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Witness: James H. Vander Weide  
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Case No. ER-2016-0023  
Date Testimony Prepared: May 2016

**Before the Public Service Commission  
of the State of Missouri**

**Surrebuttal Testimony**

of

**James H. Vander Weide, Ph.D.**

**May 2016**

Empire Exhibit No. 25  
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OF  
DR. JAMES H. VANDER WEIDE  
ON BEHALF OF  
THE EMPIRE DISTRICT ELECTRIC COMPANY  
BEFORE THE  
MISSOURI PUBLIC SERVICE COMMISSION

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**SURREBUTTAL TESTIMONY  
OF  
DR. JAMES H. VANDER WEIDE  
ON BEHALF OF  
THE EMPIRE DISTRICT ELECTRIC COMPANY  
BEFORE THE  
MISSOURI PUBLIC SERVICE COMMISSION  
CASE NO. ER-2016-0023**

1 I. **INTRODUCTION**

2 Q. **PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.**

3 A. My name is James H. Vander Weide. I am President of Financial Strategy  
4 Associates, a firm that provides strategic and financial consulting services to  
5 business clients. My business address is 3606 Stoneybrook Drive, Durham,  
6 North Carolina 27705.

7 Q. **ARE YOU THE SAME JAMES H. VANDER WEIDE WHO PREVIOUSLY**  
8 **PROVIDED DIRECT AND REBUTTAL TESTIMONIES BEFORE THE**  
9 **MISSOURI PUBLIC SERVICE COMMISSION (“COMMISSION”) IN THIS**  
10 **PROCEEDING?**

11 A. Yes, I am.

12 Q. **WHAT WAS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS**  
13 **PROCEEDING?**

14 A. The purpose of my direct testimony in this proceeding was to prepare an  
15 independent appraisal of the cost of equity for The Empire District Electric  
16 Company (“Empire” or “the Company”) and to recommend to the Commission  
17 a range of returns on equity for the Company’s electric utility operations in  
18 Missouri.

19 Q. **HOW DID YOU ESTIMATE EMPIRE’S COST OF EQUITY?**

1 A. I estimated Empire's cost of equity by applying standard cost of equity  
2 methods, including the Discounted Cash Flow ("DCF"), the risk premium, and  
3 the Capital Asset Pricing Model ("CAPM") to market data for a large proxy  
4 group of electric utilities.

5 **Q. WHAT COST OF EQUITY RESULTS DID YOU OBTAIN FROM YOUR**  
6 **APPLICATION OF THESE COST OF EQUITY METHODS TO A LARGE**  
7 **PROXY GROUP OF ELECTRIC UTILITIES?**

8 A. From my DCF method, I obtained a cost of equity result equal to 9.9 percent;  
9 from my risk premium methods, I obtained cost of equity results of  
10 10.6 percent and 10.1 percent; and from my CAPM, I obtained cost of equity  
11 results of 9.4 percent, 10.8 percent, 9.7 percent, and 11.2 percent.

12 **Q. WHAT COST OF EQUITY DID YOU RECOMMEND BASED ON THESE**  
13 **RESULTS?**

14 A. I recommended a cost of equity in the range 9.9 percent to 10.6 percent, with  
15 an average of 10.2 percent based on the results of my DCF and risk premium  
16 studies.

17 **Q. WHAT ALLOWED RETURN ON COMMON EQUITY IS EMPIRE**  
18 **REQUESTING FOR THE PURPOSE OF DETERMINING THE COMPANY'S**  
19 **REVENUE REQUIREMENT IN THIS PROCEEDING?**

20 A. Empire is requesting an allowed return on common equity equal to  
21 9.9 percent for the purpose of calculating the Company's revenue  
22 requirement.

1 Q. WHY IS THE COMPANY REQUESTING AN ALLOWED RETURN ON  
2 EQUITY THAT IS AT THE LOW END OF YOUR RECOMMENDED RANGE  
3 OF RETURNS?

4 A. Empire Witness Bryan Owens explains in his direct testimony that the  
5 Company is requested a 9.9 percent allowed return on equity because this  
6 case is essentially a “true-up” of the recently completed rate case, ER-2014-  
7 0351; and the Company’s proposed rate of return in this case is within the  
8 range recommended by the parties in ER-2014-0351 and is supported by the  
9 cost of equity studies reported in my direct testimony. (Owens Direct at 7)

10 Q. WHAT ALLOWED RETURN ON EQUITY IS STAFF RECOMMENDING IN  
11 THIS PROCEEDING?

12 A. Staff is recommending an allowed return on equity equal to 9.75 percent.

13 Q. HOW DOES STAFF ARRIVE AT ITS RECOMMENDED 9.75 PERCENT  
14 ALLOWED RETURN ON EQUITY?

15 A. Staff arrives at its recommended 9.75 percent ROE by: (1) comparing its  
16 current estimate of its proxy electric utilities’ cost of equity to its estimate of  
17 the proxy electric utilities’ cost of equity at the time of the most recent Ameren  
18 and Kansas City Power & Light cases; and (2) adding a 25-basis-point risk  
19 premium to the 9.53 percent and 9.50 percent allowed returns found in the  
20 Ameren and Kansas City Power & Light (“KCPL”) cases. (Staff Report at 55)

21 Q. WHAT DOES STAFF CONCLUDE FROM ITS COMPARISON OF ITS  
22 CURRENT ESTIMATE OF THE ELECTRIC UTILITY COST OF EQUITY TO  
23 ITS ESTIMATE AT THE TIME OF THE AMEREN AND KCPL CASES?

1 A. Staff concludes that there has not been a significant change in the electric  
2 utility cost of equity since the time of the Ameren and KCPL cases:

3           Considering all of the information that Staff has reviewed, there  
4           does not appear to be a significant change in the capital  
5           markets to support a conclusion that the cost of equity for the  
6           electric utility industry has substantially increased or decreased  
7           since the Commission ordered an allowed ROE of 9.53% for  
8           Ameren Missouri and 9.50% for KCPL. (Staff Report at 55)

9 **Q. WHY DOES STAFF FOCUS ON ASSESSING WHETHER THERE IS A**  
10 **CHANGE IN THE COST OF EQUITY, RATHER THAN ON STAFF'S**  
11 **CURRENT ESTIMATE OF THE ELECTRIC UTILITY COST OF EQUITY?**

12 A. Staff focuses on assessing whether there is a change in the electric utility  
13 cost of equity since the time of the Ameren and KCPL cases because it  
14 believes that regulatory commissions typically grant an allowed ROE that  
15 exceeds the electric utility cost of equity. (Staff Report at 24)

16 **Q. DO YOU AGREE WITH STAFF'S OPINION THAT REGULATORY**  
17 **COMMISSIONS TYPICALLY GRANT ALLOWED ROES THAT EXCEED**  
18 **THE REGULATED UTILITY'S COST OF EQUITY?**

19 A. No. Although some commissions offer special ROE incentives for investments  
20 in socially desirable projects such as investment in new environmentally  
21 friendly generation or transmission facilities, I am not aware of any  
22 commission that has purposely decided to set the regulated utility's allowed  
23 ROE above its cost of equity in a general rate proceeding. In my experience,  
24 regulatory commissions purposefully attempt to set an allowed return that, in  
25 their opinion, is commensurate with returns on other investments of  
26 comparable risk—that is, commensurate with their estimate of the cost of  
27 equity. Indeed, it is my understanding as an economist that a commission is

1 required by the *Hope* and *Bluefield* standards to set the allowed return that is  
2 commensurate with returns on other investments of comparable risk. (See  
3 Vander Weide Direct at 9 – 11.)

4 **Q. DOES STAFF DISCUSS THE HOPE AND BLUEFIELD DECISIONS IN ITS**  
5 **INITIAL REPORT?**

6 A. Yes. Staff describes the guidelines from *Hope* and *Bluefield* that it believes  
7 must be followed in setting an allowed rate of return:

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

- 11 1. A return consistent with returns of investments of  
12 comparable risk;
- 13 2. A return sufficient to assure confidence in the utility's  
14 financial integrity; and
- 15 3. A return that allows the utility to attract capital. [Staff  
16 Report at 23.]

17 **Q. IS THE STAFF'S OPINION THAT REGULATORY COMMISSIONS**  
18 **TYPICALLY GRANT ALLOWED ROES THAT EXCEED THE REGULATED**  
19 **UTILITY'S COST OF EQUITY CONSISTENT WITH STAFF'S OWN**  
20 **INTERPRETATION OF THE HOPE AND BLUEFIELD STANDARDS?**

21 A. No.

22 **Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

23 A. I have been asked by Empire to respond to the rebuttal testimony filed in this  
24 proceeding by Ms. Shana Griffin for the Staff of the Missouri Public Service  
25 Commission ("Staff" or "Ms. Griffin").

1 **II. RESPONSE TO STAFF REBUTTAL**

2 **Q. WHAT TOPICS DO YOU ADDRESS IN YOUR RESPONSE TO STAFF'S**  
3 **REBUTTAL TESTIMONY?**

4 A. I address Staff's rebuttal comments on my: (1) proxy group of electric utilities;  
5 (2) DCF analyses; and (3) risk premium and CAPM analyses.

6 **A. Proxy Electric Utilities**

7 **Q. HOW DO YOU SELECT YOUR PROXY GROUP OF ELECTRIC UTILITIES?**

8 A. I select all the companies in Value Line's groups of electric utilities that:  
9 (1) paid dividends during every quarter of the last two years; (2) did not  
10 decrease dividends during any quarter of the past two years; (3) have an  
11 I/B/E/S long-term growth forecast; and (4) are not the subject of a merger  
12 offer that has not been completed. In addition, each of the utilities included in  
13 my comparable groups has an investment grade bond rating and a Value Line  
14 Safety Rank of 1, 2, or 3.

15 **Q. DOES STAFF AGREE WITH YOUR PROXY SELECTION CRITERIA?**

16 A. No. Ms. Griffin claims that my proxy selection criteria fail to satisfy the basic  
17 objective of proxy selection, namely, to identify "pure-play" electric utilities.  
18 (Staff Rebuttal at 3)

19 **Q. HOW DOES STAFF DEFINE A "PURE-PLAY" ELECTRIC UTILITY?**

20 A. Staff defines a "pure-play" electric utility as one that has at least 50 percent of  
21 plant from electric utility operations; at least 25 percent of plant from electric  
22 generation assets; and at least 80 percent of income from regulated utility  
23 operations.



1 Q. DO YOU AGREE WITH STAFF'S CLAIM THAT THE OBJECTIVE OF  
2 PROXY GROUP SELECTION IS TO FIND COMPANIES THAT ARE  
3 "PURE-PLAY" ELECTRIC UTILITIES?

4 A. No. The objective of proxy selection is to find the largest possible group of  
5 electric utilities that are comparable in risk to the electric utility whose cost of  
6 equity is being estimated. The advantage of my proxy electric utility group is  
7 that it has slightly lower investment risk than Staff's proxy group but also  
8 includes twice as many companies as Staff's proxy group (see Vander Weide  
9 Rebuttal Schedule 1). The use of a larger sample with approximately the  
10 same average risk reduces the uncertainty of the cost of equity estimate.

11 Q. WHAT IS THE DCF MODEL FOR ESTIMATING THE COST OF EQUITY?

12 A. The DCF model is based on the assumption that a company's stock price is  
13 equal to the present discounted value of all expected future dividends.  
14 Assuming that dividends are paid annually and grow at a constant annual  
15 rate,  $g$ , the equation for the discounted present value of the stock can be  
16 solved for  $k$ , the cost of equity. The resulting cost of equity equation is  $k =$   
17  $D_1/P_s + g$ , where  $k$  is the cost of equity,  $D_1$  is the expected next period annual  
18 dividend,  $P_s$  is the current price of the stock, and  $g$  is the constant annual  
19 growth rate in earnings, dividends, and book value per share. The term  $D_1/P_s$   
20 is called the expected dividend yield component of the annual DCF model,  
21 and the term  $g$  is called the expected growth component of the annual DCF  
22 model.

23 Q. HOW DO YOU ESTIMATE THE GROWTH COMPONENT,  $G$ , OF THE DCF  
24 MODEL?

1 A. I use the analysts' estimate of future earnings per share ("EPS") growth  
2 reported by I/B/E/S Thomson Reuters.

3 **Q. WHY DO YOU RELY ON ANALYSTS' PROJECTIONS OF FUTURE EPS**  
4 **GROWTH IN ESTIMATING THE INVESTORS' EXPECTED GROWTH RATE**  
5 **RATHER THAN RELYING ON HISTORICAL OR RETENTION GROWTH**  
6 **RATES?**

7 A. I rely on analysts' projections of future EPS growth rather than historical or  
8 retention growth rates because there is considerable empirical evidence that  
9 analysts' forecasts are the best estimate of investors' expectation of future  
10 long-term growth. The evidence that analysts' forecasts are the best estimate  
11 of investors' expectation of future long-term growth is important because the  
12 DCF model requires the growth expectations of investors, not the growth  
13 expectations of the individual who is estimating the cost of equity.

14 **Q. DOES MS. GRIFFIN AGREE WITH YOUR USE OF ANALYSTS' EPS**  
15 **GROWTH FORECASTS TO ESTIMATE THE GROWTH COMPONENT OF**  
16 **THE DCF MODEL?**

17 A. No. Ms. Griffin claims that using the analysts' growth projections to estimate  
18 the growth component of the DCF model is inconsistent with the way  
19 securities analysts estimate the "fair price" for a utility's stock. Specifically,  
20 Ms. Griffin claims that when equity analysts estimate the fair price for a stock,  
21 they use discount rates that are "much lower than" cost of equity estimates  
22 that are presented by rate of return witnesses in rate proceedings. (Staff  
23 Rebuttal at 7)

1 Q. FOR THE SAKE OF ARGUMENT, ASSUME THAT MS. GRIFFIN IS  
2 CORRECT WHEN SHE CLAIMS THAT ANALYSTS USE LOWER  
3 DISCOUNT RATES TO ESTIMATE THE “FAIR PRICE” FOR A STOCK  
4 THAN COST OF EQUITY ESTIMATES WITNESSES PRESENT IN RATE  
5 PROCEEDINGS. DOES HER CLAIM SUPPORT HER CONTENTION THAT  
6 COST OF EQUITY ESTIMATES WITNESSES PRESENT IN RATE  
7 PROCEEDINGS ARE HIGHER THAN THE UTILITIES’ COSTS OF  
8 EQUITY?

9 A. No. Ms. Griffin fails to recognize the fundamental difference between the DCF  
10 models used to estimate the cost of equity in rate proceedings and the  
11 discounted cash flow analyses used to determine the “fair price” of a  
12 company’s stock. When using the DCF model to estimate a utility’s cost of  
13 equity, rate of return witnesses use the current observed market price of the  
14 stock as the best estimate of a fair price for the stock, and then solve for the  
15 discount rate—that is, the cost of equity—that makes the present value of  
16 expected future cash flows equal to the current observed market price of the  
17 stock.

18 In contrast, when using discounted cash flow analyses to estimate a  
19 “fair price” for a stock, analysts use an assumed discount rate to determine  
20 a “fair price” of the stock, which, in many cases, is not equal to the current  
21 market price of the stock. Because analysts typically estimate a “fair price”  
22 that is different from the current observed market price, it is not surprising that  
23 the assumed discount rate in the analyst’s cash flow analysis is not the same  
24 as the cost of equity estimates witnesses present in utility rate proceedings.

1 **Q. DOES STAFF RECOGNIZE THAT SETTING ALLOWED ROES EQUAL TO**  
2 **THE DISCOUNT RATES USED IN STOCK VALUATIONS WOULD CAUSE**  
3 **UTILITY STOCK PRICES TO DECLINE?**

4 A. Yes. Ms. Griffin acknowledges that setting allowed ROEs equal to the  
5 discount rates used to calculate fair values would cause utility stock prices to  
6 decline, stating that doing so “would cause downward pressure on the stock  
7 price of a company whose earnings rely primarily on the regulated utility  
8 operations....because utility stock prices currently reflect investors’  
9 expectations of regulators continuing to allow returns in the 9% to 10%  
10 range.” (Staff Rebuttal at 8)

11 **Q. WHEN STOCK PRICES DECLINE, ALL ELSE EQUAL, DO DCF**  
12 **ESTIMATES OF THE COST OF EQUITY INCREASE?**

13 A. Yes. As stock prices decline, the cost of equity would increase to the point  
14 where the estimated cost of equity is equal to the returns expected by  
15 investors.

16 **B. Risk Premium and CAPM Analyses**

17 **Q. DOES STAFF AGREE WITH YOUR RISK PREMIUM AND CAPM**  
18 **ESTIMATES OF EMPIRE’S COST OF EQUITY?**

19 A. No. Ms. Griffin claims that my use of forecasted bond yields in my risk  
20 premium and CAPM analyses causes me to overstate the cost of equity for  
21 electric utilities such as Empire. (Staff Rebuttal at 10)

22 **Q. WHY DO YOU USE FORECASTED BOND YIELDS RATHER THAN**  
23 **CURRENT BOND YIELDS IN YOUR RISK PREMIUM AND CAPM**  
24 **ANALYSES?**

1 A. I use forecasted bond yields rather than current bond yields in my risk  
2 premium and CAPM analyses because the fair rate of return standard  
3 requires that a company have an opportunity to earn its required return on its  
4 investment during the forward-looking period during which rates will be in  
5 effect. In addition, because current interest rates are artificially depressed as  
6 a result of the Federal Reserve's efforts to keep interest rates low in order to  
7 stimulate the economy, current interest rates at this time are a poor indicator  
8 of expected future interest rates. Economists project that future interest rates  
9 will be higher than current interest rates as the Federal Reserve allows  
10 interest rates to rise in order to prevent inflation. Thus, the use of forecasted  
11 interest rates is consistent with the fair rate of return standard, whereas the  
12 use of current interest rates at this time is not.

13 **Q. WHY DOES STAFF BELIEVE THAT YOUR USE OF FORECASTED BOND**  
14 **YIELDS IN YOUR RISK PREMIUM AND CAPM ANALYSES CAUSES YOU**  
15 **TO OVERSTATE THE COST OF EQUITY?**

16 A. Ms. Griffin notes that I also recommended using forecasted bond yields in  
17 Empire's 2012 proceeding, but that actual bond yields turned out to be less  
18 than the forecasted yields I used in my risk premium and CAPM analyses  
19 (Staff Rebuttal at 12).

20 **Q. IF ACTUAL INTEREST RATES DO NOT TURN OUT TO BE EQUAL TO**  
21 **PREVIOUSLY FORECASTED INTEREST RATES, DOES THIS**  
22 **DISCREPANCY IMPLY THAT INVESTORS DO NOT RELY ON**  
23 **FORECASTED INTEREST RATES TO ESTIMATE THEIR REQUIRED**  
24 **RETURNS?**

1 A. No. Because forecasted interest rates are uncertain, actual rates are  
2 sometimes greater than forecasted interest rates and sometimes less than  
3 forecasted interest rates. That actual interest rates may not turn out to be  
4 equal to forecasted interest rates does not change the fundamental  
5 conclusion that forecasted interest rates are reasonable estimates of future  
6 rates.

7 **Q. DO YOU PRESENT EVIDENCE IN YOUR DIRECT TESTIMONY THAT**  
8 **INVESTORS REQUIRE A HIGHER RISK PREMIUM WHEN INTEREST**  
9 **RATES DECLINE?**

10 A. Yes. I provide empirical evidence that the ex ante risk premium moves  
11 inversely with interest rates. Specifically, I provide evidence that the ex ante  
12 risk premium tends to increase by approximately 60 basis points when  
13 interest rates decline by 100 basis points. For example, if the forecasted bond  
14 yield declines by 50 basis points, the cost of equity would decline by 20 basis  
15 points, because the required risk premium would increase by 30 basis points.  
16 (See Vander Weide Direct, Appendix 3.)

17 **Q. RECOGNIZING THE EVIDENCE THAT INVESTORS DEMAND A HIGHER**  
18 **RISK PREMIUM WHEN INTEREST RATES DECLINE, WHAT COST OF**  
19 **EQUITY WOULD YOU HAVE FOUND IF YOU HAD USED ACTUAL**  
20 **INTEREST RATES RATHER THAN FORECASTED INTEREST RATES IN**  
21 **YOUR EX ANTE RISK PREMIUM ANALYSES?**

22 A. The estimated ex ante risk premium cost of equity using the actual interest  
23 rate at the time of my studies would have been 10.0 percent (see Vander  
24 Weide Direct work papers).

1 Q. STAFF CLAIMS THAT IF YOU HAD USED ACTUAL INTEREST RATES ON  
2 LONG-TERM TREASURY BONDS IN YOUR CAPM ANALYSES, YOU  
3 WOULD HAVE OBTAINED CAPM COST OF EQUITY ESTIMATES IN THE  
4 RANGE 7.8 PERCENT TO 9.3 PERCENT (STAFF REBUTTAL AT 14). DO  
5 YOU AGREE?

6 A. No. Ms. Griffin's calculations fail to acknowledge the evidence I present in my  
7 direct testimony that the CAPM underestimates the cost of equity for  
8 companies with betas less than 1.0 (see Vander Weide Direct at 44 – 49) and  
9 the evidence I present in my rebuttal testimony that the CAPM  
10 underestimates the cost of equity for companies such as Empire with small  
11 market capitalizations (see Vander Weide Rebuttal at 21 - 22).

12 Q. DID YOU PROVIDE AN ADJUSTED CAPM THAT ACCOUNTS FOR THE  
13 TENDENCY OF THE CAPM TO UNDERESTIMATE THE COST OF EQUITY  
14 FOR COMPANIES SUCH AS YOUR ELECTRIC UTILITIES WITH BETAS  
15 LESS THAN 1.0?

16 A. Yes. I provided adjusted CAPM cost of equity estimates for my electric utility  
17 proxy groups equal to 10.8 percent and 11.2 percent (Vander Weide Direct at  
18 48 – 49). If one were to use the actual Treasury bond yield of 2.85 percent  
19 discussed in Staff's rebuttal report, the CAPM cost of equity estimates using  
20 the adjusted-beta CAPM would be in the range 9.2 percent for the historical  
21 CAPM ( $2.85 + 0.90 \times 7.0 = 9.2$ ) to 11.1 percent for the DCF-based CAPM  
22 ( $2.85 + 0.90 \times 9.15 = 11.1$ ).

1    **Q.    DID YOU DISCUSS THE NEED TO ADD A SIZE PREMIUM TO CAPM**  
2           **COST OF EQUITY ESTIMATES FOR SMALL MARKET CAPITALIZATION**  
3           **COMPANIES SUCH AS EMPIRE IN YOUR REBUTTAL TESTIMONY?**

4    A.    Yes. I noted that estimates of the risk premium required for small market  
5           capitalization companies such as Empire is approximately 1.7 percent to  
6           1.8 percent (Vander Weide Rebuttal at 22). Adding these small market  
7           capitalization risk premiums to base CAPM cost of equity estimates of  
8           7.8 percent to 9.3 percent calculated using the Treasury bond yield of  
9           2.85 percent produces CAPM cost of equity estimates in the range  
10          9.5 percent to 11.1 percent.

11   **Q.    DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

12   A.    Yes, it does.



AFFIDAVIT OF JAMES H. VANDER WEIDE

STATE OF NORTH CAROLINA )  
  ) ss  
COUNTY OF DURHAM       )

On the 12<sup>th</sup> day of May, 2016, before me appeared James H. Vander Weide, to me personally known, who, being by me first duly sworn, states that he is President of Financial Strategy Associates and acknowledges that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

James H. Vander Weide  
James H. Vander Weide

Subscribed and sworn to before me this 12<sup>th</sup> day of May, 2016.

Tochukwu Chime Ukpa  
Notary Public

My commission expires: 10-04-2016

