff's CAPM assumptions to estimate the COE for each company  
11 and comparing it to that company's earned ROE revealed that 401 of the S&P 500 companies  
12 (80.20%) earned ROEs higher than their COE, and that the median company earned an ROE

<sup>18</sup> The high end of Mr. Hevert's CAPM assumptions detail a risk free rate of 3.03% and a market risk premium of 12.04%, Hevert Direct, Schedule RBH-D4.

<sup>19</sup> The high end of Staff's CAPM assumptions detail a risk free rate of 2.29% and a market risk premium of 6.00%, Staff Report Cost of Service, Appendix 2, Schedule JS-10-1.

<sup>20</sup> Staff used S&P Capital IQ to generate the beta of each company used in the CAPM.

<sup>21</sup> Staff used CNBC's website to retrieve each companies earned ROE over the last 12 months.

1 7.64 percentage points above its COE. As a model agnostic, Staff also used S&P Capital IQ's  
2 Cost of Equity data gathering function to retrieve S&P Capital IQ's calculated COE value for  
3 each of the S&P 500 companies.<sup>22</sup> Comparing S&P Capital IQ derived COE values for each  
4 company to their earned ROE revealed that 426 of the S&P 500 companies (85.20%) earned  
5 ROEs higher than their COE, and that the median company earned an ROE 9.59 percentage  
6 points above its COE.

7         These results provide practical evidence that the COE and ROE are not the same.  
8 Commissions should not treat the COE and their authorized ROE the same because doing so  
9 does not align with capital market sentiment, with mainstream COE estimation model  
10 methodology, and by extension, with the notion that Commissions act as proxies to competitive  
11 markets. The continued use of such a framework distorts the efficiency of markets because  
12 it allows the introduction of significant biases into the COE estimation process, which has  
13 the effect of increasing uncertainty, resulting in higher costs and trite discourse around  
14 basic principles.

15         Q.     What basic principles does Mr. Hevert's DCF model violate?

16         A.     Mr. Hevert uses too high growth rates in his DCF analysis. Mr. Hevert's average  
17 long-term growth input for his proxy group in his DCF analysis is 5.67%.<sup>23</sup> It defies economic  
18 rationale to assume that any industry can perpetually sustain a long-term growth rate above the  
19 long-term growth rate of the economy in which it operates. Considering that forecasts for  
20 long-term GDP place future GDP growth below historic GDP growth, it is also illogical to  
21 assume that the utility industry will be able to sustain growth levels above historic levels.

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<sup>22</sup> S&P Capital IQ's CAPM data point details a risk free rate of 1.50% and a market risk premium of 5.00%.

<sup>23</sup> The geometric average price growth of the S&P 500 for the 20-year period from 1998-2018 was 4.62%.

1 Making such assumptions equates to a belief that eventually all U.S. GDP will come from the  
2 utility industry.

3 Q. What basic principles does Mr. Hevert's CAPM analysis violate?

4 A. The estimated market risk premiums ("MRP") used in Mr. Hevert's CAPM  
5 analysis are not rational or consistent with those used by investors or AEE when making  
6 investment decisions. Mr. Hevert's MRP estimates are unreasonably high; MRPs of 11.00%  
7 and 12.04% are two times higher than Staff's MRPs of 4.50% and 6.00%. \*\* \_\_\_\_\_

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19 Mr. Hevert's use of a projected Treasury yield is also an unreasonable input in his  
20 CAPM. Current bond prices already reflect investors' interest rate expectations. The near-term  
21 projected 30-year Treasury rate of 3.03% used in Mr. Hevert's CAPM is unreasonable because

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1 it inserts speculation into the COE, causing an upward bias. Since 2009, economists' projections  
2 of Treasury rates have consistently proven wrong, with upward biases, encountering larger  
3 errors the further out the projection period. For example, the Philadelphia Federal Reserve  
4 Bank's ("Philly Fed") quarterly Survey of Professional Forecasters shows that from 2009-2019,  
5 the year ahead and two-year ahead forecasts for 10-year Treasuries had average overestimation  
6 biases of 1.30 percentage points and 1.74 percentage points, respectively.<sup>26</sup>

7 Q. What basic principles does Mr. Hevert's ECAPM analysis violate?

8 A. Mr. Hevert does not perform an ECAPM analysis. Instead, Mr. Hevert inputs  
9 his estimated MRPs, and Bloomberg and Value Line derived betas into an equation  
10 approximating an ECAPM regression that was performed by Roger Morin ("Mr. Morin") for  
11 presentation in Mr. Morin's Rebuttal Testimony to the Arizona Corporation Commission in  
12 March of 1989.<sup>27</sup> Mr. Morin's ECAPM used data from 1926 – 1984, making it over 35-years  
13 old. As Mr. Hevert did not perform the ECAMP analysis, he provided no information  
14 pertaining to the parameters of the ECAPM model that forms the basis for the equation  
15 Mr. Hevert uses in his ECAPM presentation. Testing the appropriateness of the ECAPM  
16 parameters is important because different restrictions lead to significant variance in results. For  
17 example, the empirical evidence presented in Mr. Morin's book shows a wide range of alpha<sup>28</sup>  
18 estimates among differing authors, ranging from a low range of -3.60% - 3.60% to a high range  
19 of 10.08% - 13.56%.<sup>29</sup>

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<sup>26</sup> The Philly FED did not add the expected 10-year Treasury rate question to its survey until 2009.

<sup>27</sup> Morin, R., *New Regulatory Finance*, pg. 190, Footnote 12, (2006).

<sup>28</sup> Alpha is the shortfall or excess in return identified by an ECAPM assessment when comparing achieved returns over a period to the return expectations derived using the CAPM over the same period.

<sup>29</sup> Morin, R., *New Regulatory Finance*, pg. 190, TABLE 6-2, (2006).

1 Q. What basic principle does Mr. Hevert's Risk Premium approach violate?

2 A. Mr. Hevert interprets the output of his Risk Premium regression incorrectly, and  
3 the independent variable (log of 30-year Treasury yields) used in the regression violates  
4 statistical tenets. Apart from being incorrectly interpreted, the principle fallacy of Mr. Hevert's  
5 bond yield plus risk premium model is that it falls victim to circular logic because it uses  
6 Commission authorized ROEs to estimate his COE/ROE recommendation for this Commission.  
7 Perhaps that is why FERC opines that risk premium models are less likely to calculate the COE  
8 as the DCF and CAPM, because Commission authorized ROEs are not market constructs.  
9 Other issues that reduce the reliability of Mr. Hevert's bond yield plus risk premium model  
10 revolve around statistical tenets. For example, there is debate about the appropriateness of  
11 converting percentages, such as interest rates, to log form for regression analysis because issues  
12 related to the proper interpretation of a percentage effect on a percent arise. Given its  
13 nonstationary nature, Mr. Hevert's model results should be interpreted with caution because  
14 it may provide misleading statistical evidence about the relationship between variables.  
15 A structurally sound model would not encounter the stationary issues readily apparent in  
16 Mr. Hevert's model. Mr. Hevert's interpretation of his bond plus risk premium model results  
17 are wrong. Mr. Hevert constructs a semi-log model by transforming the independent variable  
18 (30-year Treasury yields) to log form. However, Mr. Hevert interprets the results of his model  
19 as though he had not made the transformation. The University of Virginia Library Research  
20 Data Services + Sciences describes the proper way to interpret the results of a log  
21 transformation when the independent/predictor variable is log-transformed:

22 Divide the coefficient by 100. This tells us that a 1% increase in  
23 the independent variable increases (or decreases) the dependent

1 variable by (coefficient/100) units. Example: the coefficient is  
2 0.198.  $0.198/100 = 0.00198$ . For every 1% increase in the  
3 independent variable, our dependent variable increases by about  
4 0.002.<sup>30</sup>

5 Interpreted correctly, the coefficient of Mr. Hevert's model  $(-0.0268)^{31}$  would yield a risk  
6 premium of approximately 6.40%, leading to a return on equity of 9.25%.<sup>32</sup>

### 7 **CAPITAL MARKET UPDATE**

8 Q. Have there been significant capital market issues since you filed Direct  
9 Testimony?

10 A. On December 11, 2019, members of the U.S. Federal Reserve Open Market  
11 Committee ("FOMC") released their quarterly projections. Of note, projections show that  
12 members expect real GDP to slow steadily from 2019 - 2022. Projections show that  
13 members expect real GDP growth to slow from between 2.10% - 2.20% in 2019 to between  
14 2.00% - 2.20% in 2020, slowing further, to its long run average of between 1.80% - 2.00% in  
15 2021 and thereafter. Included in the FOMC projections were estimates of the expected federal  
16 funds rate ("funds rate"). Estimates for the funds rate show that the funds rate is likely to be  
17 unchanged within the range of 1.50% - 1.75% throughout 2020. However, estimates of the  
18 funds rate shows that FOMC members project the funds rate will increase 25 basis points in

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<sup>30</sup> <https://data.library.virginia.edu/interpreting-log-transformations-in-a-linear-model/>.

<sup>31</sup> Hevert Direct, Schedule RBH-D5.

<sup>32</sup> The average value of the independent variable (the 30-year Treasury yield) in Mr. Hevert's model equals 7.88% or 0.0788. The average value of the dependent variable (the risk premium) in Mr. Hevert's model equals 4.68% or 0.0468. Using Mr. Hevert's, then current, 30-year Treasury yield of 2.85% equates to an approximately 64 percentage point decrease from the average 30-year Treasury yield  $((0.0788 - 0.0285) / 0.0788)$ , resulting in an approximate risk premium of 6.40% or  $0.0640 = (-64 * (-0.0268/100) + 0.0468)$ . Adding the 2.85% or 0.0285 30-year Treasury yield to the risk premium results in an ROE of 9.25%  $= (6.40\% + 2.85\%)$ .

1 2021, with another 25 basis point increase in 2022, before the funds rate reaches its projected  
2 long run level of 2.50% thereafter.<sup>33</sup>

3 Another major event was the signing of a phase one U.S./China trade deal  
4 (“Trade Deal”) by President Donald Trump. Signing of the trade deal is of significance because  
5 it stops the escalation of the trade conflict and provides a path for de-escalation. During each  
6 of the three FOMC funds rate cuts, occurring in the second half of 2019, FOMC Chair,  
7 Jerome Powel, described business uncertainty stemming from the trade conflict as a driver  
8 behind the FOMC’s decision to cut rates. Given seemingly asymmetrical projections of lower  
9 GDP growth contrasted by higher funds rates, successful completion of a trade deal appears to  
10 be the expectation of FOMC members. With less trade uncertainty, FOMC members would  
11 have less of a headwind to raising the funds rate.

12 Q. How have regulated utility stocks performed since Staff presented Direct  
13 Testimony?

14 A. From October 1, 2019 – December 31, 2019 utility stocks lagged the  
15 broader market. Prices showed a decrease of -1.31% for the electric utility proxy group  
16 (“electric proxy”), and an increase of 9.88% for the S&P 500. The total returns for the electric  
17 utility proxy group and the S&P 500, from the beginning of October to the end of December,  
18 were -0.61% and 10.42%, respectively. Average dividend yields for the electric proxy from  
19 the beginning of October to the end of December increased 12 basis points, from 2.95% to  
20 3.07%. During the same period, the dividend yield for the S&P 500 decreased approximately  
21 15 basis points from to 2.01% to 1.86%. From the beginning of October to the end of

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<sup>33</sup> Federal Open Market Committee, Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assumptions of projected appropriate monetary policy, December 2019, <https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20191211.pdf>.

1 December, normalized Price to Earnings (“P/E”) ratios for the electric proxy group decreased  
2 from 32.79x to 30.67x. During the same period, P/E ratios for the S&P 500 increased from  
3 25.88x to 28.74x.

4           Considering the contraction in the average P/E multiple and higher dividend yield, it  
5 appears the electric proxy group’s cost of equity increased slightly since Staff presented Direct  
6 Testimony. The slight increase in the electric proxy’s COE is likely due to sector rotation,  
7 where funds have shifted from safe haven assets to more risky assets. For example, the price  
8 appreciation in the S&P 500 is the consequence of an approximately 11.05% P/E multiple  
9 expansion, not earnings growth. If the evolution of global events lead to risk averse sentiment,  
10 safe haven assets like Treasuries and utility stocks will be the benefactors.

11           Q.     How have utility bonds performed since Staff presented Direct Testimony?

12           A.     From October 1, 2019 to December 31, 2019, yields on broader utility bonds  
13 increased approximately 19 to 29 basis points for A- and BBB-rated utility bonds, respectively.  
14 Increases in utility bond yields are reflective of recent increases in Treasury bonds. Increased  
15 yields in bond markets provides further evidence of increased risk appetite leading to asset  
16 rotations in broader markets, the outflow of money from safe haven assets has decreased their  
17 prices driving up their yields.

18           **CAPITAL STRUCTURE**

19           Q.     Do the parties agree on the appropriate capital structure for purposes of  
20 determining a fair and reasonable allowed ROR to apply to Ameren Missouri’s rate base?

21           A.     Mr. Walters does not provide a recommendation on capital structure. However,  
22 Mr. Sagel’s, Mr. Murray’s, and Staff’s proposed capital structures differ. Mr. Sagel’s proposed  
23 capital structure consists of 51.97% equity, 47.10% long-term debt, and 0.99% preferred stock,

1 and is based on *pro forma* estimates of Ameren Missouri’s capital structure as of December 31,  
2 2019.<sup>34</sup> Mr. Murray’s proposed capital structure consists of 48.00% equity, 51.99% long-term  
3 debt, and 1.01% preferred stock, and is based on “capital structure ratios Ameren Corp appears  
4 to be targeting for its consolidated operations over the next couple of years.”<sup>35</sup> Staff’s proposed  
5 capital structure consists of 50.00% equity, 49.02% long-term debt, and 0.98% preferred stock,  
6 and is based on Ameren Missouri’s June 30, 2019 capital structure with adjustments that limit  
7 the equity ratio to 50.00%.

8 Q. Do you agree with Mr. Sagel’s comment that Ameren Missouri seeks “to  
9 maintain a certain capital structure?”<sup>36</sup>

10 A. Mr. Sagel states, “Ameren Missouri specifically and continuously maintains the  
11 balance of debt and equity in its capital structure to minimize its overall cost of capital and, at  
12 the same time, maintains financial strength and stability.”<sup>37</sup> Staff agrees that “Ameren Missouri  
13 specifically and continuously maintains the balance of debt and equity in its capital structure”,  
14 however, Staff does not agree that the continued maintenance is to “minimize its overall cost  
15 of capital.” Instead, Staff thinks that the continued maintenance aims to perpetuate and expand  
16 the leveraging of incremental cash flows Ameren Corporation (“AEE”) is accustomed to  
17 extracting from Ameren Missouri and other Ameren Corp. entities, leading to a lower cost of  
18 capital at AEE at the expense of a higher cost of capital at Ameren Missouri. It appears  
19 Mr. Sagel’s interpretation of “continuously maintains” is of a literal sense, meaning that  
20 Ameren Missouri’s Debt and Equity ratios will be maintained at historic ratios indefinitely,

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<sup>34</sup> Sagel Direct, pg. 10, Table 2.

<sup>35</sup> Murray Direct, Schedule DM-D-9.

<sup>36</sup> Sagel Direct, pg. 6, ll.8-9.

<sup>37</sup> *Ibid*, ll. 10-12.

1 without regard to the changing business environment and its effects on Ameren Missouri's  
2 capital costs. Mr. Sagel's statement is incongruous. Mr. Sagel's interpretation \*\* \_\_\_\_\_  
3 \_\_\_\_\_  
4 \_\_\_\_\_ 38 \_\_\_\_\_ \*\* does not align with the objective  
5 to minimize the overall cost of capital at Ameren Missouri because the business environment  
6 in Missouri has improved with the passage of SB564, allowing Ameren Missouri to  
7 accommodate more debt. Mr. Sagel's capital structure recommendation is reticent to this fact.

8 If "continuously maintains" were interpreted in a fluid sense to mean that debt and  
9 equity ratios may be adjusted to minimize overall costs of capital, while maintaining financial  
10 strength and stability, given changes in the operating environment, Ameren Missouri would  
11 capitalize on its improved business environment by financing a larger part of its operations with  
12 lower cost capital, i.e. debt. Instead, it appears Ameren Missouri is intent on maintaining its  
13 historic capital structure while allowing AEE to perpetuate and expand upon its extraction of  
14 Ameren Missouri debt capacity. \*\* \_\_\_\_\_  
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1 recommendation implicitly authorizes an addition 47 basis points for Ameren Illinois' more  
2 favorable regulatory environment.<sup>42</sup> Mr. Murray's suggested capital structure, which reduces  
3 Ameren Missouri's authorized equity ratio below the 50% agreed to by Ameren Illinois, would  
4 effectively negate the risk differential exhibited in those ROEs. \*\* \_\_\_\_\_

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6 \_\_\_\_\_<sup>43</sup> \*\* Considering that  
7 Mr. Murray's capital structure recommendation gives little to no consideration to the differing  
8 risks between Illinois' and Missouri's regulatory environments, while leaving open the  
9 possibility that Ameren Missouri's credit rating could be placed on negative watch, makes his  
10 recommendation untenable.

11 Mr. Murray notes that he would recommend a lower authorized ROE than his  
12 recommended authorized ROE of 9.25% if the Commission grants Ameren Missouri a higher  
13 equity ratio than his recommended 48%. Staff agrees with Mr. Murray that holding all else  
14 constant an improved regulatory environment and resulting reduction to business risk would  
15 lead to a reduction in the ROR. However, Staff has chosen to focus on how the improved  
16 regulatory environment in Missouri effects Ameren Missouri's capital structure, not authorized  
17 ROE, because Staff thinks there is salient evidence to support an equity ratio adjustment.  
18 Conversely, there is little evidence related to an appropriate adjustment to the authorized ROE  
19 based on differences in the availability of alternative rate mechanisms. Staff recommends the  
20 Commission Order a capital structure consisting of not more than 50% equity. Ordering a

\_\_\_\_\_ <sup>42</sup> Subtracting the 40 basis point average difference in authorized ROEs between distribution and vertically integrated electric utilities takes into account the increased risk of owning electric generation assets.

<sup>43</sup> \*\* \_\_\_\_\_ \*\*

1 capital structure consisting of 50% equity is fair and reasonable because it stems the divergence  
2 in equity ratios between Ameren Missouri and AEE.

3 **COST OF DEBT**

4 Q. Do the parties agree on the appropriate cost of debt for purposes of determining  
5 a fair and reasonable allowed ROR to apply to Ameren Missouri's rate base?

6 A. No. Mr. Walters does not propose a cost of debt for Ameren Missouri.  
7 Mr. Sagel's, Mr. Murray's, and Staff's proposed cost of debt differ. Mr. Sagel recommends an  
8 embedded cost of debt of 4.57%, based on forecasted December 31, 2019 debt values.<sup>44</sup>  
9 Mr. Murray recommends a 4.50% embedded cost of debt, based on his capital structure  
10 adjustments and assumptions related to additional debt issuance.<sup>45</sup> Staff recommends an  
11 embedded cost of debt of 4.60%, based on test year data through June 30, 2019.<sup>46</sup>

12 Q. Do you agree with Mr. Sagel's proposed cost of debt for Ameren Missouri?

13 A. No. However, our methods of calculating the cost of debt are similar with the  
14 exception of using projected figures. Staff does not foresee a disagreement once debt  
15 information has been trued-up.

16 Q. Do you agree with Mr. Murray's proposed cost of debt for Ameren Missouri?

17 A. No. Although it appears aimed at attempting to match debt costs with his  
18 proposed capital structure, Staff disagrees with assigning a cost of debt to the additional debt  
19 Mr. Murray recommends in his capital structure because it speculates what those costs of debt  
20 are. Mr. Murray's and Staff's recommendations on capital structure will require Ameren

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<sup>44</sup> Sagel Direct, pg. 12, ll. 12-14.

<sup>45</sup> Murray Direct, Schedule DM-D-10.

<sup>46</sup> Staff Report - Cost of Service, pg. 22, ll. 16-18.

1 Missouri to adjust its capitalization to include additional debt. Although the costs of any  
2 additionally issued debt will likely be lower than Ameren Missouri's current embedded cost of  
3 debt of 4.60%, it is not certain that it will have the 3.25% coupon that Mr. Murray imputes into  
4 his debt costs. \*\* \_\_\_\_\_

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11 \_\_\_\_\_<sup>47</sup> \*\*

12 **SUMMARY AND CONCLUSIONS**

13 Q. What are the main points the Commission should consider in determining an  
14 appropriate capital structure and fair rate of return for Ameren Missouri?

15 A. Staff recommends the Commission consider the diverging trend between AEE's  
16 and Ameren Missouri's capital structures. Staff recommends that the Commission order an  
17 equity cap of 50%, similar to that applied by the Illinois Commerce Commission, to Ameren  
18 Missouri's capital structure, to avoid unjust divergence in capital structures between parent  
19 company and operating company. Staff recommends the Commission ignore Mr. Hevert's  
20 ECAPM presentation, as well as the speculative use of projected 30-year Treasury rates.  
21 Considering reasonable growth rates and risk premiums in the DCF and CAPM, respectively,

\_\_\_\_\_ <sup>47</sup> \*\*

\*\*

Rebuttal Testimony of  
Jeffrey Smith

1 as well as the proper calculation of Mr. Hevert's bond plus risk premium model, provides  
2 sufficient evidence to support an authorized ROE of 9.25%. Staff recommends the Commission  
3 authorize Ameren Missouri a cost of debt equal to the embedded cost of debt at true up,  
4 reducing speculation.

5 Q. Does this conclude your Rebuttal Testimony?

6 A. Yes.

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

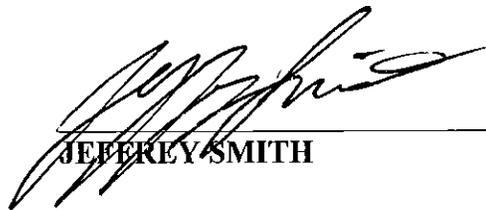
In the Matter of Union Electric Company     )  
d/b/a Ameren Missouri's Tariffs to Decrease    )  
Its Revenues for Electric Service            )     Case No. ER-2019-0335

**AFFIDAVIT OF JEFFREY SMITH**

STATE OF MISSOURI     )  
                                  )     ss.  
COUNTY OF COLE     )

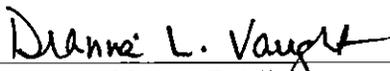
COMES NOW JEFFREY SMITH and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of Jeffrey Smith*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

  
\_\_\_\_\_  
JEFFREY SMITH

**JURAT**

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 16th day of January, 2020.

  
\_\_\_\_\_  
Notary Public

DIANNA L. VAUGHT Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: July 18, 2023 Commission Number: 15207377
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