Exhibit No. 130
Issue: Rate of Return
Witness: James H. Vander Weide
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Empire District Electric
Case No. ER-2014-0351
Date Testimony Prepared: February 2015

Before the Public Service Commission
of the State of Missouri

Rebuttal Testimony

of

James H. Vander Weide, Ph.D.

March 2015

TABLE OF CONTENTS
OF
DR. JAMES H. VANDER WEIDE
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
ER-2014-0351

REBUTTAL TESTIMONY
OF
DR. JAMES H. VANDER WEIDE
ON BEHALF OF
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. ER-2014-0351

I. INTRODUCTION

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

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

Q. ARE YOU THE SAME JAMES H. VANDER WEIDE WHO PROVIDED DIRECT TESTIMONY BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION ("THE COMMISSION") IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. I have been asked by The Empire District Electric Company ("Empire" or "the Company") to review the Commission Staff Report Cost of Service in this proceeding and the direct testimony of Lance C. Schafer on behalf of the Office of Public Counsel, and to evaluate Staff's and Mr. Schafer's recommended costs of equity for Empire.

Q. IS THERE ANYTHING IN EITHER THE STAFF'S REPORT OR MR. SCHAFER'S DIRECT TESTIMONY THAT WOULD CAUSE YOU TO CHANGE YOUR RECOMMENDED COST OF EQUITY FOR EMPIRE?

A. No.

II. REBUTTAL OF STAFF'S RECOMMENDED RETURN ON EQUITY ("ROE")

Q. WHAT IS STAFF'S RECOMMENDED ROE FOR EMPIRE?

A. Staff recommends that Empire be authorized to earn a 9.5 percent ROE.

Q. HOW DOES STAFF ARRIVE AT ITS RECOMMENDED 9.5 PERCENT AUTHORIZED ROE FOR EMPIRE?

A. Staff arrives at its recommended 9.5 percent ROE for Empire by: (1) preparing an estimate of the cost of equity for an average risk electric utility at this time; (2) comparing Staff's current estimate of the cost of equity for an average risk electric utility to Staff's estimate of the electric utility cost of equity at the time of the 2012 Missouri electric utility rate cases; (3) adjusting the Commission's 2012 authorized ROE for Missouri electric utilities for the change in Staff's estimate of the cost of equity for an average risk electric utility; and (4) adding a 25-basis point risk premium to reflect Staff's view that Empire is more risky than the average regulated electric utility. (Staff Report at 11)

Q. HOW DOES STAFF ESTIMATE THE CURRENT ELECTRIC UTILITY COST OF EQUITY?

A. Staff estimates the current electric utility cost of equity by applying both a single-stage annual and a multi-stage annual Discounted Cash Flow ("DCF") model to a proxy group of fourteen electric utilities and a proxy group of twelve electric utilities which is derived by eliminating two of the companies from the group of fourteen companies. From its single-stage DCF method, Staff obtains an estimated ROE in the range 7.2 percent to 8.2 percent (Staff

Report at 34). From its multi-stage DCF method, Staff obtains an estimated ROE in the range 7.30 percent to 8.10 percent (Staff Report at 35).

As a check on its DCF results, Staff also applies the Capital Asset Pricing Model ("CAPM") to its proxy company groups, obtaining results in the range 6.60 percent to 7.82 percent (Staff Report at 45). As a further check on its DCF results, Staff examines several "rule of thumb" methods, obtaining results in the range 7.02 percent to 8.74 percent (Staff Report at 46).

A. PROXY GROUP OF ELECTRIC UTILITIES

Q. WHAT COMPANIES DOES STAFF INCLUDE IN ITS PROXY GROUP OF ELECTRIC UTILITIES?

A. Staff's proxy group includes fourteen electric utilities: Alliant Energy, Ameren Corp., American Electric Power, CMS Energy Corp., DTE Energy Company, Great Plains Energy, OGE Energy Corp., Pinnacle West Capital, PNM Resources, Inc., Portland General Electric Company, Southern Company, TECO Energy, Inc., Westar Energy, Inc., and Xcel Energy. Staff also reports results for this group when OGE and TECO are eliminated from the group.

Q. HOW DOES STAFF SELECT COMPANIES FOR INCLUSION IN ITS PROXY GROUP?

A. Starting with an initial group of sixty-four power companies followed by SNL Financial, Staff selects fourteen companies that, in its opinion, satisfy the following criteria (Staff Report at 30):

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

Q. YOU NOTE ABOVE THAT STAFF'S COST OF EQUITY RANGE IS BASED ON ITS APPLICATION OF THE DCF MODEL TO A GROUP OF FOURTEEN ELECTRIC UTILITIES AND TO A GROUP OF TWELVE ELECTRIC UTILITIES OBTAINED BY ELIMINATING OGE AND TECO FROM THE LARGER GROUP. WHY DOES STAFF ELIMINATE TWO ADDITIONAL COMPANIES FROM THE PROXY GROUP OF FOURTEEN UTILITIES THAT REMAIN AFTER APPLYING THEIR TEN SELECTION CRITERIA?

A. Staff eliminates OGE and TECO from its initial proxy group because these two companies have a standard deviation of income from regulated utility

operations greater than ten percent for the most recent three years. (Staff Report at 31).

Q. WHAT IS THE PURPOSE OF PROXY SELECTION CRITERIA?

A. The purpose of proxy selection criteria is to identify the largest possible group of comparable risk companies that have sufficient data to reliably apply cost of equity methods such as the DCF, CAPM, and risk premium.

Q. IS IT DESIRABLE TO CHOOSE A RELATIVELY LARGE GROUP OF COMPARABLE RISK COMPANIES?

A. Yes.

Q. PLEASE EXPLAIN.

A. It is desirable to choose a relatively large group of comparable risk companies because the estimate of the cost of equity obtained from applying cost of equity methods to a single company is uncertain. Cost of equity methods such as the DCF, CAPM, and risk premium, require estimates of quantities such as growth rates, betas, and expected risk premiums that necessarily involve a degree of uncertainty. However, the uncertainty in estimating the cost of equity by applying cost of equity methods to a single company can be reduced by applying cost of equity methods to a relatively large group of comparable risk companies. Intuitively, any over- and under-estimate of the cost of equity that arises from the application of cost of equity methods to a single company is averaged out by applying the methods to a larger group of comparable risk companies.

In addition, the choice of a relatively small group of proxy electric utilities requires a great deal of judgment. When the analyst applies judgment

to select a small group of companies, the analyst may be tempted to choose a set of selection criteria that produce a desired result. The analyst can eliminate the possibility of selection bias by starting with the largest possible group of comparable risk companies and eliminating only those companies with insufficient data to estimate the cost of equity.

Q. WHAT PROXY GROUP OF ELECTRIC UTILITIES DO YOU USE FOR THE PURPOSE OF ESTIMATING EMPIRE'S COST OF EQUITY?

A. I use the group of twenty-eight electric utilities shown in Schedule JVW-1 of my direct testimony.

Q. WHAT CRITERIA DO YOU USE TO SELECT PROXY ELECTRIC UTILITIES?

A. As described in my direct testimony, I select all the companies in Value Line's groups of electric utilities that: (1) paid dividends during every quarter of the last two years; (2) did not decrease dividends during any quarter of the past two years; (3) have an I/B/E/S long-term growth forecast; and (4) are not the subject of a merger offer that has not been completed. In addition, each of the utilities included in my comparable groups has an investment grade bond rating and a Value Line Safety Rank of 1, 2, or 3. (Vander Weide Direct at 34).

Q. HOW DOES THE AVERAGE INVESTMENT RISK OF STAFF'S SMALLER GROUPS OF FOURTEEN AND TWELVE ELECTRIC UTILITIES COMPARE TO THE AVERAGE INVESTMENT RISK OF YOUR LARGER PROXY GROUP OF TWENTY-EIGHT ELECTRIC UTILITIES?

A. Staff's proxy groups of fourteen and twelve electric utilities have the same investment risk as my proxy group of twenty-eight electric utilities. For example, the average S&P bond rating for both my large proxy electric utilities group and Staff's smaller groups of electric utilities is BBB+, and the average Value Line Safety Rank for these groups is 2 (see Rebuttal Schedule JVW-1).

Q. STAFF'S PROXY GROUPS HAVE SIMILAR AVERAGE INVESTMENT RISK AS YOUR PROXY GROUP, BUT STAFF USES SMALLER PROXY GROUPS. WHY ARE STAFF'S PROXY GROUPS SMALLER THAN YOUR PROXY GROUP?

A. Staff employs three proxy selection criteria that have little or no relationship to investment risk: (1) the requirement that a company must be classified as a regulated electric utility by EEI; (2) the requirement that a company must have at least twenty-five percent of plant from generation; and (3) the requirement that the company must have at least eighty percent of income from regulated utility operations. Staff's use of these criteria reduces its sample size by thirty-nine companies, without improving the risk comparability of its proxy group.

Q. HOW DOES EEI CLASSIFY ITS ELECTRIC UTILITY MEMBERS?

A. EEI classifies its electric utility members into three groups based on its estimate of the percentage of a company's total assets that are regulated. The three groups include: (1) "regulated"--regulated assets greater than eighty percent of total assets; (2) "mostly regulated"--regulated assets between fifty percent and eighty percent of total assets; and (3) "diversified"--regulated assets less than fifty percent of total assets.

Q. DOES STAFF PROVIDE ANY EVIDENCE THAT COMPANIES IN EEI'S "REGULATED" ASSET GROUP HAVE LESS RISK THAN COMPANIES IN EEI'S "MOSTLY REGULATED" AND "DIVERSIFIED" GROUPS?

A. No.

Q. DO YOU HAVE EVIDENCE THAT EEI'S "REGULATED" ASSET GROUP OF ELECTRIC UTILITIES HAS THE SAME AVERAGE INVESTMENT RISK AS EEI'S "MOSTLY REGULATED" GROUP OF UTILITIES?

A. Yes. My proxy electric utilities include twenty companies classified by EEI as "regulated," and seven companies classified as "mostly regulated." Yet the average risk ratings for the companies classified as "regulated" utilities are the same as those for the companies classified as "mostly regulated." For example, the average Value Line Safety Rank for the companies classified as "regulated" is 2, and the average S&P bond rating is BBB+, the same average Safety Rank and S&P bond rating as those classified as "mostly regulated." (See Vander Weide Rebuttal Schedule JVW-1.)

Q. ARE THERE ANY COMPANIES IN YOUR PROXY GROUP OF UTILITIES THAT ARE NOT CLASSIFED OR ARE CLASSIFIED AS "DIVERSIFIED"?

A. Yes. ITC Holdings is not a member of the Edison Electric Institute, and, therefore, does not have an EEI classification. In addition, the EEI classification for Hawaiian Electric has changed from being classified as "mostly regulated" at the time I prepared my testimony to being classified as "diversified" now.

Q. WHAT ARE THE VALUE LINE SAFETY RANKINGS AND STANDARD & POOR'S BOND RATINGS FOR ITC HOLDINGS AND HAWAIIAN ELECTRIC?

A. ITC Holdings has a Value Line Safety Rank of 2 and a Standard & Poor's bond rating of A-, and Hawaiian Electric has a Value Line Safety Rank of 2 and a Standard & Poor's bond rating of BBB-. (I note that Hawaiian Electric would no longer be included in my cost of equity studies because it is being acquired by Next Era.)

Q. ARE ITC HOLDINGS' RATES SUBJECT TO REGULATION?

A. Yes. ITC Holdings' rates are regulated by the Federal Energy Regulatory Commission.

Q. DOES STAFF PROVIDE ANY EVIDENCE THAT THE PERCENT OF PLANT FROM GENERATION IS AN INDICATOR OF INVESTMENT RISK?

A. No.

Q. DO YOU HAVE EVIDENCE THAT THE PERCENT OF PLANT FROM GENERATION IS NOT AN INDICATOR OF A COMPANY'S INVESTMENT RISK?

A. Yes. Staff eliminates seven companies as a result of their failure to meet Staff's criterion that the percent of plant from generation must be greater than twenty-five percent (see Staff Schedule 8). The average Value Line Safety Rank for these companies is slightly greater than 2, and the average Standard & Poor's bond rating for these companies is approximately BBB+, similar to the average Safety Rank and bond rating as Staff's selected companies. (See TABLE 1.)

TABLE 1
COMPANIES ELIMINATED BECAUSE DID NOT HAVE GREATER THAN 25% PLANT ASSOCIATED WITH GENERATION

LINE	COMPANY	EEI STATUS	SAFETY RANK	S&P BOND RATING	S&P BOND RATING (NUMERICAL)
1	Consol. Edison	R	1	A-	5
2	Edison Int'l	R	2	BBB+	6
3	Northeast Utilities	R	2	A-	5
4	NorthWestern Corp.	R	3	BBB	7
5	Pepco Holdings	R	3	BBB+	6
6	PG&E Corp.	R	3	BBB	7
7	UIL Holdings	R	2	BBB	7
8	Average		2		6

Q. DOES STAFF PROVIDE ANY EVIDENCE THAT THE PERCENT OF INCOME FROM REGULATED UTILITY OPERATIONS IS AN INDICATOR OF INVESTMENT RISK?

A. No.

Q. DO YOU HAVE EVIDENCE THAT THE PERCENT OF INCOME FROM REGULATED UTILITY OPERATIONS IS NOT AN INDICATOR OF A COMPANY'S INVESTMENT RISK?

A. Yes. Staff eliminates four companies as a result of their failure to meet Staff's criterion that the percent of income from regulated utility operations must be greater than eighty percent (see Staff Schedule 8). The average Value Line Safety Rank for these companies is slightly greater than 2, and the average Standard & Poor's bond rating for these companies is approximately BBB+, similar to the average Safety Rank and bond rating as Staff's selected companies. (See TABLE 2.)

TABLE 2
COMPANIES ELIMINATED BECAUSE DID NOT HAVE GREATER THAN 80% INCOME ASSOCIATED WITH REGULATED UTILITY OPERATIONS

LINE	COMPANY	EEI STATUS	SAFETY RANK	S&P BOND RATING	S&P BOND RATING (NUMERICAL)
1	Duke	R	2	BBB+	6
2	Entergy	R	3	BBB	7
3	Otter Tail Corp	R	3	BBB	7
4	Wisconsin Energy Corporation	R	1	A-	5
5	Average		2		6

Q. ARE THERE ANY OTHER PROBLEMS WITH STAFF'S SELECTION CRITERIA?

A. Yes. First, Staff's criteria that proxy electric utilities must have a certain percentage of regulated assets, plant from generation, or income from regulated utility operations, each relate to a potential single dimension of risk rather than to an overall assessment of a company's equity risk. A problem with using a potential single dimension of risk, such as percent regulated electric assets or income, is that a company may be eliminated based on a single dimension of risk, even though the company's overall risk may be comparable to those included in the proxy group.

Second, Staff provides no justification for the cut-off values it uses for percent regulated assets and income. Staff's criterion requiring a proxy company to have at least twenty-five percent of assets related to generation plant and eighty percent of income from regulated utility operations, for example, are arbitrary. Similarly, Staff provides no justification for limiting its proxy group to EEI's "regulated" classification, rather than including "regulated" and "mostly regulated."

Third, Staff fails to recognize that it is quite difficult to quantify the percentage of a company's business that is classified as "regulated." Ideally, one would measure percent regulated versus percent non-regulated based on the market values of a company's regulated and non-regulated businesses. However, since the individual business segments are not market traded, there is no market value for these business segments. Although an analyst might attempt to quantify "percent regulated" and "percent unregulated" using accounting variables such as assets or revenues as a substitute for market values, these accounting categories are imperfect because the accounting for regulated assets and revenues is likely not comparable from one company to another, and accounting values are imperfect indicators of market values.

Q. CAN THE RISKS OF INVESTING IN AN ELECTRIC UTILITY BE EASILY QUANTIFIED?

A. No. Because risk is forward looking and the future is uncertain, risk cannot be precisely quantified. In addition, efforts to make a comparable group to be precisely comparable in risk would cause the size of the sample group to be so small as to reduce the accuracy of the cost of equity estimate.

Q. DO COMPARABLE RISK COMPANIES HAVE TO BE COMPARABLE IN EVERY RISK DIMENSION TO THE COMPANY WHOSE COST OF EQUITY IS BEING DETERMINED?

A. No. Comparable companies should be comparable in average overall risk to the company whose cost of equity is being determined.

Q. YOU MENTION THAT STAFF ELIMINATES ELECTRIC UTILITIES THAT ARE CATEGORIZED BY EEI AS HAVING PERCENT REGULATED

ASSETS EQUAL TO OR LESS THAN EIGHTY PERCENT. HOW DOES EEI DETERMINE THE PERCENT OF AN ELECTRIC UTILITY'S REGULATED ASSETS?

A. EEI states that its categorization is based "on the previous year-end's business segmentation data presented in 10Ks and supplemented by discussions with parent companies." (See EEI 2013 Financial Review, Annual Report of the U.S. Shareholder-owned Electric Utility Industry, page 37.)

Q. DO ELECTRIC UTILITY COMPANY FORM 10-KS PROVIDE SPECIFIC INFORMATION ON THE PERCENTAGE OF THE COMPANY'S TOTAL ASSETS THAT ARE REGULATED?

A. No. Electric utility company Form 10-Ks only provide information on the book value of assets that are administratively located in each of the company's business segments. Because many electric utilities have business segments with both regulated and unregulated assets, and electric utilities are not required to report the percentage of regulated assets in each business segment, any conclusion regarding the percentage of an electric utility's total assets that are regulated may be subjective.

Q. CAN YOU ILLUSTRATE THE DIFFICULTY IN DETERMINING THE PERCENTAGE OF A UTILITY'S ASSETS THAT ARE REGULATED?

A. Yes. For example, consider the segment information provided in Dominion Resources' 2013 10-K. (Staff eliminates Dominion Resources because EEI categorizes Dominion as having eighty percent or less of regulated assets.) Dominion Resources describes its primary business segments as follows:

> Dominion manages its daily operations through three

primary operating segments: DVP, Dominion Generation and Dominion Energy. Dominion also reports a Corporate and Other segment, which includes its corporate, service company and other functions (including unallocated debt) and the net impact of operations that are discontinued, which is discussed in Note 3 to the Consolidated Financial Statements. In addition, Corporate and Other includes specific items attributable to Dominion's other operating segments that are not included in profit measures evaluated by executive management in assessing the segments' performance or allocating resources among the segments.

Virginia Power manages its daily operations through two primary operating segments: DVP and Dominion Generation. It also reports a Corporate and Other segment that primarily includes specific items attributable to its operating segments that are not included in profit measures evaluated by executive management in assessing the segments' performance or allocating resources among the segments.

While daily operations are managed through the operating segments previously discussed, assets remain wholly-owned by Dominion and Virginia Power and their respective legal subsidiaries.

A description of the operations included in the Companies' primary operating segments is as follows:

PRIMARY OPERATING SEGMENT	DESCRIPTION OF OPERATIONS	DOMINION	VIRGINIA POWER
DVP	Regulated electric distribution	X	X
	Regulated electric transmission	X	X
Dominion Generation	Regulated electric fleet	X	X
	Merchant electric fleet	X	
	Nonregulated retail energy marketing (electric and gas)[(1)]	X	
Dominion Energy	Gas transmission and storage	X	
	Gas distribution and storage	X	
	LNG services	X	
	Producer services	X	

(1) As a result of Dominion's decision to realign its business units effective for 2013 year-end reporting, nonregulated retail energy marketing operations were moved from DVP to the Dominion Generation segment. [*See* Dominion Resources 2013 10-K at 9.]

From the above description and the information in the table above, we see that Dominion has regulated assets in each of its three primary business

segments and that the Dominion Generation and Dominion Energy business segments have both regulated and non-regulated assets. However, from the available business segment information, it is not possible to tell exactly what percentage of the assets in Dominion Generation and Dominion Energy are regulated.

Q. ARE ALL OF DOMINION'S REGULATED ASSETS LOCATED IN ITS THREE PRIMARY BUSINESS SEGMENTS?

A. No. In addition to DVP, Dominion Generation, and Dominion Energy, Dominion Resources also has a business segment called "Corporate and Other." As explained in Dominion's 2013 10-K, Dominion's Corporate and Other segment includes corporate and service company assets as well as the net impact of operations that have been discontinued. To the extent that Dominion's corporate and service company functions relate to Dominion's regulated businesses, some (perhaps a large percentage) of the assets in the Corporate and Other segment are also properly associated with Dominion's regulated businesses.

Q. WHAT TOTAL ASSET INFORMATION DOES DOMINION RESOURCES PROVIDE IN ITS 2013 FORM 10-K SEGMENT REPORT?

A. Dominion Resources provides the following total asset values by segment at year end 2013 (see Dominion Resources 2013 Form 10-K at 129):

TABLE 3
DOMINION RESOURCES' TOTAL ASSETS BY SEGMENT AT YEAR-END 2013
($BILLIONS)

	DVP	DOMINION GENERATION	DOMINION ENERGY	CORPORATE AND OTHER	ADJUSTMENTS AND ELIMINATIONS	TOTAL
Total Assets	11.9	22	12.1	8.5	-4.4	50.1

Q. FROM THE INFORMATION IN TABLE 3, WE SEE THAT A RELATIVELY HIGH AMOUNT OF TOTAL ASSETS ARE IN THE DOMINION GENERATION BUSINESS SEGMENT. ARE DOMINION'S GENERATION ASSETS MORE RISKY THAN DISTRIBUTION AND TRANSMISSION ASSETS?

A. No. A large percentage of Dominion's generation assets are regulated under attractive long-term incentive riders that allow Dominion to earn a higher return on equity than the regulated distribution and transmission assets.

Q. IN SUMMARY, DOES DOMINION RESOURCES PROVIDE SUFFICIENT INFORMATION IN ITS 2013 FORM 10-K SEGMENT REPORT TO DETERMINE PRECISELY THE PERCENTAGE OF DOMINION'S TOTAL ASSETS THAT ARE REGULATED?

A. No. The percent of regulated assets can only be estimated with uncertainty.

Q. THE ABOVE INFORMATION FROM DOMINION'S SEGMENT REPORT RELATES TO THE VALUE OF ASSETS ON THE COMPANY'S YEAR-END BALANCE SHEET. DOES THE DOMINION RESOURCES 10-K PROVIDE INFORMATION ON THE COMPANY'S PLANS FOR EXPANDING ITS REGULATED BUSINESSES?

A. Yes. The company states:

> Dominion is focused on expanding its investment in regulated electric generation, transmission and distribution and regulated natural gas transmission and distribution infrastructure within and around its existing footprint. With this investment, Dominion expects 80% to 90% of future earnings from its primary operating segments to come from regulated and long-term contracted businesses. [Dominion Resources 2013 Form 10-K at 8, emphasis added]

Q. WHAT CONCLUSION DO YOU DRAW FROM YOUR ANALYSIS OF STAFF'S PROXY GROUP?

A. I conclude that the Commission should rely on my proxy group to estimate Empire's cost of equity. As I have demonstrated, my proxy group has similar investment risk, but includes a significantly larger sample of companies than Staff's proxy group. Since one may generally obtain more accurate estimates of the cost of equity by using a larger sample of comparable risk companies, the Commission should rely on my proxy electric utilities to estimate Empire's cost of equity.

B. STAFF'S DCF MODELS

Q. WHAT DCF MODELS DOES STAFF USE TO ESTIMATE EMPIRE'S COST OF EQUITY?

A. Staff estimates Empire's cost of equity using both a single-stage annual DCF model and a multi-stage annual DCF model.

Q. PLEASE DESCRIBE STAFF'S SINGLE-STAGE ANNUAL DCF MODEL.

A. Staff's single-stage annual DCF model is of the form, $k = D_1/P_0 + g$, where k is the cost of equity, D_1 is the expected first period dividend, P_0 is the current stock price, and g is the average expected future growth in the company's earnings and dividends per share.

1. Staff's Single-Stage Annual DCF Model

Q. WHAT ARE THE BASIC ASSUMPTIONS OF STAFF'S SINGLE-STAGE ANNUAL DCF MODEL?

A. Staff's single-stage annual DCF model is based on the assumptions that: (1) a company's stock price is equal to the present value of the future dividends investors expect to receive from their investment in the company; (2) dividends are paid annually; (3) dividends, earnings, and book value are expected to grow at the same constant rate forever; and (4) the first dividend is received one year from the date of the analysis.

Q. YOU NOTE THAT ONE ASSUMPTION OF STAFF'S SINGLE-STAGE ANNUAL DCF MODEL IS THAT DIVIDENDS ARE PAID ANNUALLY. DO ANY OF STAFF'S PROXY ELECTRIC UTILITIES, IN FACT, PAY DIVIDENDS ANNUALLY?

A. No. All of Staff's proxy electric utilities pay dividends quarterly.

Q. CAN STAFF'S SINGLE-STAGE ANNUAL DCF MODEL BE MATHEMATICALLY DERIVED FROM THE ASSUMPTION THAT DIVIDENDS ARE PAID QUARTERLY?

A. No. Staff's single-stage annual DCF model can only be derived from the assumption that dividends are paid annually. When dividends are paid quarterly, the quarterly DCF model is the only model that can be mathematically derived from the underlying DCF assumption that a company's stock price is equal to the discounted present value of all expected future dividends. Since Staff's proxy electric utilities pay dividends quarterly,

Staff should have used a quarterly DCF model to estimate Empire's cost of equity.

Q. YOU ALSO MENTION THAT STAFF'S SINGLE-STAGE DCF MODEL REQUIRES AN ESTIMATE OF THE EXPECTED FIRST PERIOD DIVIDEND FOR EACH COMPANY. HOW DOES STAFF ESTIMATE THE EXPECTED FIRST PERIOD DIVIDEND FOR ITS SINGLE-STAGE ANNUAL DCF MODEL?

A. Staff uses the FactSet projected 2015 dividend per share for each company as its estimate of the expected first period dividend in its single-stage annual DCF model. (Staff Report at 32)

Q. DO YOU AGREE WITH STAFF'S USE OF THE FACTSET PROJECTED 2015 DIVIDEND PER SHARE FOR EACH COMPANY AS THE ESTIMATE OF THE EXPECTED FIRST PERIOD DIVIDEND IN ITS APPLICATION OF THE DCF MODEL?

A. No. Staff's single-stage annual DCF model is based on the assumptions that dividends are paid annually and grow at the same constant rate forever. Under these assumptions, the cost of equity is given by the equation, $k = D_0 (1 + g) / P_0 + g$, where D_0 is the current annualized dividend, P_0 is the stock price, and g is the expected constant annual growth rate. Thus, the correct first period dividend in the single-stage annual DCF model is the current annualized dividend multiplied by the factor, (*1 + growth rate*). (See Vander Weide direct testimony, Appendix 2.)

Q. HOW DOES STAFF ESTIMATE THE GROWTH COMPONENT OF ITS DCF MODEL?

A. Staff reviews historical five- and ten-year growth rates in dividends per share ("DPS"), earnings per share ("EPS"), and book value per share ("BPS"), as reported in SNL, along with Staff's calculations of projected three-year growth rates in DPS, EPS, and BPS, and five-year forecasts of EPS growth obtained from FactSet. From its review of these data, Staff obtains three growth indicators for its proxy electric utilities (the following table reproduces the average growth rates reported on Staff's Schedule 10-6). Because Staff believes that most of the forecasted growth rates are unsustainably high for electric utilities, Staff applies its judgment to choose a growth rate in the range 3.5 percent to 4.5 percent for its proxy electric utilities in its constant growth DCF model (Staff Report at 34 and Schedule 12).

TABLE 4
ELECTRIC UTILITY GROWTH RATES REPORTED BY STAFF
SCHEDULE 10-6

COMPANY	10-YR HISTORICAL DPS, EPS, BVPS GROWTH (%)	5-YR DPS, EPS, BVPS (%)	FORECASTED EPS GROWTH (%)
Alliant Energy	4.23	3.36	4.90
Ameren Corp.	-2.70	-5.96	8.43
American Electric Power	2.48	2.90	5.18
CMS Energy Corp.	NM	NM	5.98
DTE Energy Company	3.14	3.49	5.95
Great Plains Energy	-0.26	-3.13	4.62
OGE Energy Corp.	7.20	6.48	5.87
Pinnacle West Capital	2.42	2.74	4.00
PNM Resources, Inc.	0.67	NM	7.43
Portland General Electric	-1.29	2.58	7.74
Southern Company	4.01	3.56	3.71
TECO Energy, Inc.	-2.71	0.67	6.65
Westar Energy, Inc.	4.51	3.79	3.38
Xcel Energy	1.29	4.30	4.97
Average	**1.77**	**2.06**	**5.63**

COMPANY	10-YR HISTORICAL DPS, EPS, BVPS GROWTH (%)	5-YR DPS, EPS, BVPS (%)	FORECASTED EPS GROWTH (%)
Average exclude OGE, TECO	**1.68**	**1.76**	**5.52**

Q. DO YOU AGREE WITH STAFF'S USE OF HISTORICAL GROWTH RATES TO ESTIMATE INVESTORS' EXPECTATIONS WHEN ANALYSTS' GROWTH EXPECTATIONS FOR STAFF'S PROXY ELECTRIC UTILITIES ARE READILY AVAILABLE?

A. No. Historical growth rates are inherently inferior to analysts' forecasts because analysts' forecasts already incorporate all relevant information regarding historical growth rates and also incorporate the analysts' knowledge about current conditions and expectations regarding the future. My studies indicate that the correlation between analysts' growth forecasts and stock prices is significantly higher than the correlation between historical growth rates and stock prices.

Q. DO YOU AGREE WITH STAFF'S USE OF ANALYSTS' EARNINGS PER SHARE GROWTH FORECASTS TO ESTIMATE THE GROWTH COMPONENT OF ITS DCF MODEL?

A. Yes. Analysts' growth forecasts are superior to historical growth rates because they incorporate all relevant information regarding current and future economic conditions. In addition, as discussed in my direct testimony, my studies indicate that analysts' growth forecasts are more highly correlated with stock prices than historical growth rates. This result is consistent with the hypothesis that investors use analysts' growth forecasts in making stock buy

and sell decisions. Since the DCF model requires the growth estimates of investors, and investors use analysts' growth forecasts in making stock buy and sell decisions, analysts' growth forecasts are the best estimate of future growth in the DCF model.

Q. DOES THE DCF MODEL REQUIRE THE GROWTH FORECASTS OF INVESTORS OR THE GROWTH FORECASTS OF STAFF?

A. The DCF model requires the growth forecasts of investors because investors' growth forecasts are impounded in stock prices.

Q. DO YOU HAVE EVIDENCE THAT INVESTORS USE THE ANALYSTS' GROWTH FORECASTS RATHER THAN HISTORICAL GROWTH RATES?

A. Yes. I report such evidence in my direct testimony at pages 32 - 33.

Q. TO ASSESS THE REASONABLENESS OF STAFF'S SINGLE-STAGE DCF MODEL RESULT, HAVE YOU UPDATED YOUR ELECTRIC UTILITY DCF ANALYSIS USING DATA THROUGH DECEMBER 2014?

A. Yes. Using capital market data through December 2014, I obtain an average DCF result equal to 9.94 percent, approximately the same as the 10.0 percent DCF result I obtained at the time I filed my direct testimony (see Rebuttal Schedule JVW-2).

2. Staff's Multi-Stage DCF Model

Q. WHAT ARE THE BASIC ASSUMPTIONS OF STAFF'S MULTI-STAGE DCF MODEL?

A. Staff's multi-stage DCF model is based on the assumptions that investors believe all electric utilities will grow at the average of the analysts' EPS growth rates for five years, grow at a rate that steadily declines in years six

through ten to Staff's three percent to four percent estimates of perpetual growth, and then grow at rates in the range three to four percent in perpetuity. Specifically, Staff calculates multi-stage DCF results using terminal growth rates of 3 percent, 3.5 percent, and 4 percent (Staff Schedules 15-1, 15-2, and 15-3).

Q. WHY DOES STAFF RECOMMEND THE USE OF A MULTI-STAGE DCF MODEL RATHER THAN THE USE OF ITS SINGLE-STAGE DCF MODEL TO ESTIMATE EMPIRE'S COST OF EQUITY IN THIS PROCEEDING?

A. Staff recommends using a multi-stage DCF model because Staff believes that the analysts' five-year EPS growth forecasts for electric utilities are not sustainable in the long run:

> The constant-growth DCF model may not yield reliable results if industry and/or economic circumstances cause expected near-term growth rates to be inconsistent with sustainable perpetual growth rates.33 Consequently, as in the last rate case, Staff again performed a multi-stage DCF analysis in this case and is relying primarily on this analysis to draw conclusions on the change in the cost of common equity since the last rate case because the multi-stage DCF is dynamic enough to consider changes in near-term growth rates, but still maintain a consistent perpetual growth rate as this rate should not change much, if any, because there have been no structural changes in the economy or industry to support it. (Staff Report at 34.)

Q. DO YOU AGREE WITH STAFF'S OPINION THAT ANALYSTS' PROJECTED GROWTH RATES FOR ELECTRIC UTILITIES ARE NOT SUSTAINABLE IN THE LONG RUN?

A. No. First, I disagree with Staff's attempt to impose its view of "sustainability" on investors. The cost of equity is determined by investors in the marketplace, not by Staff. If investors use analysts' growth forecasts in making stock buy and sell decisions—and my studies indicate that they do—the analysts'

growth forecasts should be used to estimate the growth component of the DCF model, whether or not Staff believes these growth forecasts are "sustainable."

Second, Staff fails to recognize that investor growth forecasts affect stock prices. If Staff believes that investors' growth forecasts are irrational, Staff should adjust the stock prices for the companies in its DCF analyses as well as the growth forecasts. Making such an adjustment to the stock price would significantly increase the results of Staff's multi-stage DCF analysis.

Q. HAVE YOU DONE ANY STUDIES ON THE GROWTH RATES THAT INVESTORS USE TO VALUE STOCKS IN THE MARKETPLACE?

A. Yes. As discussed in my direct testimony, my studies indicate that investors use analysts' forecasted EPS growth rates to value stocks in the marketplace.

Q. YOU NOTE THAT STAFF ASSUMES THAT ELECTRIC UTILITIES WILL GROW AT A CONSTANT RATE OF THREE PERCENT TO FOUR PERCENT IN THE LONG RUN. HOW DOES STAFF ARRIVE AT ITS THREE TO FOUR PERCENT ESTIMATE OF LONG-TERM GROWTH?

A. Staff arrives at its 3 percent to 4 percent estimate of long-term growth by examining data on the rolling ten-year average growth rates in DPS, EPS, and BPS for Central region electric utilities from 1968 through 1999 (Staff Report at 37 – 39).

Q. DO YOU AGREE WITH STAFF'S USE OF AVERAGE HISTORICAL GROWTH IN DPS, EPS, AND BPS TO FORECAST LONG-RUN FUTURE GROWTH IN THE DCF MODEL?

A. No. As discussed above and in my direct testimony, the DCF model requires the growth forecasts of investors, and my studies indicate that investors use the analysts' EPS growth forecasts to forecast long-run future growth in the DCF model. In addition, historical growth rates are strongly influenced by accounting adjustments and one-time write-offs that do not relate to a company's expected future growth.

Q. STAFF RECOGNIZES THAT MULTI-STAGE DCF MODEL RESULTS ARE "EXTREMELY SENSITIVE" TO THE ASSUMED LONG-TERM GROWTH RATE (STAFF REPORT AT 36). DID THE COMMISSION ACCEPT THE STAFF'S LONG-TERM GROWTH ASSUMPTION IN THE AMEREN CASE, ER-2010-0036?

A. No. In its Report and Order the Commission stated a preference to use historical GDP growth from 1929 through 2008 to derive an expected growth rate of 6.0 percent for the economy.

Q. HOW DOES THE COMMISSION'S SIX PERCENT ESTIMATE OF EXPECTED LONG-TERM GROWTH COMPARE TO THE AVERAGE ANALYSTS' EPS GROWTH FORECAST FOR STAFF'S PROXY ELECTRIC UTILITIES?

A. As discussed above, the average analysts' EPS growth forecast for Staff's proxy electric utilities is 5.36 percent. Thus, the average analysts' EPS growth forecast is less than the six percent long-term growth forecast the Commission accepted in the Ameren Order.

C. STAFF CAPM ANALYSIS

Q. WHAT IS THE CAPM?

A. The CAPM is an equilibrium model in which the expected rate of return on an investment in a company is equal to a risk-free rate of interest, plus an expected risk premium, where the expected risk premium is the product of a company-specific risk factor, or beta, and the expected risk premium on the market portfolio of all securities.

Q. HOW DOES STAFF USE THE CAPM TO ESTIMATE EMPIRE'S COST OF EQUITY?

A. The CAPM requires estimates of the risk-free rate, the company-specific risk factor, or beta, and the risk premium on the market portfolio. As its estimate of the risk-free rate, Staff uses the average yield to maturity on 30-year Treasury bonds for the three-month period ending December 2014, (2.97 percent). As its estimate of the company-specific risk factor or beta, Staff uses its average estimated betas for its proxy company groups (0.76, 0.78). As its estimate of the risk premium on the market portfolio, Staff uses: (1) the arithmetic mean risk premium on the S&P 500 compared to the return on long-term Treasury bonds for the period 1926 – 2013 (6.20 percent); and (2) the geometric mean risk premium on the S&P 500 compared to the return on long-term Treasury bonds for the period 1926 – 2013 (4.64 percent). Staff obtains its risk premium data from Duff & Phelps' *2014 Valuation Handbook: a Guide to Cost of Capital.* (Staff Report at 45.) I note that the data reported by Staff from Duff & Phelps were obtained from the Ibbotson studies reported in the *2014 Classic Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation, 1926 – 2013 {"the Classic Yearbook").*

Q. WHAT IS THE CLASSIC YEARBOOK'S CURRENT ESTIMATE OF THE REQUIRED MARKET RISK PREMIUM ON STOCK INVESTMENTS COMPARED TO INVESTMENTS IN 20-YEAR U.S. TREASURY BONDS?

A. The Classic Yearbook's current estimate of the required market risk premium is 7.0 percent.

Q. HOW DOES THE CLASSIC YEARBOOK ARRIVE AT ITS 7.0 PERCENT ESTIMATE OF THE REQUIRED MARKET RISK PREMIUM?

A. The Classic Yearbook arrives at its estimate of the required market risk premium by calculating the arithmetic mean return on the S&P 500 and the arithmetic mean income return on 20-year U.S. Treasury bonds over the period 1926 through 2013. The Classic Yearbook then uses the difference between these two arithmetic mean returns as its estimate of the forward-looking market risk premium.

Q. WHY DOES THE CLASSIC YEARBOOK RECOMMEND USING THE ARITHMETIC MEAN RETURN ON THE S&P 500 RATHER THAN THE GEOMETRIC MEAN RETURN ON THIS INDEX IN ORDER TO ESTIMATE THE MARKET RISK PREMIUM?

A. The Classic Yearbook recommends using the arithmetic mean return rather than the geometric mean return in order to estimate the cost of equity because a cost of equity based on the arithmetic mean return is the only cost of equity that will discount the investors' expected future wealth to the current price of the stock (see *Ibbotson® SBBI® Valuation 2013 Yearbook* at 56 – 57 and Schedule EDE JVW-5 in my direct testimony). In addition, the arithmetic mean is most appropriate for use in the CAPM because the CAPM is based

on the assumption that the return is obtained from an additive process, and the arithmetic mean return is additive, whereas the geometric mean return is not. Because the arithmetic mean provides the best estimate of the required market risk premium, the Commission should ignore Staff's CAPM result based on the geometric mean risk premium.

Q. WHAT IS THE DIFFERENCE BETWEEN THE INCOME RETURN ON U.S. TREASURY SECURITIES AND THE TOTAL RETURN ON THESE SECURITIES?

A. The income return considers only the income an investor receives from owning a debt instrument such as U.S. Treasury securities, whereas the total return considers both the income and the capital gain or loss on the investment.

Q. WHY DOES THE CLASSIC YEARBOOK RECOMMEND USING THE INCOME RETURN ON U.S. TREASURY SECURITIES RATHER THAN THE TOTAL RETURN IN ITS RISK PREMIUM ESTIMATE?

A. The Classic Yearbook recommends using the income return rather than the total return on Treasury securities to estimate the risk-free rate component of the equity risk premium because the income return is the only return that is risk free. Since the total return includes capital gains and losses, and capital gains and losses are highly uncertain, the total return is definitely not risk free.

Q. DO YOU HAVE OTHER CRITICISMS OF STAFF'S USE OF THE CAPM TO ESTIMATE EMPIRE'S COST OF EQUITY?

A. Yes. Staff fails to recognize that the CAPM underestimates the cost of equity for companies with betas less than 1.0 and that the CAPM must be adjusted

to include an additional risk premium for small capitalization companies such as Empire District.

Q. WHAT EVIDENCE DO YOU HAVE THAT THE CAPM TENDS TO UNDERESTIMATE THE COST OF EQUITY FOR COMPANIES WITH BETAS LESS THAN 1.0?

A. As described in my direct testimony at page 51 – 54, the original evidence that the unadjusted CAPM tends to underestimate the cost of equity for companies whose equity beta is less than 1.0 and to overestimate the cost of equity for companies whose equity beta is greater than 1.0 was presented in a paper by Black, Jensen, and Scholes, "The Capital Asset Pricing Model: Some Empirical Tests." Numerous subsequent papers have validated the Black, Jensen, and Scholes findings, including those by Litzenberger and Ramaswamy, Banz, Fama and French, and Fama and MacBeth.[1]

Q. DO YOU HAVE ANY EVIDENCE THAT INVESTORS EXPECT TO EARN A HIGHER RATE OF RETURN ON SMALL CAPITALIZATION COMPANIES SUCH AS EMPIRE THAN WOULD BE PREDICTED FROM THE BASIC CAPM EQUATION USED BY STAFF?

A. Yes. The Ibbotson 2014 Classic Yearbook provides evidence that investors require a higher rate of return for investments in low capitalization companies,

---

1 Fischer Black, Michael C. Jensen, and Myron Scholes, "The Capital Asset Pricing Model: Some Empirical Tests," in Studies in the Theory of Capital Markets, M. Jensen, ed. New York: Praeger, 1972; Eugene Fama and James MacBeth, "Risk, Return, and Equilibrium: Empirical Tests," Journal of Political Economy 81 (1973), pp. 607-36; Robert Litzenberger and Krishna Ramaswamy, "The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence." Journal of Financial Economics 7 (1979), pp. 163-95.; Rolf Banz, "The Relationship between Return and Market Value of Common Stocks," Journal of Financial Economics (March 1981), pp. 3-18; and Eugene Fama and Kenneth French, "The Cross-Section of Expected Returns," Journal of Finance (June 1992), pp. 427-465.

such as Empire, than is indicated by Staff's CAPM equation. The most recent estimates of the risk premium required to be added to the basic CAPM cost of equity are shown below in TABLE 5.

TABLE 5
IBBOTSON ESTIMATES OF CAPM
SMALL COMPANY SIZE PREMIA[2]

DECILE	AVERAGE MARKET CAPITALIZATION	SIZE PREMIUM RETURN IN EXCESS OF CAPM
Mid-Cap (3-5)	3,039.333	1.14%
Low-Cap (6-8)	1,281.026	1.87%
Micro-Cap (9-10)	362.703	3.84%

Because Empire is a low-capitalization company, the appropriate size premium is 1.87 percent.

Q. WHAT CONCLUSION DO YOU DRAW FROM THE EVIDENCE THAT THE CAPM TENDS TO UNDERESTIMATE THE COST OF EQUITY FOR SMALL CAPITALIZATION COMPANIES SUCH AS EMPIRE AND COMPANIES SUCH AS ELECTRIC UTILITIES WITH BETAS LESS THAN 1.0?

A. I agree with Staff's recommendation that the Commission give little or no weight to the results of its CAPM analysis in this proceeding.

D. STAFF'S TESTS OF REASONABLENESS

Q. DOES STAFF COMPARE ITS RECOMMENDED 9.5 PERCENT ROE FOR EMPIRE TO RECENT ALLOWED RATES OF RETURN ON EQUITY FOR ELECTRIC UTILITIES ACROSS THE COUNTRY?

[2] Ibbotson® SBBI® 2014 Classic Yearbook at 108, 109.

A. Yes. Staff reports that the average authorized return on equity for electric utilities in 2014 is 9.92 percent (Staff Report at 46).

Q. DOES STAFF ALSO REPORT THE AVERAGE AUTHORIZED RETURNS FOR INTEGRATED ELECTRIC UTLITIES (EXCLUDING RIDER CASES) IN BOTH FULLY LITIGATED AND SETTLED CASES?

A. Yes. Staff reports that the average authorized return for integrated electric utilities (excluding rider cases) in 2014 was 10.05 percent for fully litigated cases, and that the average authorized ROE for integrated electric utilities (excluding rider cases) in 2014 in both settled and fully litigated cases was 9.95 percent. (Staff Report at 47)

Q. DOES STAFF'S EVIDENCE ON AVERAGE AUTHORIZED RETURNS ON EQUITY IN 2014 FOR INTEGRATED ELECTRIC UTILITIES SUPPORT EITHER STAFF'S DCF COST OF EQUITY ESTIMATES IN THE APPROXIMATE RANGE OF 7.3 PERCENT TO 8.0 PERCENT OR STAFF'S 9.5 PERCENT RECOMMENDED ROE IN THIS PROCEEDING?

A. No. The average authorized returns are evidence that Staff's cost of equity estimate understates Empire's cost of equity by at least 200 to 300 basis points and that Staff's recommended ROE is inadequate to allow Empire to earn a return on equity that is commensurate with authorized returns for other utilities of comparable risk.

Q. IF ONE ACCEPTS STAFF'S OPINION THAT EMPIRE REQUIRES AT LEAST A 25-BASIS-POINT RISK PREMIUM TO REFLECT ITS HIGHER THAN AVERAGE INVESTMENT RISK, WHAT DOES THE 10.0 PERCENT AVERAGE AUTHORIZED RETURN FOR INTEGRATED ELECTRIC

UTILITIES IN 2014 IMPLY ABOUT THE REASONABLENESS OF STAFF'S RECOMMENDED 9.5 PERCENT RETURN ON EQUITY FOR EMPIRE IN THIS PROCEEDING?

A. The average authorized return on equity evidence implies that Staff's 9.5 percent recommended rate of return for Empire is unreasonably low. Adding Staff's 25-basis-point risk premium to the 10.0 percent average authorized rate of return for integrated electric utilities suggests that regulators in other states would likely assess Empire's cost of equity to be at least 10.25 percent.

Q. PLEASE SUMMARIZE YOUR EVIDENCE ON THE REASONABLENESS OF THE STAFF'S 9.5 PERCENT RECOMMENDED ROE IN THIS PROCEEDING?

A. I find that the Staff's 9.5 percent recommended ROE in this proceeding is less than: (1) the 10.0 percent average allowed return on equity for all electric utilities in 2014; (2) the 10.25 percent return on equity one would obtain by adding a 25-basis-point risk premium to the 10.0 percent average allowed return on equity for all integrated electric utilities in 2014; and (3) the 9.94 percent DCF result I obtain by applying my DCF Model to a large proxy group of electric utilities using data through December 2014. These comparisons suggest that Staff's recommended 9.5 percent return on equity understates Empire's cost of equity by 40 to 75 basis points.

III. REBUTTAL OF MR. SCHAFER

Q. WHAT IS MR. SCHAFER'S RECOMMENDED COST OF EQUITY FOR EMPIRE?

A. Mr. Schafer recommends a 9.05 percent cost of equity for Empire.

Q. HOW DOES MR. SCHAFER ESTIMATE EMPIRE'S COST OF EQUITY?

A. Mr. Schafer estimates Empire's cost of equity by applying several cost of equity methods to a proxy group of eleven electric utilities. His cost of equity methods include: (1) a single-stage DCF model; (2) a multi-stage DCF model; and (3) a Capital Asset Pricing Model ("CAPM").

A. MR. SCHAFER'S PROXY ELECTRIC UTILITIES

Q. WHAT PROXY ELECTRIC UTILITIES DOES MR. SCHAFER USE TO ESTIMATE EMPIRE'S COST OF EQUITY?

A. Mr. Schafer uses a group of eleven Value Line electric utilities, including Alliant Energy, Ameren Corp., American Electric Power, Great Plains Energy, IDACORP, Pinnacle West Capital, PNM Resources, Inc., Portland General Electric Company, Southern Company, Westar Energy, Inc., and Xcel Energy.

Q. HOW DOES MR. SCHAFER'S PROXY GROUP OF ELEVEN ELECTRIC UTILITIES DIFFER FROM STAFF'S PROXY GROUP OF TWELVE ELECTRIC UTILITIES?

A. Mr. Schafer's proxy group differs from Staff's proxy group in that Mr. Schafer does not include CMS Energy and DTE and he includes IDACORP.

Q. GIVEN THE SIMILARITY OF MR. SCHAFER'S AND STAFF'S PROXY GROUPS, DO YOUR REBUTTAL COMMENTS REGARDING STAFF'S PROXY GROUP APPLY TO MR. SCHAFER'S PROXY GROUP AS WELL?

A. Yes. In my rebuttal of Staff, I demonstrate that Staff's proxy groups of fourteen and twelve electric utilities have the same investment risk as my

proxy group of twenty-eight electric utilities, even though Staff employs more selection criteria than I. Similarly, Mr. Schafer's smaller proxy group and my larger proxy group have similar investment risk as measured by Value Line Safety Rank and Standard & Poor's bond rating.

Q. WHAT IS THE EVIDENCE THAT MR. SCHAFER'S AND YOUR PROXY GROUPS HAVE SIMILAR INVESTMENT RISK?

A. The average Value Line Safety Rank for Mr. Schafer's proxy utilities is 2, and the average Standard & Poor's bond rating for his utilities is BBB+, the same ratings as for my proxy group of electric utilities. See Rebuttal Schedule JVW-3.

Q. RECOGNIZING THAT MR. SCHAFER'S PROXY GROUP HAS SIMILAR INVESTMENT RISK TO YOUR PROXY GROUP, BUT IS SMALLER THAN YOUR GROUP, WHAT PROXY GROUP DO YOU RECOMMEND FOR THE PURPOSE OF ESTIMTAING EMPIRE'S COST OF EQUITY?

A. I recommend my proxy group of electric utilities because it has similar average risk as Mr. Schafer's proxy group and also has a larger group of companies in the group. As I discuss in my direct testimony, it is desirable to include a large group of comparable risk companies in a proxy group because standard cost of equity methods such as the discounted cash flow ("DCF"), risk premium, and capital asset pricing model ("CAPM") require inputs of quantities that are not easily measured, but the uncertainty in the estimates of these inputs can be reduced by applying cost of equity methods to a large sample of comparable risk companies.

B. MR. SCHAFER'S DCF ANALYSIS

Q. WHAT DCF MODELS DOES MR. SCHAFER USE TO ESTIMATE EMPIRE'S COST OF EQUITY?

A. Mr. Schafer uses both a single-stage annual and a multi-stage annual DCF model to estimate Empire's cost of equity.

1. Mr. Schafer's Single-stage Annual DCF Model

Q. WHAT IS THE SINGLE-STAGE ANNUAL DCF MODEL?

A. As discussed above, the single-stage annual DCF model is based on the assumptions that: (1) a company's stock price is equal to the present value of the future dividends investors expect to receive from their investment in the company; (2) dividends are paid annually; (3) dividends, earnings, and book values are expected to grow at the same constant rate forever; and (4) the first dividend is received one year from the date of the analysis. Under these assumptions, the cost of equity is given by the equation, $k = D_0 (1 + g) / P_0 + g$, where D_0 is the current annualized dividend, P_0 is the stock price, and g is the company's expected growth in earnings and dividends per share.

Q. HOW DOES MR. SCHAFER ESTIMATE THE EXPECTED FIRST PERIOD DIVIDEND, D_1, IN HIS SINGLE-STAGE ANNUAL DCF MODEL?

A. Mr. Schafer estimates the expected first period dividend by multiplying the most recent quarterly dividend by four, and then multiplying the result by the factor, (1 + half the expected growth rate). Thus, Mr. Schafer assumes that D_1 equals $D_0 (1 + \frac{1}{2} g)$, where D_1 is the expected annualized dividend at the end of the first year, D_0 is the current annualized dividend, and g is the expected growth rate.

Q. DO YOU AGREE WITH MR. SCHAFER'S ESTIMATE OF THE EXPECTED FIRST PERIOD DIVIDEND IN HIS SINGLE-STAGE ANNUAL DCF MODEL?

A. No. As I discuss above, the annual single-stage DCF model is based on the assumption that dividends are paid only at the end of each year. Under Mr. Schafer's assumption that dividends are paid only at the end of each year, the correct first period dividend is $D_1 = D_0 (1 + g)$. Mr. Schafer's equation for the first period dividend, $D_1 = D_0 (1 + \frac{1}{2} g)$, cannot be derived from the assumption that dividends are paid annually.

Q. HOW DOES MR. SCHAFER EXPLAIN HIS USE OF THE EQUATION, $D_1 = D_0 (1 + \frac{1}{2} G)$, TO ESTIMATE THE FIRST PERIOD DIVIDEND?

A. Mr. Schafer explains his use of his equation for the first period dividend by noting that it accounts "for the fact that dividends are paid on a quarterly basis" (Schafer at 13).

Q. IS MR. SCHAFER'S STATEMENT CORRECT?

A. No. When dividends are paid quarterly, the quarterly DCF model described in my direct testimony must be used to estimate the cost of equity because it is the only DCF model that satisfies the underlying assumption of all DCF models that a company's stock price is equal to the present value of expected future dividends. (See Vander Weide direct at 29 – 30 and Appendix 2.)

Q. HOW DOES MR. SCHAFER ESTIMATE THE STOCK PRICE COMPONENT OF HIS ANNUAL DCF MODEL?

A. Mr. Schafer uses the average of his proxy electric utilities' daily high and low stock prices over the thirteen week period ending January 26, 2015.

Q. DOES MR. SCHAFER RECOGNIZE THAT HIS PROXY ELECTRIC UTILITIES' STOCK PRICES INCREASED SIGNIFICANTLY IN DECEMBER 2014 AND JANUARY 2015 AS A RESULT OF RECORD LOW YIELDS ON U.S. TREASURY BONDS?

A. Yes. (Schafer at 16)

Q. DOES MR. SCHAFER ALSO RECOGNIZE THAT AS A RESULT OF THE DRAMATIC RISE IN UTILITY STOCK PRICES IN DECEMBER 2014 AND JANUARY 2015, THE AVERAGE DIVIDEND YIELD FOR HIS PROXY ELECTRIC UTILITIES AS OF JANUARY 26, 2015, 3.19 PERCENT, WAS SIGNIFICANTLY LESS THAN BOTH THE AVERAGE 4.46 PERCENT HISTORICAL DIVIDEND YIELD AND THE 4.33 PERCENT VALUE LINE ESTIMATED DIVIDEND YIELD FOR HIS PROXY ELECTRIC UTILITIES?

A. Yes. (Schafer at 16)

Q. RECOGNIZING THAT THE AVERAGE DIVIDEND YIELD FOR HIS PROXY ELECTRIC UTILITIES IS 127 BASIS POINTS LESS THAN THE HISTORICAL ELECTRIC UTILITY DIVIDEND YIELD AND 114 BASIS POINTS LESS THAN VALUE LINE'S ESTIMATED DIVIDEND YIELD, DOES MR. SCHAFER RECOMMEND ANY ADJUSTMENT TO THE RESULT OF HIS SINGLE-STAGE DCF MODEL?

A. Yes. Mr. Schafer recommends a 60 basis point increase to his average result, arriving at an estimated cost of equity equal to 9.47 percent based on his single-stage DCF model. (Schafer at 16)

2. Mr. Schafer's Multi-Stage Annual DCF Model

Q. YOU NOTE THAT MR. SCHAFER ALSO USES A THREE-STAGE DCF MODEL TO ESTIMATE EMPIRE'S COST OF EQUITY. WHAT GROWTH RATES DOES MR. SCHAFER USE TO ESTIMATE EMPIRE'S EARNINGS GROWTH IN THE THREE STAGES OF HIS MODEL?

A. For the first five-year stage, Mr. Schafer uses the same growth rate that he uses in his single-stage DCF analysis. For the second five-year stage, Mr. Schafer assumes that the proxy electric utilities growth rates will decline linearly to his estimate of long-run GDP growth. For the third stage beginning in year eleven, Mr. Schafer assumes that his proxy electric utilities will grow forever at a constant rate equal to 4.46 percent, his estimate of long-run GDP growth. (Schafer at 27)

Q. DOES MR. SCHAFER RECOMMEND THE SAME 60 BASIS POINT ADJUSTMENT TO THE RESULT OF HIS THREE-STAGE DCF MODEL AS HE RECOMMENDED FOR THE RESULT OF HIS SINGLE-STAGE MODEL?

A. Yes.

Q. DOES MR. SCHAFER GIVE MUCH WEIGHT TO THE RESULTS OF HIS THREE-STAGE DCF MODEL IN THIS PROCEEDING?

A. No. Mr. Schafer's 9.05 percent recommended cost of equity is a simple average of the results of his single-stage DCF model and his CAPM analyses.

C. MR. SCHAFER'S CAPM ANALYSIS

Q. WHAT IS THE CAPM?

A. As I discuss above in my rebuttal of Staff, the CAPM is an equilibrium model in which the expected rate of return on an investment in a company is equal to a risk-free rate of interest, plus an expected risk premium, where the expected risk premium is the product of a company-specific risk factor, or beta, and the expected risk premium on the market portfolio of all securities.

Q. HOW DOES MR. SCHAFER USE THE CAPM TO ESTIMATE EMPIRE'S COST OF EQUITY?

A. The CAPM requires estimates of the risk-free rate, the company-specific risk factor, or beta, and the risk premium on the market portfolio. As his estimate of the risk-free rate Mr. Schafer uses both the interest rate on 30-year Treasury zero coupon STRIPS as of January 25, 2014, 2.48 percent, and a forecast yield on 30-year Treasury bonds, 4.37 percent. As his estimate of the company-specific risk factor, or beta, Mr. Schafer uses the Value Line betas for his proxy electric utilities (average 0.77). As his estimate of the risk premium on the market portfolio, Mr. Schafer uses both: (1) the arithmetic mean and the geometric mean difference between the total return on the S&P 500 compared to the total return on long-term U.S. Treasury bonds for the period 1926 – 2013.

Q. DO YOU AGREE WITH MR. SCHAFER'S USE OF THE CURRENT INTEREST RATE ON 30-YEAR TREASURY ZERO COUPON STRIPS AS OF JANUARY 25, 2015, TO ESTIMATE THE RISK-FREE RATE COMPONENT OF THE CAPM?

A. No. I recommend using the forecasted interest rate on long-term Treasury bonds rather than the current interest rate to estimate the risk-free rate

component of the CAPM because current interest rates are artificially depressed as a result of the Federal Reserve's efforts to stimulate the economy. Because current interest rates are determined more by Federal Reserve policy interventions than by market forces, I believe forecasted interest rates are better indicators of investor-required returns on Treasury securities in the market place.

Q. DO YOU AGREE WITH MR. SCHAFER'S USE OF BOTH GEOMETRIC MEAN AND ARITHMETIC MEAN RETURNS TO ESTIMATE THE RISK PREMIUM ON THE MARKET PORTFOLIO?

A. No. As I describe in my direct testimony, I recommend using the arithmetic mean return rather than the geometric mean return because the arithmetic mean return is the only return that will discount the investor's expected future wealth to the current price of the investment (see Vander Weide Schedule JVW-5).

Q. DO YOU AGREE WITH MR. SCHAFER'S USE OF THE AVERAGE TOTAL RETURN ON LONG-TERM TREASURY BONDS, RATHER THAN THE AVERAGE INCOME RETURN, TO MEASURE THE MARKET-REQUIRED RISK PREMIUM COMPONENT OF THE CAPM?

A. No. The market risk premium component of the CAPM reflects the difference between the expected return on the market portfolio and the risk-free rate of interest. Mr. Schafer should have used the income return on long-term Treasury bonds to measure the risk premium on the market portfolio because the income return is the only return that is risk free. Because the total return

includes capital gains and losses, and capital gains and losses are highly uncertain, the total return is not risk free.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

REBUTTAL SCHEDULE JVW-1
COMPARISON OF AVERAGE VALUE LINE SAFETY RANK
AND STANDARD & POOR'S BOND RATING
FOR VANDER WEIDE PROXY ELECTRIC UTILITIES AND STAFF'S PROXY ELECTRIC UTILITIES

	VANDER WEIDE GROUP	EEI STATUS	SAFETY RANK	S&P BOND RATING	S&P BOND RATING (NUMERICAL)
1	Alliant Energy	R	2	A-	5
2	Amer. Elec. Power	R	2	BBB	7
3	Black Hills	R	3	BBB	7
4	Cleco Corp.	R	1	BBB+	6
5	CMS Energy Corp.	R	2	BBB+	7
6	Dominion Resources	MR	2	A-	5
7	DTE Energy	R	2	BBB+	6
8	Duke Energy	R	2	BBB+	6
9	G't Plains Energy	R	3	BBB+	6
10	Hawaiian Elec.	D	2	BBB-	8
11	Integrys Energy	R	2	A-	5
12	ITC Holdings	N/A	2	A-	5
13	NextEra Energy	MR	2	A-	5
14	Northeast Utilities	R	2	A-	5
15	NorthWestern Corp.	R	3	BBB	7
16	OGE Energy	R	1	A-	5
17	PG&E Corp.	R	3	BBB	7
18	Pinnacle West Capital	R	1	A-	5
19	PNM Resources	R	3	BBB	7
20	Portland General	R	2	BBB	7
21	SCANA Corp.	MR	2	BBB+	6
22	Sempra Energy	MR	2	BBB+	6
23	Southern Co.	R	2	A	4
24	TECO Energy	R	2	BBB+	6
25	UIL Holdings	R	2	BBB	7
26	Vectren Corp.	MR	2	A-	5
27	Wisconsin Energy	R	1	A-	5
28	Xcel Energy Inc.	R	2	A-	5
29	**Average All**		**2**	**BBB+**	**6**
30	**Average MR/D**		**2**	**BBB+**	**6**
31	**Average R**		**2**	**BBB+**	**6**
32	**Average NA**		**2**	**A-**	**5**

AVERAGE VALUE LINE SAFETY RANK AND STANDARD & POOR'S BOND RATING FOR STAFF PROXY ELECTRIC UTILITIES

	STAFF PROXY GROUP	EEI STATUS	SAFETY RANK	S&P BOND RATING	S&P BOND RATING (NUMERICAL)
1	Alliant Energy	R	2	A-	5
2	Ameren Corp.	R	2	BBB+	6
3	American Electric Power	R	2	BBB	7
4	CMS Energy Corporation	R	2	BBB+	7
5	DTE Energy Company	R	2	BBB+	6
6	Great Plains Energy	R	3	BBB+	6
7	OGE Energy Corp.	R	1	A-	5
8	Pinnacle West Capital	R	1	A-	5
9	PNM Resources, Inc.	R	3	BBB	7
10	Portland General Electric	R	2	BBB	7
11	Southern Company	R	2	A	4
12	TECO Energy, Inc.	R	2	BBB+	6
13	Westar Energy, Inc.	R	2	BBB+	6
14	Xcel Energy	R	2	A-	5
15	Average		**2**	**BBB+**	**6**

EEI designations: (1) "R" or "regulated" utilities--regulated assets greater than 80 percent of total assets; (2) "MR" or "mostly regulated"--regulated assets between 50 percent and 80 percent of total assets; and (3) "D" or "diversified"--regulated assets less than 50 percent of total assets. Value Line Safety Rank from The Value Line Investment Analyzer and Standard & Poor's bond ratings from Standard & Poor's website.

REBUTTAL SCHEDULE JVW-2
COMPARISON OF AVERAGE VALUE LINE SAFETY RANK AND
STANDARD & POOR'S BOND RATING FOR
COMPANIES STAFF ELIMINATED
DUE TO <25 PERCENT ELECTRIC PLANT ASSOCIATED WITH GENERATION, <80 PERCENT INCOME FROM REGULATED UTILITY OPERATIONS SELECTION CRITERIA

ELIMINATE <25% ELECTRIC PLANT GENERATION					
	Company	EEI Status	Safety Rank	S&P BOND RATING	S&P BOND RATING (Numerical)
1	Consol. Edison	R	1	A-	5
2	Edison Int'l	R	2	BBB+	6
3	Northeast Utilities	R	2	A-	5
4	NorthWestern Corp.	R	3	BBB	7
5	Pepco Holdings	R	3	BBB+	6
6	PG&E Corp.	R	3	BBB	7
7	UIL Holdings	R	2	BBB	7
8	Average		**2**		**6**

ELIMINATE <80 INCOME FROM REGULATED UTILITY OPERATIONS					
	Company	EEI Status	Safety Rank	S&P BOND RATING	S&P BOND RATING (Numerical)
1	Duke	R	2	BBB+	6
2	Entergy	R	3	BBB	7
3	Otter Tail Corp	R	3	BBB	7
4	Wisconsin Energy Corporation	R	1	A-	5
5	Average		**2**		**6**

See Staff Excel work paper tab "Criteria," which lists companies eliminated by specific selection criterion.

REBUTTAL SCHEDULE JVW-3
SUMMARY OF DISCOUNTED CASH FLOW ANALYSIS
FOR ELECTRIC UTILITIES

LINE	COMPANY	MOST RECENT QUARTERLY DIVIDEND (D_0)	STOCK PRICE (P_0)	FORECAST OF FUTURE EARNINGS GROWTH (G)	DCF MODEL RESULT
1	Alliant Energy	0.510	62.413	4.90%	8.4%
2	Amer. Elec. Power	0.530	57.750	5.20%	9.0%
3	Ameren Corp.	0.410	42.893	8.90%	13.2%
4	CenterPoint Energy	0.238	23.516	3.87%	8.2%
5	CMS Energy Corp.	0.270	32.943	6.60%	10.2%
6	Dominion Resources	0.600	72.655	6.67%	10.3%
7	DTE Energy	0.690	82.255	6.17%	9.8%
8	Duke Energy	0.795	81.145	4.79%	9.0%
9	G't Plains Energy	0.245	26.587	5.00%	8.8%
10	ITC Holdings	0.163	38.626	11.76%	13.6%
11	NextEra Energy	0.725	101.140	6.68%	9.9%
12	Northeast Utilities	0.393	50.085	5.88%	9.3%
13	NorthWestern Corp.	0.400	52.521	7.05%	10.4%
14	OGE Energy	0.250	35.618	6.15%	9.0%
15	PG&E Corp.	0.455	49.990	8.79%	12.9%
16	Pinnacle West Capital	0.595	62.328	3.60%	7.5%
17	PNM Resources	0.185	28.493	9.86%	12.8%
18	Portland General	0.280	36.423	7.97%	11.4%
19	SCANA Corp.	0.525	55.778	5.35%	9.5%
20	Sempra Energy	0.660	108.912	7.71%	10.4%
21	Southern Co.	0.525	47.310	3.34%	8.0%
22	TECO Energy	0.220	19.448	6.43%	11.4%
23	UIL Holdings	0.432	40.740	5.37%	10.0%
24	Vectren Corp.	0.380	44.275	4.50%	8.0%
25	Wisconsin Energy	0.390	49.218	5.44%	8.9%
26	Xcel Energy Inc.	0.300	33.677	4.32%	8.1%
27	Average				9.9%

Notes:

d_0	=	Most recent quarterly dividend from Yahoo.
d_1,d_2,d_3,d_4	=	Next four quarterly dividends, calculated by multiplying the last four quarterly dividends per Value Line by the factor (1 + g).
P_0	=	Average of the monthly high and low stock prices during the three months ending December 2014 per Thomson Reuters.
g	=	I/B/E/S forecast of future earnings growth December 2014 from Thomson Reuters.
k	=	Cost of equity using the quarterly version of the DCF model.

$$k = \frac{d_1(1+k)^{.75} + d_2(1+k)^{.50} + d_3(1+k)^{.25} + d_4}{P_0} + g$$

REBUTTAL SCHEDULE JVW-4
AVERAGE VALUE LINE SAFETY RANK AND
STANDARD & POOR'S BOND RATING FOR MR. SCHAFER'S PROXY ELECTRIC UTILITIES
COMPARED TO VANDER WEIDE PROXY ELECTRIC UTILITIES

LINE	COMPANY	SAFETY RANK	S&P BOND RATING	S&P BOND RATING (NUMERICAL)
1	Alliant Energy Corp	2	A-	5
2	Ameren Corp	2	BBB+	6
3	American Electric Power Company Inc	2	BBB	7
4	Great Plains Energy Inc	3	BBB+	6
5	IDACORP Inc	2	BBB	7
6	Pinnacle West Capital Corp	1	A-	5
7	PNM Resources Inc	3	BBB	7
8	Portland General Electric Company	2	BBB	7
9	Southern Co	2	A	4
10	Westar Energy Inc	2	BBB+	6
11	Xcel Energy Inc	2	A-	5
12	**Average**	**2**	**BBB+**	**6**
13	**Average – Vander Weide Group**	**2**	**BBB+**	**6**

See also Vander Weide Rebuttal Schedule JVW-1.

AFFIDAVIT OF JAMES H. VANDER WEIDE

STATE OF NORTH CAROLINA)
) ss
COUNTY OF DURHAM)

On the 5th day of March, 2015, 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 5th day of March, 2015.

Sandra W. Bumpass
Notary Public

My commission expires: 05-30-2018

SANDRA W. BUMPASS NOTARY PUBLIC DURHAM COUNTY, NC