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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ER-2024-0319

REBUTTAL TESTIMONY

OF

ANN E. BULKLEY

ON

BEHALF OF

UNION ELECTRIC COMPANY

D/B/A AMEREN MISSOURI

St. Louis, Missouri
January 2025

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1 Consumers,³ and Tyler Comings on behalf of the Sierra Club,⁴ regarding their
2 respective proposals for the return on equity for the Company in this proceeding.
3 In addition, while it is my understanding that the intent of the testimonies to be filed
4 by the intervening parties on December 3, 2024 was to be direct testimony, Mr.
5 Comings has nonetheless provided rebuttal testimony in part to my cost of equity
6 analyses that I will also address herein.

7 **Q: Are you sponsoring any exhibits in support of rebuttal direct testimony?**

8 A. Yes. I am sponsoring Schedule AEB-R1, Attachments 1 through 13, which have
9 been prepared by me or under my direction.

10 **Q: Have you prepared cost of equity analyses to support your rebuttal**
11 **testimony that reflect current market conditions?**

12 A. Yes. As discussed in more detail herein, I have prepared updated cost of equity
13 analyses based on market data through November 30, 2024 to rebut the cost of
14 equity analyses of the other witnesses in this proceeding. These analyses validate
15 the reasonableness of my recommended ROE range of 9.90 to 11.25 percent, and
16 that the Company's proposed ROE of 10.25 percent is reasonable.⁵ My conclusion
17 continues to be based on not only the results of multiple cost of equity models, as

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³ Missouri Public Service Commission, Direct Testimony and Schedules of Christopher C. Walters, Case No. ER-2024-03197, December 3, 2024 ("Walters Direct").

⁴ Missouri Public Service Commission, Direct Testimony of Tyler Comings, Case No. ER-2024-03197, December 3, 2024 ("Comings Direct").

⁵ Missouri Public Service Commission, Direct Testimony of Ann E. Bulkley, Case No. ER-2024-03197, June 28, 2024 ("Bulkley Direct"), at 73.

- 1 • Updated cost of equity analyses based on market data through November
2 30, 2024 confirms that Company's requested ROE of 10.25 percent
3 continues to be reasonable.
- 4 • When Dr. Won's DCF, CAPM, and BYRP analyses are updated to reflect
5 the most current data available and corrected for the issues that I discuss
6 in detail herein, the average cost of equity is 10.53 percent – *which is*
7 *substantially higher than the Company proposed cost of equity in this*
8 *proceeding.*
- 9 • Mr. Murray's ROE recommendation lacks analytical foundation and simply
10 represents his own unsupported opinion as to the appropriate ROE for
11 Ameren Missouri. Specifically:
- 12 ○ Mr. Murray conducts DCF and CAPM analyses, as well as a "rule of
13 thumb" BYRP analysis, but does not rely on the results of any of
14 these analyses for his ROE recommendation.
 - 15 ○ Despite a significant increase in interest rates over the past few years
16 that indicates an increase in the cost of equity, which Mr. Murray
17 acknowledges, he nonetheless recommends an ROE that is nearly
18 20 basis points below what he states is the average authorized ROE
19 nationally for vertically-integrated electric utilities in 2024.
- 20 • When Mr. Walters' analyses are updated to place primary weight on his
21 DCF that uses analyst projected EPS growth rates such as he has done in
22 the past, and corrected to reflect the inverse relationship between interest
23 rates and risk premia in his CAPM and BYRP analyses, the results indicate
24 an ROE of 10.50 percent would be appropriate - *which too is higher than*
25 *the Company proposed cost of equity in this proceeding.*
- 26 • Mr. Comings's cost of equity analyses suffer from the same flaws as I
27 identify in my response to the other witnesses, and consequently, the
28 results of his analyses are understated.

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29 **III. Updated Cost of Equity Analyses**

30 **Q: Have you updated your cost of equity analyses to support your rebuttal**
31 **testimony?**

32 A. Yes. I have updated the analyses that I prepared in my direct testimony using
33 market data through November 30, 2024,. In addition, I provide additional analyses
34 that also rebut the outdated cost of equity analyses provided by Dr. Won, Mr.

FIGURE 2: SUMMARY OF COST OF EQUITY ANALYTICAL RESULTS

Constant Growth DCF			
	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
	<u>Growth Rate</u>	<u>Growth Rate</u>	<u>Growth Rate</u>
Mean Results:			
30-Day Avg. Stock Price	9.08%	10.31%	11.27%
90-Day Avg. Stock Price	9.17%	10.39%	11.36%
180-Day Avg. Stock Price	9.44%	10.67%	11.64%
Average	9.23%	10.46%	11.42%
Median Results:			
30-Day Avg. Stock Price	9.27%	10.04%	10.71%
90-Day Avg. Stock Price	9.39%	10.21%	10.83%
180-Day Avg. Stock Price	9.64%	10.50%	11.15%
Average	9.43%	10.25%	10.90%
CAPM / ECAPM / Bond Yield Risk Premium			
	<u>30-Year Treasury Bond Yield</u>		
	<u>Current</u>	<u>Near-Term</u>	<u>Longer-Term</u>
	<u>30-Day Avg</u>	<u>Projected</u>	<u>Projected</u>
CAPM:			
Current <i>Value Line</i> Beta	11.65%	11.65%	11.64%
Current Bloomberg Beta	10.45%	10.43%	10.40%
Long-term Avg. <i>Value Line</i> Beta	10.29%	10.27%	10.24%
ECAPM:			
Current <i>Value Line</i> Beta	11.75%	11.75%	11.74%
Current Bloomberg Beta	10.85%	10.84%	10.82%
Long-term Avg. <i>Value Line</i> Beta	10.73%	10.71%	10.69%
Bond Yield Risk Premium:	10.53%	10.47%	10.40%

Con

Mean Results:

30-Day Avg. Stock Price
90-Day Avg. Stock Price
180-Day Avg. Stock Price
Average

Median Results:

30-Day Avg. Stock Price
90-Day Avg. Stock Price
180-Day Avg. Stock Price
Average

CAPM / ECAPM

CAPM:

Current *Value Line* Beta
Current Bloomberg Beta
Long-term Avg. *Value Line* Beta

ECAPM:

Current *Value Line* Beta
Current Bloomberg Beta
Long-term Avg. *Value Line* Beta

Deleted: Bond Yield Risk Premium:

1 **Q: Do the updated results support the Company's requested ROE of 10.25**
2 **percent in this proceeding?**

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3 A. Yes. While the results of the cost of equity analyses reflecting market data through
4 November 30, 2024 are moderately lower than the results filed in my direct
5 testimony, the updated results continue to support the Company's recommended
6 ROE of 10.25 percent in this proceeding.

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7 **IV. Capital Markets Conditions and Comparable Return**

8 **Q: Do you generally agree with Dr. Won's and Mr. Murray's characterizations of**
9 **the changes in market conditions over the past few years and their effect on**
10 **the cost of equity?**

11 A. Yes. I generally agree with Dr. Won's and Mr. Murray's respective
12 characterizations of the capital market conditions over the past few years and the
13 fact that they both acknowledge the cost of equity for electric utilities has increased
14 since the Company's last rate proceeding as a result of the changes in capital
15 market conditions.⁷ Dr. Won and Mr. Murray recognize that short-term and long-
16 term interest rates are significantly higher since that time due to the Federal
17 Reserve's efforts to combat persistently high inflation. As Dr. Won notes, inflation
18 remains elevated above the Federal Reserve's target and that one of the most
19 important factors in the economic conditions that impact the cost of equity is the

⁷ See, e.g., Won Direct, at 4 (range of 9.49 percent to 9.99 percent) as compared to Missouri Public Service Commission, Case No. ER-2022-0337, Direct Testimony of Seoung Joun Won, PhD, January 10, 2023, at 4 (range of 9.34 percent to 9.84 percent); Murray Direct, at 3 (cost of equity range is approximately 0.75 percent higher than his estimate in Ameren Missouri's 2022 rate case).

1 ROE that was established in the Arizona cases may have been set on a
2 different basis.

- 3 • Lastly, I excluded authorized returns that reflect a utility-specific penalty,
4 because an authorized ROE that includes a penalty is not indicative of a
5 market-derived cost of equity.

6 As shown in Figure 6, since 2020, authorized ROEs for vertically-integrated electric
7 utilities have increased. Further, both Dr. Won's recommended ROE of 9.74
8 percent and Mr. Murray's recommended ROE of 9.50 percent are below the
9 average authorized ROE for vertically-integrated electric utilities in the United
10 States in 2024. Finally, the Company's requested ROE of 10.25 percent is within
11 the range of authorized ROEs for vertically-integrated electric utilities in 2024.
12 Neither Dr. Won nor Mr. Murray have provided any evidence to demonstrate that
13 the Company's ROE should be below the mean authorized ROE in 2024.

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14 **FIGURE 6: RANGE OF ANNUAL AUTHORIZED ROES FOR VERTICALLY INTEGRATED ELECTRIC**
15 **UTILITIES, 2020 –2024²³**

Year	Mean	Low	High
2020	9.62%	9.20%	10.02%
2021	9.60%	9.00%	10.60%
2022	9.80%	9.30%	10.80%
2023	9.81%	9.25%	11.45%
2024	9.86%	9.26%	10.50%

16

²³ S&P Capital IQ Pro.

1 Specifically, the changes to Dr. Won’s two-step DCF, CAPM, and BYRP analyses
2 are shown in Schedule AEB-R1, Attachments 10 through 12, respectively. As
3 shown in Figure 8, the resulting average cost of equity is 10.53 percent – which is
4 significantly higher than the Company’s proposed ROE of 10.25 percent in this
5 proceeding.

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6 **FIGURE 8: RESULTING COST OF EQUITY FROM DR. WON’S ADJUSTED COST OF EQUITY**
7 **ANALYSES**

	<u>Analysis Results</u>
Two-Step DCF Analysis	9.84%
CAPM Analysis	11.57%
BYRP Analysis	10.19%
Average	<u>10.53%</u>

8
9 **VI. Response to Mr. Murray**

10 **VI.A. Overview**

11 **Q: Please summarize Mr. Murray’s cost of equity analyses.**

12 A. Mr. Murray estimates the cost of equity by conducting multiple scenarios of a multi-
13 stage DCF and CAPM analysis. In these analyses, Mr. Murray relies on a proxy
14 group of comparable electric companies, as well as separately calculates results
15 based on Ameren instead of a proxy group. Mr. Murray also uses an ad hoc “rule
16 of thumb” bond risk premium approach as a reasonableness test on the results of

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1 risk premium should be *greater than* the long-term historical average market risk
2 premium – which is not the case for Mr. Murray’s simplistic BYRP analysis.

3 Furthermore, Mr. Murray’s “rule of thumb” does not provide any meaningful insight
4 into the cost of equity for the Company in this proceeding given that multiple ranges
5 for this “rule of thumb” have been offered in testimony in prior cases before the
6 Commission. For example, in the Company’s last rate proceeding, Dr. Won
7 testified that the “rule of thumb” risk premium ranged from 3.50 percent to 5.50
8 percent.¹¹² In addition, Dr. Won has previously testified that the range of the “rule
9 of thumb” market risk premium was 4.00 percent to 6.00 percent.¹¹³ Given Mr.
10 Murray’s position that the yield to maturity on Ameren Missouri’s recent long-term
11 bonds is about 5.50 percent, if Dr. Won’s prior “rule of thumb” range of 4.00 percent
12 to 6.00 percent were utilized, it would suggest that Mr. Murray’s estimated cost of
13 equity should be in the range of 9.50 percent to 11.50 percent, or an average of
14 10.50 percent – which is clearly not supportive of Mr. Murray’s ROE
15 recommendation and is in fact higher than the Company’s requested ROE of 10.25
16 percent in this proceeding.

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17 Lastly, Mr. Murray’s simplistic “rule of thumb” produces material differences in the
18 results that are inconsistent with his ROE recommendations over time.

¹¹² Missouri Public Service Commission, Case Nos. ER-2022-0129 and ER-2022-0130, Direct Testimony of Seoung Joun Won, June 8, 2022, at 29.

¹¹³ Missouri Public Service Commission, Case No. WR-2020-0344, Staff Cost of Service Report, November 2020, at 27.

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- Excluding his CAPM scenarios that rely on the *Kroll* “normalized” market risk premium for failing to account for the inverse relationship between interest rates and the market risk premium.¹⁴²

Based on these changes, the average results of each of Mr. Walters’s three analyses range from 10.35 percent to 10.65 percent, with a midpoint of 10.50 percent, which supports the Company’s proposed ROE of 10.25 percent, and is significantly greater than Mr. Walters’s recommended ROE of 9.50 percent.

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FIGURE 17: COMPARISON OF THE RESULTS OF MR. WALTERS’S COST OF EQUITY ANALYSES – AS FILED V ADJUSTED

	Mr. Walters As Filed		Mr. Walters As Adjusted	
	Mean	Median	Mean	Median
<u>DCF</u>				
Constant Growth (analyst growth rates)	10.81%	10.49%	10.81%	10.49%
Constant Growth (sustainable growth rates)	8.70%	8.72%	n/a	n/a
Multi-Stage	8.67%	8.43%	n/a	n/a
Average	9.30%		10.65%	
<u>DCF</u>				
Near-Term Projected Treasury Bond Yield	9.90%		10.33%	
3-Month Avg. A-rated Utility Bond Yield	9.75%		10.26%	
3-Month Avg. Baa-rated Utility Bond Yield	9.96%		10.37%	
6-Month Avg. A-rated Utility Bond Yield	9.90%		10.34%	
6-Month Avg. Baa-rated Utility Bond Yield	10.12%		10.45%	
Average	9.99%		10.35%	
<u>CAPM</u>				
<i>Kroll</i> Normalized Method:	8.37%		n/a	
Risk Premium Method:	10.21%		9.85%	
FERC DCF Method:	10.78%		11.03%	
Average	9.40%		10.44%	
Midpoint			10.50%	

¹⁴² Walters Direct, Exhibit CCW-15, at 1; reflects the CAPM results of Mr. Walters’s (i) Risk Premium Derived MRP; and (ii) Average FERC S&P 500 DCF Derived MRP scenarios.

1 is proposing an ROE of 10.25 percent. Thus, there is no basis for Mr. Comings to
2 suggest that the results of my CAPM analyses or recommended range somehow
3 impugn the applicability of the ECAPM for purposes of establishing the Company's
4 authorized ROE in this proceeding.

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5 Second, the ECAPM does not "merely adjust" an "already high CAPM" result and
6 thus suggest that the need for the analysis is "dubious" as Mr. Comings contends.
7 As I discussed in my direct testimony, the ECAPM is conducted because the
8 traditional CAPM understates the cost of equity for companies such as utilities with
9 a beta less than 1.0. The cost of equity is not a figure that can be determined
10 definitively and must be estimated, and thus that is precisely why it is reasonable
11 and appropriate to rely on the results of multiple cost of equity estimation models
12 for purposes of recommending an ROE. The ECAPM is one of multiple models
13 that are appropriately used by analysts to estimate the cost of equity and used by
14 regulatory commissions to establish a utility's ROE.

15 **Q: Do you agree with Mr. Comings's criticism of the equity risk premium that**
16 **you rely on in your CAPM and ECAPM analyses by reference to his own**
17 **assumption?**¹⁵³

18 **A.** No. The market risk premia relied on by Mr. Comings suffer from all of the same
19 flaws that I previously discussed in my response to Dr. Won and, as a result,

COST OF EQUITY ANALYSES SUMMARY OF RESULTS

Constant Growth DCF

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	9.08%	10.31%	11.27%
90-Day Avg. Stock Price	9.17%	10.39%	11.36%
180-Day Avg. Stock Price	9.44%	10.67%	11.64%
Average	9.23%	10.46%	11.42%
Median Results:			
30-Day Avg. Stock Price	9.27%	10.04%	10.71%
90-Day Avg. Stock Price	9.39%	10.21%	10.83%
180-Day Avg. Stock Price	9.64%	10.50%	11.15%
Average	9.43%	10.25%	10.90%

CAPM / ECAPM / Bond Yield Risk Premium

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Current <i>Value Line</i> Beta	11.65%	11.65%	11.64%
Current Bloomberg Beta	10.45%	10.43%	10.40%
Long-term Avg. <i>Value Line</i> Beta	10.29%	10.27%	10.24%
ECAPM:			
Current <i>Value Line</i> Beta	11.75%	11.75%	11.74%
Current Bloomberg Beta	10.85%	10.84%	10.82%
Long-term Avg. <i>Value Line</i> Beta	10.73%	10.71%	10.69%
Bond Yield Risk Premium:	10.53%	10.47%	10.40%

CONSTANT GROWTH DCF
30-DAY AVERAGE STOCK PRICES

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line EPS Growth	S&P CapIQ EPS Growth	Zacks EPS Growth	Average Growth Rate	Cost of Equity - Minimum Growth Rate	Cost of Equity - Average Growth Rate	Cost of Equity - Maximum Growth Rate
Alliant Energy Corporation	LNT	\$1.92	\$60.54	3.17%	3.27%	6.00%	6.69%	6.70%	6.46%	9.27%	9.74%	9.98%
American Electric Power Company, Inc.	AEP	\$3.72	\$97.21	3.83%	3.95%	6.50%	6.28%	6.20%	6.33%	10.15%	10.28%	10.45%
Avista Corporation	AVA	\$1.90	\$37.55	5.06%	5.17%	5.00%	4.68%	3.90%	4.53%	9.06%	9.70%	10.19%
CMS Energy Corporation	CMS	\$2.06	\$69.03	2.98%	3.09%	6.00%	7.37%	7.50%	6.96%	9.07%	10.04%	10.60%
DTE Energy Company	DTE	\$4.08	\$123.55	3.30%	3.41%	4.50%	7.82%	8.00%	6.77%	7.88%	10.19%	11.43%
Duke Energy Corporation	DUK	\$4.18	\$114.30	3.66%	3.77%	5.00%	6.39%	6.40%	5.93%	8.75%	9.69%	10.17%
Entergy Corporation	ETR	\$4.80	\$144.84	3.31%	3.40%	0.50%	7.56%	8.30%	5.45%	3.82%	8.86%	11.75%
Evergy, Inc.	EVRG	\$2.67	\$61.88	4.31%	4.45%	7.50%	5.62%	5.80%	6.31%	10.06%	10.76%	11.98%
IDACORP, Inc.	IDA	\$3.44	\$111.29	3.09%	3.20%	6.00%	7.12%	8.30%	7.14%	9.18%	10.34%	11.52%
NextEra Energy, Inc.	NEE	\$2.06	\$78.02	2.64%	2.75%	8.50%	8.31%	8.10%	8.30%	10.85%	11.05%	11.25%
NorthWestern Corporation	NWE	\$2.60	\$54.86	4.74%	4.86%	4.00%	5.36%	6.10%	5.15%	8.83%	10.01%	10.98%
OGE Energy Corporation	OGE	\$1.69	\$42.03	4.01%	4.13%	6.50%	6.02%	5.20%	5.91%	9.31%	10.03%	10.64%
Pinnacle West Capital Corporation	PNW	\$3.58	\$89.78	3.99%	4.12%	4.50%	7.04%	8.20%	6.58%	8.58%	10.70%	12.35%
Portland General Electric Company	POR	\$2.00	\$47.45	4.21%	4.41%	6.00%	8.79%	12.60%	9.13%	10.34%	13.54%	17.08%
PPL Corporation	PPL	\$1.03	\$33.28	3.10%	3.21%	7.50%	7.04%	6.80%	7.11%	10.00%	10.32%	10.71%
Southern Company	SO	\$2.88	\$88.95	3.24%	3.34%	6.50%	6.47%	6.80%	6.59%	9.82%	9.94%	10.15%
Xcel Energy Inc.	XEL	\$2.19	\$67.57	3.24%	3.35%	6.00%	7.03%	6.90%	6.64%	9.34%	9.99%	10.39%
Mean				3.64%	3.76%	5.68%	6.80%	7.16%	6.55%	9.08%	10.31%	11.27%
Median				3.31%	3.41%	6.00%	7.03%	6.80%	6.58%	9.27%	10.04%	10.71%

Notes:

- [1] Bloomberg Professional
- [2] Bloomberg Professional, equals 30-day average as of November 30, 2024
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Value Line
- [6] Yahoo! Finance
- [7] Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

CONSTANT GROWTH DCF

90-DAY AVERAGE STOCK PRICES

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line EPS Growth	S&P CapIQ EPS Growth	Zacks EPS Growth	Average Growth Rate	Cost of Equity - Minimum Growth Rate	Cost of Equity - Average Growth Rate	Cost of Equity - Maximum Growth Rate
Alliant Energy Corporation	LNT	\$1.92	\$58.88	3.26%	3.37%	6.00%	6.69%	6.70%	6.46%	9.36%	9.83%	10.07%
American Electric Power Company, Inc.	AEP	\$3.72	\$98.33	3.78%	3.90%	6.50%	6.28%	6.20%	6.33%	10.10%	10.23%	10.41%
Avista Corporation	AVA	\$1.90	\$37.70	5.04%	5.15%	5.00%	4.68%	3.90%	4.53%	9.04%	9.68%	10.17%
CMS Energy Corporation	CMS	\$2.06	\$68.06	3.03%	3.13%	6.00%	7.37%	7.50%	6.96%	9.12%	10.09%	10.64%
DTE Energy Company	DTE	\$4.08	\$123.46	3.30%	3.42%	4.50%	7.82%	8.00%	6.77%	7.88%	10.19%	11.44%
Duke Energy Corporation	DUK	\$4.18	\$113.29	3.69%	3.80%	5.00%	6.39%	6.40%	5.93%	8.78%	9.73%	10.21%
Energy Corporation	ETR	\$4.80	\$129.94	3.69%	3.79%	0.50%	7.56%	8.30%	5.45%	4.20%	9.25%	12.15%
Evergy, Inc.	EVRG	\$2.67	\$59.93	4.46%	4.60%	7.50%	5.62%	5.80%	6.31%	10.21%	10.90%	12.12%
IDACORP, Inc.	IDA	\$3.44	\$104.54	3.29%	3.41%	6.00%	7.12%	8.30%	7.14%	9.39%	10.55%	11.73%
NextEra Energy, Inc.	NEE	\$2.06	\$79.31	2.60%	2.71%	8.50%	8.31%	8.10%	8.30%	10.80%	11.01%	11.21%
NorthWestern Corporation	NWE	\$2.60	\$54.44	4.78%	4.90%	4.00%	5.36%	6.10%	5.15%	8.87%	10.05%	11.02%
OGE Energy Corporation	OGE	\$1.69	\$40.34	4.18%	4.30%	6.50%	6.02%	5.20%	5.91%	9.49%	10.21%	10.81%
Pinnacle West Capital Corporation	PNW	\$3.58	\$87.62	4.09%	4.22%	4.50%	7.04%	8.20%	6.58%	8.68%	10.80%	12.45%
Portland General Electric Company	POR	\$2.00	\$47.22	4.24%	4.43%	6.00%	8.79%	12.60%	9.13%	10.36%	13.56%	17.10%
PPL Corporation	PPL	\$1.03	\$32.12	3.21%	3.32%	7.50%	7.04%	6.80%	7.11%	10.12%	10.43%	10.83%
Southern Company	SO	\$2.88	\$87.75	3.28%	3.39%	6.50%	6.47%	6.80%	6.59%	9.86%	9.98%	10.19%
Xcel Energy Inc.	XEL	\$2.19	\$63.47	3.45%	3.56%	6.00%	7.03%	6.90%	6.64%	9.55%	10.21%	10.60%
Mean				3.73%	3.85%	5.68%	6.80%	7.16%	6.55%	9.17%	10.39%	11.36%
Median				3.69%	3.79%	6.00%	7.03%	6.80%	6.58%	9.39%	10.21%	10.83%

Notes:

[1] Bloomberg Professional

[2] Bloomberg Professional, equals 90-day average as of November 30, 2024

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.50 x [8])

[5] Value Line

[6] Yahoo! Finance

[7] Zacks

[8] Equals Average ([5], [6], [7])

[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

CONSTANT GROWTH DCF
180-DAY AVERAGE STOCK PRICES

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line EPS Growth	S&P CapIQ EPS Growth	Zacks EPS Growth	Average Growth Rate	Cost of Equity - Minimum Growth Rate	Cost of Equity - Average Growth Rate	Cost of Equity - Maximum Growth Rate
Alliant Energy Corporation	LNT	\$1.92	\$54.28	3.54%	3.65%	6.00%	6.69%	6.70%	6.46%	9.64%	10.12%	10.36%
American Electric Power Company, Inc.	AEP	\$3.72	\$91.99	4.04%	4.17%	6.50%	6.28%	6.20%	6.33%	10.37%	10.50%	10.68%
Avista Corporation	AVA	\$1.90	\$36.08	5.27%	5.39%	5.00%	4.68%	3.90%	4.53%	9.27%	9.91%	10.40%
CMS Energy Corporation	CMS	\$2.06	\$63.61	3.24%	3.35%	6.00%	7.37%	7.50%	6.96%	9.34%	10.31%	10.86%
DTE Energy Company	DTE	\$4.08	\$116.80	3.49%	3.61%	4.50%	7.82%	8.00%	6.77%	8.07%	10.38%	11.63%
Duke Energy Corporation	DUK	\$4.18	\$105.61	3.96%	4.08%	5.00%	6.39%	6.40%	5.93%	9.06%	10.00%	10.48%
Entergy Corporation	ETR	\$4.80	\$117.51	4.08%	4.20%	0.50%	7.56%	8.30%	5.45%	4.59%	9.65%	12.55%
Evergy, Inc.	EVRG	\$2.67	\$55.88	4.78%	4.93%	7.50%	5.62%	5.80%	6.31%	10.54%	11.24%	12.46%
IDACORP, Inc.	IDA	\$3.44	\$98.14	3.51%	3.63%	6.00%	7.12%	8.30%	7.14%	9.61%	10.77%	11.95%
NextEra Energy, Inc.	NEE	\$2.06	\$74.17	2.78%	2.89%	8.50%	8.31%	8.10%	8.30%	10.99%	11.20%	11.40%
NorthWestern Corporation	NWE	\$2.60	\$51.94	5.01%	5.14%	4.00%	5.36%	6.10%	5.15%	9.11%	10.29%	11.26%
OGE Energy Corporation	OGE	\$1.69	\$37.38	4.51%	4.64%	6.50%	6.02%	5.20%	5.91%	9.82%	10.55%	11.15%
Pinnacle West Capital Corporation	PNW	\$3.58	\$80.85	4.43%	4.57%	4.50%	7.04%	8.20%	6.58%	9.03%	11.15%	12.81%
Portland General Electric Company	POR	\$2.00	\$44.77	4.47%	4.67%	6.00%	8.79%	12.60%	9.13%	10.60%	13.80%	17.35%
PPL Corporation	PPL	\$1.03	\$29.84	3.45%	3.57%	7.50%	7.04%	6.80%	7.11%	10.37%	10.69%	11.08%
Southern Company	SO	\$2.88	\$81.04	3.55%	3.67%	6.50%	6.47%	6.80%	6.59%	10.14%	10.26%	10.47%
Xcel Energy Inc.	XEL	\$2.19	\$58.37	3.75%	3.88%	6.00%	7.03%	6.90%	6.64%	9.86%	10.52%	10.92%
Mean				3.99%	4.12%	5.68%	6.80%	7.16%	6.55%	9.44%	10.67%	11.64%
Median				3.96%	4.08%	6.00%	7.03%	6.80%	6.58%	9.64%	10.50%	11.15%

Notes:

- [1] Bloomberg Professional
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- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
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- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]))