STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF SOUTHERN INDIANA GAS AND ELECTRIC COMPANY D/B/A CENTERPOINT ENERGY INDIANA SOUTH ("CEI SOUTH") FOR (1) AUTHORITY TO MODIFY ITS RATES AND CHARGES FOR ELECTRIC UTILITY SERVICE THROUGH A PHASE-IN OF RATES, (2) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES, AND NEW AND REVISED RIDERS, INCLUDING BUT NOT LIMITED TO A NEW TAX ADJUSTMENT RIDER AND A NEW GREEN POWER RIDER (3) APPROVAL OF A CRITICAL PEAK PRICING ("CPP") PILOT PROGRAM, (4) APPROVAL OF REVISED DEPRECIATION RATES APPLICABLE TO ELECTRIC AND COMMON PLANT IN SERVICE, (5) APPROVAL OF NECESSARY AND APPROPRIATE ACCOUNTING RELIEF, INCLUDING AUTHORITY TO CAPITALIZE AS RATE BASE ALL CLOUD COMPUTING COSTS AND DEFER TO A REGULATORY ASSET AMOUNTS NOT ALREADY INCLUDED IN BASE RATES THAT ARE INCURRED FOR THIRD-PARTY CLOUD COMPUTING ARRANGEMENTS, AND (6) APPROVAL OF AN ALTERNATIVE REGULATORY PLAN GRANTING CEI SOUTH A WAIVER FROM 170 IAC 4-1-16(f) TO ALLOW FOR REMOTE DISCONNECTION FOR NON-PAYMENT	**)**	**CAUSE NO. 45990**

PUBLIC'S EXHIBIT NO. 10

REDACTED TESTIMONY OF SHAWN DELLINGER

ON BEHALF OF

THE INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

March 12, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

This is to certify that a copy of the ***Public's Exhibit No. 10 – Redacted Testimony of Shawn Dellinger on behalf of the OUCC*** has been served upon the following in the captioned proceeding by electronic service on March 12, 2024.

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REDACTED TESTIMONY OF OUCC WITNESS SHAWN DELLINGER, CRRA
CAUSE NO. 45990
SOUTHERN INDIANA GAS AND ELECTRIC COMPANY D/B/A
CENTERPOINT ENERGY INDIANA SOUTH

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is Shawn Dellinger, and my business address is 115 West Washington Street, Suite 1500 South, Indianapolis, Indiana 46204.

Q: By whom are you employed and in what capacity?

A: I am employed by the Indiana Office of Utility Consumer Counselor ("OUCC") as a Senior Utility Analyst. I primarily work with the OUCC's Water/Wastewater Division. My focus is on financial issues.

Q: Please describe your educational background and experience.

A: My educational background and experience are described in Appendix A. I am a Certified Rate of Return Analyst (CRRA designation), which is a professional designation awarded from the Society of Utility and Regulatory Financial Analysts.

Q: What is the purpose of your testimony?

A: My testimony explains the OUCC's recommended 9.00% return on equity ("ROE"). I discuss various issues with CenterPoint Energy Indiana South ("CEI South", "Petitioner", or "CenterPoint") witness Ms. Ann E. Bulkley's ROE models, which inflate her recommended 10.60% ROE.[1]

Q: What did you do to prepare your testimony?

[1] Petitioner is requesting a 10.40% ROE, rather than the 10.60% ROE deemed as reasonable by witness Bulkley. *See* Ms. Bulkley's Direct Testimony, pg. 6, lines 19-23, and Mr. Leger's Direct Testimony pg. 14 lines 26-29.

A: I reviewed Ms. Bulkley's direct testimony, prepared discovery questions designed to clarify Ms. Bulkley's positions, and studied Petitioner's discovery responses. I also reviewed previous CenterPoint orders, as well as ROE testimony from Ms. Bulkley in other Commission proceedings. I reviewed and incorporated the documents referenced throughout my testimony regarding equity valuations, interest rates, growth rates, and general economic conditions. My preparation also included reviewing rebuttal testimony Indiana Michigan Power filed in Cause No. 45933, reviewing rebuttal testimony from Ms. Bulkley in Indiana American Water Co. filed in Cause No. 45870, and the Indiana Utility Regulatory Commission's ("Commission") Order in Cause No. 45870 for Indiana American ("45870 Order").

Q: Do you have any attachments included with your testimony?

A: Yes. My list of attachments may be found on Appendix B.

Q: To the extent you do not address a specific issue, item, or adjustment, should that be construed to mean you agree with CenterPoint's proposal?

A: No. Not addressing a specific issue, item, or adjustment CenterPoint proposes does not indicate my agreement or approval. Rather, the scope of my testimony is limited to the specific items addressed herein.

Q: How is your testimony organized?

A: My testimony organization is shown below, with subsections as appropriate. Appendices A and B include my qualifications and a list of my attachments, respectively, and Appendices C-I afford additional technical testimony and analyses applicable to sections included below.

1. Introduction
2. Summary of my Recommendations

3. Affordability and Risk Reduction
4. Methods and Models Used for Calculating ROE, and the Inputs Required
    a. Proxy Group
    b. Discounted Cash Flow Models ("DCF")
    c. Capital Asset Pricing Models ("CAPM")
    d. Risk Premium Model
5. Flotation Costs
6. Recommendations
7. Appendices
    a. Qualifications
    b. List of Attachments
    c. Proxy Group
    d. Discounted Cash Flow Analysis
    e. General Concerns with Analyst Forecasts
    f. Potential Bias in Analyst Forecasts
    g. Use of Historical Growth Estimates
    h. Capital Asset Pricing Model Analysis
    i. Inflation

II. SUMMARY OF MY RECOMMENDATIONS.

Q: Please provide a summary of your recommendations for ROE.

A: To analyze the ROE component of CEI South's weighted average cost of capital, I ran multiple models to arrive at a recommendation of 9.0%. Given the disparity between my recommended ROE and Ms. Bulkley's, I will be addressing differences between my

testimony and Ms. Bulkley's. The types and results of these models are shown on table SD-1 below.

Q: What are some of the significant differences you identify?

A: There are significant analytical differences between Ms. Bulkley and me, including:

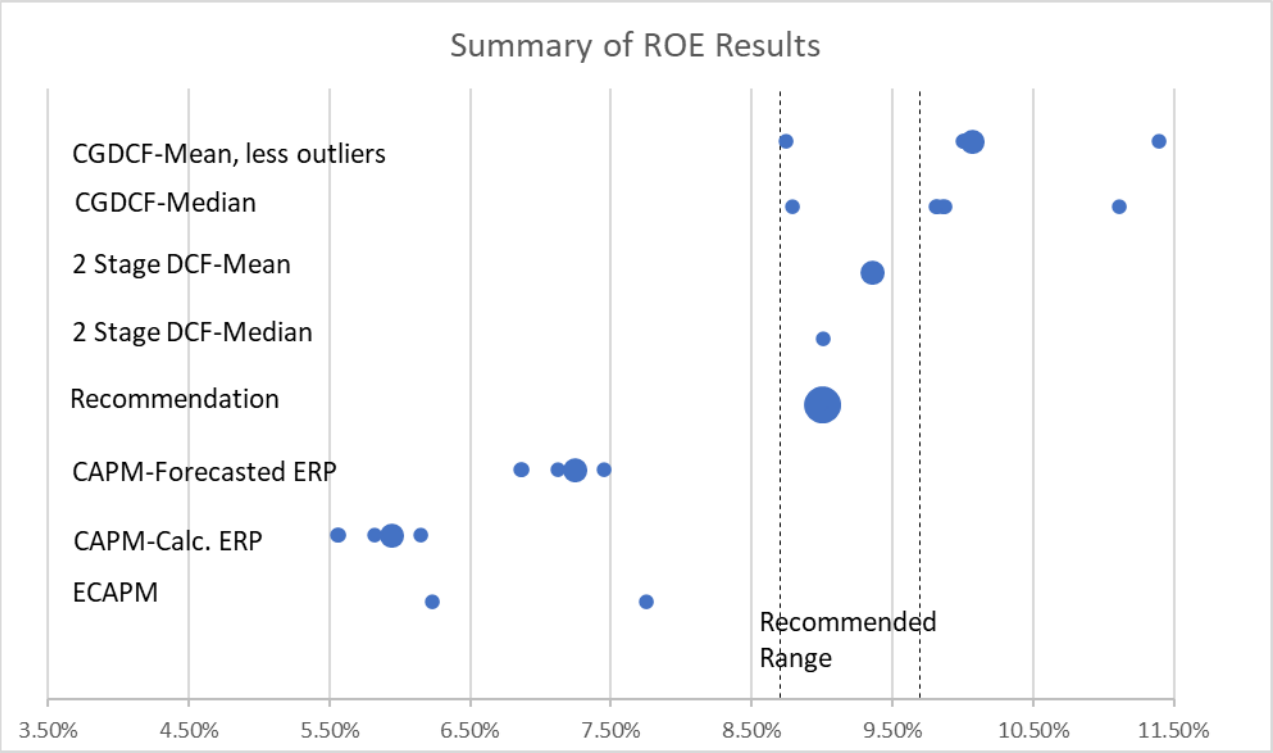
1) Ms. Bulkley's use of a limited number of Beta sources, which adds approximately 236 basis points to her ROE in one primary model;[2]
2) Ms. Bulkley's use of an unreasonable market return, which adds approximately 517 basis points to the ROE in one of her primary models;[3] and
3) Ms. Bulkley only uses a single-stage discounted cash flow model, rather than a two-stage model, which results in a 100 basis points lower calculation based on my inputs.[4]

[2] These numbers are approximate based upon choosing one set of Bulkley's CAPM results and replacing it with my average Beta (.61). The other results are similar, it is based upon her Value Line Beta's and a current 30-year treasury rate. Mean ROE goes from 11.95% to 9.59%.

[3] These numbers are approximate based upon choosing one set of Ms. Bulkley's CAPM results and replacing her market return of 12.90% with my expected Market Return of 7.08%. This changes her Mean ROE from 11.95% to 6.78%.

[4] These numbers are approximately based upon choosing one set of Ms. Bulkley's CGDCF model (30 days mean results) of 10.17% and running a two stage DCF with an assumed 15-year first stage and a 3.89% return for the second phase, resulting in an ROE 9.17%.

Table SD-1


Summary of ROE Results
CGDCF-Mean, less outliers
CGDCF-Median
2 Stage DCF-Mean
2 Stage DCF-Median
Recommendation
CAPM-Forecasted ERP
CAPM-Calc. ERP
ECAPM
Recommended Range
3.50%
4.50%
5.50%
6.50%
7.50%
8.50%
9.50%
10.50%
11.50%

III. AFFORDABILITY AND RISK REDUCTION

Q: Do public utilities in Indiana incur significant risk and uncertainty?

A: Ms. Bulkley describes the increased risk she perceives public utilities face as a result of broad economic conditions, changing capital markets, and capital costs. Ms. Bulkley even assumes, and reflects in her cost of equity, that Utilities will become riskier over time.[5] While Ms. Bulkley recognizes tracking mechanisms such as the Environment Cost Adjustment, the Clean Energy Cost Adjustment, and the Transmission, Distribution, and Storage System Improvement Charge ("TDSIC") exist, she does not account for the *reduced* risk that public utilities enjoy in Indiana as a result of the enumerated (and other) tracking mechanisms, ignoring the Commission's position otherwise.[6] The Commission has acknowledged the reduced risk associated with increased use of tracking mechanisms, a future/forecasted test year, and the preapproval of major capital projects through Certificate of Public Convenience and Necessity and TDSIC proceedings.[7] Ms. Bulkley, however, makes no adjustment recognizing the effect of these on CenterPoint's risk or the favorable utility legislative climate these reflect.

[5] Ms. Bulkley exclusively uses adjusted Betas provided by Value Line and Bloomberg in her CAPM analysis. These presume that Betas are trending toward one (which, for low-risk entities such as utilities, means increasing) over time. Since Beta is a surrogate for risk in this context, the use of adjusted Betas incorporates an implicit assumption of increasing risk over time for public utilities.

[6] Petitioner's Exhibit No. 13, Direct Testimony of Ann E. Bulkley, p. 33, ll.1-20.

[7] *In re Indiana-American Water Company*, Cause No. 45870, Final Order, p. 43 (Ind. Util. Reg. Comm'n, February 14, 2024), "Our determination should also appropriately consider Petitioner's specific risk characteristics, such as the *mitigation of risk* associated with Petitioner's use of regulatory mechanisms, including a forecasted test year in this proceeding and the trackers approved for INAWC. . . . The effect of these tracking mechanisms is to reduce the uncertainty of the earnings that an investor can expect. See Ind. Mich. Power Co., Cause No. 44075 at 42-43 (IURC Feb. 13, 2013." (emphasis added)). See also Indiana Utility Regulatory Commission Orders in Cause Nos. 44910, 45564, 45847, 45052 ECA 4, and 44909 CECA 1.

Ms. Bulkley's assertion that the proxy group has similar treatment is not compelling in this context or consistent with the reduced risk the Commission has recognized. She overlooks that from an investor standpoint, Indiana is more favorable for public utilities than the average jurisdiction.[8] The proxy group is not, on average, less risky than CEI South. As an example, Ms. Bulkley, in quantifying the prevalence of capital investment recovery mechanisms, states, ". . . approximately 68% of the utility operating subsidiaries of the proxy group companies recover costs through capital investment reconciling mechanisms[,]" but 68% is not 100%.[9] Thus, CEI South has a more generous capital investment recovery mechanism in Indiana than the average of the proxy group, making CEI South less risky. These are all compelling reasons to recommend an ROE on the low-end of my range.

Q: How will your proposed ROE affect affordability of service for CenterPoint ratepayers?

A: My proposed ROE of 9.0% will benefit CenterPoint ratepayers by more appropriately aligning their bills with the costs that must be incurred to attract investment for CenterPoint. As discussed later in this testimony, Ms. Bulkley uses unreasonable assumptions, especially in her CAPM analysis but also in her choice of models, which inflates her calculated cost of equity and ultimately arrives at an ROE recommendation which is higher than needed to attract investment at the expense of CenterPoint ratepayers.

IV. METHODS, MODELS AND REQUIRED INPUTS FOR CALCULATING ROE

Q: Broadly, what is the purpose of an ROE, and why is it important?

[8] See OUCC Attachment SD-14.
[9] Direct Testimony of Ann E. Bulkley, p. 33, l.24-25.

A: ROE represents the profits that will accrue to the owners of a utility. ROE is a cost to the utility (and, therefore, ratepayers), just as the cost of debt. A *return* on equity is a term used from the investor's perspective; a *cost* of equity is the corresponding term from the utility's perspective. According to NARUC standards, the awarded ROE should be equal to the estimated cost of equity, although this may not always be the case as is shown later in my testimony.[10]

Q: What models are available for calculating ROE?

A: In addition to the DCF, CAPM, and their derivatives discussed below, other methods for calculating ROE sometimes used in utility proceedings include comparable earnings, risk premium, arbitrage pricing, market to book, and earnings price ratio analysis. Ms. Bulkley limited her analysis to versions of the DCF, the CAPM, and the risk premium model. The Commission has primarily relied on the DCF and the CAPM in the past, and to the best of my knowledge, has not relied on the results of the risk premium model.

Q: Specifically, what models did you use?

A: I calculated a result for the Constant Growth DCF, a two-stage DCF, a CAPM and an Empirical Capital Asset Pricing Model ("ECAPM"), as well as a risk premium model. Other than the two-stage DCF, Ms. Bulkley also used these models. Since the cost of equity cannot be measured directly, like a cost of debt, using multiple models has the advantage of offering different approaches and results for the analyst's consideration in determining the recommended return on equity.

Q: Please describe the models.

A: Broadly, the DCF model takes the dividends a company, or a group of companies, is

[10] *See* John D. Quackenbush, *Cost of Capital and Capital Markets: A Primer for Utility Regulators*, National Association of Regulatory Utility Commissioners (2019).

currently paying and increases this amount by a certain percentage each future year. A CAPM takes the risk-free interest rate and adds a percentage (a premium or return due to risk) based on the overall equity market excess return, modified by the riskiness of the individual company (or group of companies). A risk premium takes the current risk-free interest rate and adds a spread to this amount).

Q: What are the inputs to each model?

A: Each model other than the risk premium requires a proxy group of companies that are reasonably comparable to Petitioner. As used here, the Constant Growth DCF has two inputs - the current dividend rate and the growth rate in the future. The two-stage DCF also requires a determination of the time frame of the first stage, and an appropriate growth rate for the second stage. The CAPM relies on the risk-free interest rate, the riskiness (or Beta) of the company or companies being reviewed, and the equity market premium (or the excess return an investor receives for investing in equities rather than risk-free bonds). The risk premium model relies on only one input, which is the spread between the risk-free interest rate and the granted return on equity.

A. <u>Proxy Group</u>

Q: What is the purpose of a proxy group in determining an appropriate cost of equity?

A: A proxy group is a collection of similar companies that can be used to benchmark features of the company being analyzed, such as growth, dividends, riskiness, and valuations. Proxy groups also provide inputs for dividend yields, growth rates, and Betas (risk).

Q: Describe the creation of an appropriate proxy group.

A: Starting with a large list of publicly traded, similar companies, the group is filtered (by industry, portion of that industry, size, geographic location, financial leverage, structure,

and potentially other factors) to target the best matches to the company being analyzed. For some models, the presence of dividends should also be considered. It is generally better to have more companies in the proxy group than fewer, although the robustness of the data set gained by adding more companies must be balanced by the loss of focus and similarity of expanding the proxy group too significantly.

Q: How did you determine your proxy group?

A: I accepted Ms. Bulkley's 17-member proxy group, then added four companies she considered, but ultimately eliminated. Table SD-2 below sets out my proxy group. The additional companies are Avangrid, Inc. (AGR), DTE Energy Corporation (DTE), PNM Resources, Inc. (PNM) and PPL Corporation (PPL). A further discussion of the reasons for each inclusion may be found in Appendix C.

Table SD-2

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Avangrid, Inc.	AGR
Avista Corporation	AVA
CMS Energy Corporation	CMS
DTE Energy Company	DTE
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
IDACORP, Inc.	IDA
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Pinnacle West Capital Corporation	PNW
PNM Resources, Inc.	PNM
Portland General Electric Company	POR
PPL Corporation	PPL
Southern Company	SO
Xcel Energy Inc.	XEL

B. The DCF Model

Q: Please briefly explain the DCF model.

A: The constant growth DCF model takes dividends from the proxy group and increases those payments by a fixed percentage in perpetuity.[11] Because a dollar in the future is not worth as much as a dollar today, it discounts those payments back to the present-day value by using a discount rate, which is the return on equity in this context.

Q: Do your appendices include detailed discussions of the DCF model?

A: Yes. Appendix D details the DCF structure.

[11] This is a broad description of the DCF in the context of a utility rate case. Not all DCF models are structured in perpetuity, involve dividends, involved growth only, etc.

Q: How does your DCF model compare to Ms. Bulkley's?

A: Both Ms. Bulkley and I prepared two versions of the Constant Growth DCF model, one of which used mean calculations and the other used median calculations.[12] These are essentially different presentations of the same model. I also removed outliers from my mean results, which is my preferred metric because it yields more reliable results.

Our respective reasonable ranges of outcomes overlap significantly. My preferred method (based on the seven-day average stock price, a blended future and historical growth rate and discarding outliers) results in a mean ROE of 10.06% (with a range of 8.75%-11.40%). Ms. Bulkley provides a range of 8.88%-11.12%. Her mean result is 10.03%.[13] The similarity of results between the respective constant growth DCF models is because there is relative agreement on the major inputs for this model (dividend yield and growth) for this specific model. Ms. Bulkley and I are closer to agreement on this result than on any other model. It is also the highest result of any of my models and is one of four outputs to which I give weight.

Q: What factors cause different Constant Growth DCF results from the two analyses?

A: Ms. Bulkley and I have different inputs in four primary areas.

[12] Each stock in Ms. Bulkley's proxy group has an ROE determined by the expected dividend yield and the lowest of the three earnings growth estimates she used (among Value Line, Yahoo! Finance, and Zacks), the average of the three, and the highest of the three. This provided her range. She then took all resultant ROEs determined by a specific method and averaged them (the mean) or took the median of these results.

[13] Please see Ms. Bulkley's Summary of Analyses Results, Sch-1 Sum from Attachment AEB-2. Her mean results are based upon the average growth rate mean result in this spreadsheet.

First, as discussed above, we have different proxy groups. The inclusion of the four companies discussed above and based on my results for my preferred metrics increases the ROE by 1 basis point.[14]

Second, we use different resources to determine our growth estimates. I add S&P, in addition to Yahoo!, Zacks, and Value Line. This results in a more robust data set from reputable resources, which serves to incorporate growth estimates from a wider range of sources, reduces the effect of particularly high or low estimates, and should offer a better proxy for the market expectation, since a broader survey of market expectation is being incorporated. The additional source of growth estimates increases the ROE results by 8 basis points.[15]

Third, I included historical growth factors including earnings, book value and dividends growth over the past five and ten years and used a weighted average of the results of the forecasted earnings growth and the historical earnings growth. Overall, this decreased the ROE by 32 basis points.[16]

Fourth, I did not eliminate all negative data points, either historical or forecasted, but consider each of these results on a case-by-case basis.[17] This results in a decrease of 7

[14] This is determined simply by deleting the ROE results in column AJ for the constant growth model tab of OUCC Attachment SD-1. The change is based on the ROE Mean less Outliers calculation, which is 10.06% for my preferred proxy group and is 10.05% for the adjusted proxy group. For specifics on my preferred metrics and the choices I made in determining them, see Appendix D.

[15] Average Growth for my proxy group as found on the Constant Growth DCF tab of OUCC Attachment SD-1 is 5.50% for Value Line, 5.38% for Yahoo!, 7.26% for Zacks and 6.17% for S&P. Deleting the S&P data found in column V, while leaving all other inputs the same, reduces the ROE on my preferred metric from 10.06% less outliers, to 9.98%.

[16] This is determined by changing the formula in column AJ to use the growth numbers from the future earnings growth rate in column W rather than the blended growth rate found in column AE in Attachment SD-1, tab Constant Growth DCF. This changes the ROE for my preferred metric from 10.06% (Mean ROE-Less Outliers) to 10.38%.

[17] For specifics on my preferred metrics and the choices I made in determining them, this is discussed later in my testimony.

basis points. [18]

As a minor point of difference, I also note that even when Ms. Bulkley and I used the same sources, my sources are more current than Ms. Bulkley's because my testimony was prepared later than hers, resulting in slight differences in growth rates and dividend yields overall.

Although I disagree on the specific expected dividends, this difference is minimal. I am using more updated numbers, as well as focusing on a seven-day average stock price rather than Ms. Bulkley's preferred metrics (although all the metrics are provided in my attachments). Timing is also a factor in the growth estimates, as my estimates are more current than those relied upon by Ms. Bulkley, even when we use the same source.

Table SD-3[19]

[18] This is determined by deleting all cells that have a negative value that were not previously deleted (the Yahoo! growth estimate for OGE discussed elsewhere), specifically the growth estimates for Avangrid from Yahoo, tab Constant Growth DCF in OUCC Attachment SD-1. This changes the ROE on my preferred metric from 10.06% with outliers removed to 10.13%. Ms. Bulkley did not remove outliers in her testimony.

[19] This table is a presentation of select data on tab Constant Growth DCF of OUCC Attachment 1, with some columns hidden for presentation purposes.

Company	Ticker	Annualized Dividend	Stock Price-7 Days	Expected Dividend Yield-1 Week	Average Future Earnings Growth Rate	Average Historical Growth Rate	Overall Growth Rate (80% Future Earnings, 20% Historical)	Mean ROE-7 Day Stock Price
ALLETE, Inc.	ALE	$2.82	$59.57	**4.88%**	**7.21%**	**3.00%**	**6.37%**	**11.25%**
Alliant Energy Corporation	LNT	$1.92	$49.08	**4.04%**	**6.32%**	**6.67%**	**6.39%**	**10.43%**
Ameren Corporation	AEE	$2.52	$69.92	**3.71%**	**5.87%**	**4.67%**	**5.63%**	**9.33%**
American Electric Power Company, Inc.	AEP	$3.52	$78.50	**4.60%**	**5.42%**	**4.33%**	**5.20%**	**9.80%**
Avangrid, Inc.	AGR	$1.76	$30.74	**5.83%**	**3.35%**	**5.50%**	**3.78%**	**9.62%**
Avista Corporation	AVA	$1.84	$34.13	**5.54%**	**5.90%**	**3.17%**	**5.36%**	**10.89%**
CMS Energy Corporation	CMS	$1.95	$57.36	**3.52%**	**7.03%**	**6.83%**	**6.99%**	**10.51%**
DTE Energy Company	DTE	$3.88	$104.98	**3.79%**	**5.66%**	**3.67%**	**5.26%**	**9.05%**
Duke Energy Corporation	DUK	$4.10	$96.16	**4.38%**	**5.99%**	**2.83%**	**5.35%**	**9.73%**
Entergy Corporation	ETR	$4.52	$101.99	**4.56%**	**6.35%**	**4.00%**	**5.88%**	**10.44%**
Evergy, Inc.	EVRG	$2.57	$51.75	**5.08%**	**4.72%**		**4.72%**	**9.81%**
IDACORP, Inc.	IDA	$3.32	$94.45	**3.60%**	**4.63%**	**5.42%**	**4.79%**	**8.39%**
NextEra Energy, Inc.	NEE	$1.87	$59.14	**3.30%**	**8.45%**	**9.58%**	**8.67%**	**11.97%**
NorthWestern Corporation	NWE	$2.56	$48.36	**5.41%**	**4.58%**	**4.08%**	**4.48%**	**9.89%**
OGE Energy Corporation	OGE	$1.67	$33.28	**5.14%**	**4.84%**	**4.50%**	**4.77%**	**9.91%**
Pinnacle West Capital Corporation	PNW	$3.52	$70.13	**5.14%**	**4.84%**	**4.25%**	**4.72%**	**9.86%**
PNM Resources, Inc.	PNM	$1.55	$36.66	**4.48%**	**13.08%**	**6.83%**	**11.83%**	**16.31%**
Portland General Electric Company	POR	$1.90	$41.71	**4.67%**	**5.42%**	**4.33%**	**5.20%**	**9.87%**
PPL Corporation	PPL	$0.96	$26.14	**3.81%**	**10.30%**	**-2.58%**	**7.72%**	**11.54%**
Southern Company	SO	$2.80	$69.51	**4.13%**	**5.81%**	**3.08%**	**5.26%**	**9.40%**
Xcel Energy Inc.	XEL	$2.08	$59.96	**3.57%**	**6.14%**	**5.67%**	**6.04%**	**9.61%**
Mean				4.44%	**6.28%**	4.49%	5.92%	10.36%
Median				**4.48%**	5.87%	**4.33%**	**5.35%**	**9.87%**
Mean-Less Outliers								**10.06%**

Q: What is the biggest weakness of the Constant Growth DCF model, and how did you compensate for that weakness?

A: The primary issue when implementing the Constant Growth DCF model is selecting the appropriate growth rate. First, there can be significant differences in the inputs used to determine the current growth rate. Second, the "long-term" earnings estimates used are intended by analysts to cover forecasts between three and five years. However, the model projects those earnings estimates indefinitely. This constant growth is a simplifying assumption, but it is obviously flawed if it forecasts a company to grow faster than the entire U.S. economy in perpetuity.[20] I addressed this weakness by using a two-stage model.

[20] This is addressed in more detail later in my testimony. It is also inherently flawed to assume that at a specific point in the future, the growth will suddenly change to a different growth rate, which it will maintain exactly in perpetuity. Simplifying assumptions are present in each of these models, but the 2-stage model is more reflective of reality than the constant growth model.

Q: Please explain the two-stage DCF model.

A: A two-stage DCF model addresses the tension between the intermediate term analyst projections and the long-term to which those projections are applied and which the model uses to determine a value.[21] The model does this by using one growth rate for the initial stage, and a second growth rate for the terminal (or long-run) stage.

Q: Did you run a two-stage DCF model?

A: I calculated three different two-stage DCF models. I created two models with the assumptions described below, calculated with both mean and median inputs. I also calculated a model modifying Ms. Bulkley's single stage inputs—specifically those that she used to calculate the market return for her CAPM analysis.

Q: What assumptions did you make for the two-stage DCF model?

A: I used the same initial dividends and growth inputs I used for the constant growth model, based on appropriate inputs of dividends calculated over seven-day average stock prices, the weighted growth rate incorporating forecasts, and historical data. I set the period of the first (initial) phase for 15 years. I used the current estimates of nominal GDP growth for growth in the second (terminal) phase. Appendix D offers further details.

Table SD-4

	Median OUCC Recommended Inputs	Mean OUCC Recommended Inputs	
Price	100.00	100.00	
Current DPS	4.26	4.31	Current Dividend percentage, based on one week average stock price
Growth rate, 1st Stage	5.35%	5.92%	Overall Weighted Growth Rate
Growth rate, 2nd Stage	3.89%	3.89%	Nominal GDP growth
Years in 1st stage	15	15	Number of Years the 1st Stage Growth Rate applies
COE	9.00%	9.36%	

Q: Please summarize your disagreements with Ms. Bulkley's DCF analysis.

[21] By intermediate term, I am referring to the three- to five-year time period these earnings forecasts are generally covering. Long-term means periods beyond that, but especially out beyond 15-20 years, to hundreds of years in the future.

A: Ms. Bulkley and I both use only two inputs to the constant growth DCF analyses, the dividend yield and the growth rate. Ms. Bulkley provides 30-day, 90-day, and 180-day stock prices to calculate dividend yield and treats these all equally in her calculations.

In contrast, I provide these data points, the spot price, and the one-week inputs. I also provide a recommendation based upon my preferred inputs, as opposed to Ms. Bulkley offering a range.

For the single phase DCF, a dividend yield based on a full week of stock prices is more appropriate as discussed below. Furthermore, the stock prices in April of last year are not relevant in a significant way to determining the current dividend yield. My data is more current, with the gap in this cause between her data and mine being four months.[22] Consistent with the efficient market hypothesis ("EMH"), a full week of stock prices is sufficient to alleviate significant volatility and arrive at the market's best estimate of the current yield. Using a seven-day average in this case results in a higher yield than using the spot price or a one, three or six-month average. The dividend yield difference between a seven-day and a six-month calculation in this case is six basis points (current yield of 4.31% vs. 4.26%).

While we both express a mean and median for the DCF, I prefer the mean, because it is a more appropriate way to reflect the inputs. (If there is a very significant outlier, the analyst should address that, rather than accepting the median as the proper result, which I did by eliminating the negative growth forecast from Yahoo! for OGE.) One purpose of using a median as opposed to a mean is that it eliminates aberrations caused by outliers. In

[22] Ms. Bulkley's data was selected as of September 30, 2023, and mine as of February 1, 2024; the April 2023 reference is to data included in her analysis.

this process, outliers were not included in the proxy group, or the outlier was addressed by other methods.

In her rebuttal testimony in Cause. No. 45870,[23] Ms. Bulkley argued outliers should be treated via a statistical method (95% confidence interval). I accepted this as constructive feedback and adopted this convention in I&M's rate case, Cause No. 45933, and in this cause. Ms. Bulkley, however, did not similarly institute this methodology in her direct testimony in Cause No. 45870, Cause No. 45933, or this proceeding. Applying this protocol to these figures results in the removal of PNM Resources, Inc from the results for the Mean ROE-7 Day Stock Price preferred measure. Ms. Bulkley did not remove the outliers in her analysis consistent with her rebuttal testimony in Cause No. 45870, and her DCF results incorporates outliers.

Finally, I calculated extreme ranges of my potential ROE by incorporating on the low end both the lowest dividend yield (based on the average price of the individual stocks over various time periods) and the lowest estimated growth rate. This is an extremely conservative approach, but it provides a range. I did the opposite for the high end of the range, only the assumptions were extremely aggressive. Ms. Bulkley based her low (and high) estimates on the 30-day, 90-day, and 180-day ranges, and she used the lowest (or highest) growth. This method should produce similar results for both of us, although since I used additional time periods, my range would potentially be wider because I considered the lowest or highest results from a wider variety of potential inputs.

Due to the method of calculating this range, the usefulness of the extremes of this

[23] *In re Ind. Amer. Water*, Cause No. 45870.

range is significantly limited. Further, Ms. Bulkley did not use historical growth rates in her calculation. While the earnings forecasts are more important, historical results carry weight, so, I weighted these with 20% of my growth estimate. The Commission has encouraged the use of historical inputs (as shown in Appendix G). Because Ms. Bulkley and I also disagree on the appropriate composition of the proxy group, this also affects the results.

Q: What range of estimated costs of equity does Ms. Bulkley propose for her DCF models and how does this contrast to your outputs?

A: Ms. Bulkley proposes a range of estimated cost of equity of 8.88% to 11.12%. Based on the average growth rate, her estimate is 10.03% for her mean model and 9.97% for her median model. I recommend 10.06% for the mean less outliers (my preferred metric). My range is between 8.75%-11.40% for the mean less outliers. I also used two-stage modeling, which results in a recommendation of 9.36% based on mean inputs and 9.00% based on median inputs The constant growth and two stage DCF models provided two of the most important outputs that I considered in my analysis.

Q: Summarize your comments on Ms. Bulkley's growth estimates.

A: The goal in estimating growth in the DCF model is to derive a reasonable long-term or sustainable estimate of growth in dividends. Ms. Bulkley's DCF analysis relies exclusively on intermediate term forecasts in EPS to estimate the growth in her DCF model. Assuming there is no upward bias in analyst estimates, the estimates Ms. Bulkley used are still intermediate, not long-term forecasts, and are, therefore, more likely to be unsustainable over the longer term (and to the extent they exceed the growth of nominal GDP are mathematically impossible). Ms. Bulkley's overly optimistic growth rates overstate the results of her DCF analysis. I used these same

estimates, including one additional forecaster, but tempered this data with historical results, and I addressed this concern by also using a two-stage model that Ms. Bulkley did not perform.

Q: Is it inappropriate to say analysts' forecasts are optimistic?

A: No. *See* Appendices E and F for a further discussion on general issues and potential bias in analyst forecasts. These appendices highlight issues with the time horizon of analyst estimates, the suitability of using a multistage model for estimating a cost of capital, and the potential upward bias in analyst forecasts.

Q: Does Ms. Bulkley make any statements about the current valuation of utility stocks?

A: Yes. Ms. Bulkley expresses concerns that utility stocks are currently overvalued, making her DCF analysis not as reliable as it otherwise would be. She concludes forward looking cost of equity estimation models such as CAPM and ECAPM may better reflect expected market conditions.[24]

Q: Do you agree with Ms. Bulkley's opinion?

A: I do not. I do not fundamentally disagree that interest rates will affect utility stocks, as they are traditionally considered low-risk securities that are owned for their yield. However, generally, market participants understand this relationship, and it is the movement of interest rates that cause this correlation, not the absolute level. If Ms. Bulkley is contending utility stocks will continue to drift lower because interest rates will remain elevated, she

[24]Bulkley Direct, section IV.D, pp. 17-20. Ms. Bulkley discusses how utility stocks are over-valued and are primed for a decline. She concludes, "Because the share prices of utilities are inversely correlated to interest rates, and government bond yields are already greater than utility stock dividend yields, the share prices of utilities are likely to continue to decline, which is the reason a number of equity analysts have classified the sector as either underperform or underweight. The expected underperformance of utilities means that DCF models using recent historical data likely underestimate investors' required return over the period that rates will be in effect. Therefore, this expected change in market conditions supports consideration of the higher end of the range of cost of equity results produced by the DCF models. Moreover, prospective market conditions warrant consideration of forward-looking cost of equity estimation models such as the CAPM and ECAPM, which better reflect expected market conditions." *Id.*, p. 20, lines 19-29.

fails to recognize the market can respond to changes instantaneously; it doesn't take months, especially for an intuitive phenomenon. The Commission should, accordingly, not give weight to an analyst's statement that the market is wrong on a market sector. For every seller of a utility stock, there is a buyer, and for each trade, a seller who believes the stock is overvalued and a buyer who believes the stock is undervalued. A market price balances these opinions. Ms. Bulkley may fall on the side of the seller who believes the stocks are overpriced, but her opinion carries no more weight than all the current utility stockholders. Ms. Bulkley repeatedly emphasizes in her testimony that one of the reasons for this is that dividend yields on utilities are lower than on 10-year treasury bonds (page 11 line 33-page 12 line 2, page 17, lines 25-27, page 18, line 28 through page 19, line 2) and that additional rate increases from the Federal Reserve are to be expected (page 13, line 9-11). If these conditions were relevant and in effect when her testimony was prepared, neither is *currently* valid. The dividend yield of my proxy group of 4.31% for the seven days leading up to February 1 (it was 4.27% on February 1), is higher than the seven-day average of 10-year treasury yields (4.03%), or 30-year treasury yields (4.26%). Additionally, the Federal Reserve is almost universally expected to reduce rates from this point, although the timing on when this will happen is uncertain.[25] Ms. Bulkley's prognostications on the future movement of stock prices are questionable based on current data.

[25] *See* Christopher Rugaber, *Fed on track to cut rates this year with inflation slowing and the economy healthy, Powell says*, AP News (Feb. 27, 2024, 7:27 PM) https://apnews.com/article/federal-reserve-powell-inflation-prices-rates-cuts-e2d17c4ef6502e95d52f78759fa512b4. (recent AP article discussing Federal Reserve Chairman Powell's interview with 60 minutes, where he stated that Fed officials envisioned 3 rate cuts in 2024, and Mr. Powell said that forecast still likely reflected policymakers' views. https://apnews.com/article/federal-reserve-powell-inflation-prices-rates-cuts-e2d17c4ef6502e95d52f78759fa512b4, discussion of initial news conference here https://apnews.com/article/federal-reserve-inflation-prices-interest-rates-cuts-5880d78c4664484cf366bb1aeb2bb63d).

I reviewed analyst estimates for the stocks in my proxy group. These results are in Attachment SD-1, at the tabs for Value Line, Yahoo! Finance, and S&P. To summarize, there are 21 companies in my proxy group. Value Line considers the average "Timeliness" rating on these stocks to be 3.33 out of five, which is basically average. S&P provides an average recommendation of 2.32 (2 being outperform and 3 being hold), or generally slightly closer to an outperform rating than a hold. Yahoo! Finance has an average rating of 2.46. For Yahoo!, the average analyst target for a stock price is 9.09% above the current stock prices. It is hard to reconcile average to above-average stock ratings with being clearly overvalued and potentially invalidating one of our core models for determining cost of equity.

Q: Are there any other differences in approach to market price determination between Ms. Bulkley and yourself?

A: Yes. Ms. Bulkley relies on longer time frames for "the market price." I place more reliance on the EMH, which states that, in essence, all publicly available information is reflected in a security's price.[26] Ms. Bulkley implicitly disregards this principal by stating that utility stocks are overvalued, the prices will eventually come down, and that this therefore means the DCF models cannot be relied upon.[27] Coincidently, the DCF models produce the lowest ROE calculations in Ms. Bulkley's testimony.

[26] I do not subscribe to the strongest form of this model, but what is generally referred to as the semi-strong form, which is the belief that prices reflect not only past prices but all other published information, such as earnings and dividends announcements, forecasts of earnings, accounting changes and mergers. This does not mean the price discovery is instantaneous (which is why I use 7 days as my preferred threshold for pricing metrics), but I do not believe this price discovery mechanism would take months.

[27] See, for instance, Ms. Bulkley's Direct Testimony, page 6, line 3 "…[I]t is likely that utility share prices will decline.", page 20, line 8 "..equity analysts expect utilities to underperform…" or page 20, lines 19-23 "Because the share prices of utilities are inversely correlated to interest rates, and government bond yields are already greater than utility stock dividend yields, the share prices of utilities are likely to continue to decline, which is the reason a number of equity analysts have classified the sector as either underperform or underweight."

Ms. Bulkley's assumption that utility stock prices are overvalued should not be used as a basis to discredit or discount the DCF model or be used as a basis for a decision on an appropriate, reasonable ROE. The EMH is a bedrock principle upon which both the DCF model and the CAPM rest. Without this assumption, these models lose their validity. If one does not believe the market provides rational pricing, it follows there cannot be reliance on those models. It is illogical to rely on the DCF model and CAPM without consistently following their precepts.[28] This issue is discussed in more depth later in my testimony.

Although Ms. Bulkley relies on the DCF model (and thus, implicitly the EMH) when determining her growth rate for the S&P 500 in her CAPM calculations, she insists it should be disregarded in the context of utilities because of her premise that utility stocks are "overvalued." I disagree with this premise. When buying and selling, market participants make judgments as to what individual stocks they believe are overvalued or undervalued. For every buyer, there is a seller, and hence, generally for everyone who believes a stock is overpriced and is thus willing to sell, there is someone willing to buy that stock, and hence believes the stock is underpriced. This is what makes a market; buyers and sellers arriving at a market clearing price.

C. Capital Asset Pricing Model

Q: Please explain the Capital Asset Pricing Model (CAPM).

[28] "Modern Academic finance is built on the proposition that markets are fundamentally rational. The foundational model of market rationality is the CAPM. The Implications of rejecting market rationality as encapsulated by the CAPM are very considerable. In capturing the idea that markets are inherently rational, the CAPM has made finance an appropriate subject for econometric studies." Dempsey, Michael J. "The Capital Asset Pricing Model (CAPM): The History of a Failed Revolutionary Idea in Finance?" *Abacus* 49, Supplement (2013): 7.

A: Briefly, the CAPM takes the current risk-free rate of interest and adds an amount based on the expected additional return for holding equity vs. risk-free debt. This excess return is then modified by the riskiness of the equity (or equities) being examined versus the market.

Q: Do you have detailed discussions of the CAPM in your appendices?

A: Yes. Appendix H details the structure of the CAPM and the calculation of specific inputs.

Q: Do Betas trend toward one over time?

A: I am aware of academic literature that shows Betas move toward 1.0 over time; however, that does not necessarily apply to utilities. From my perspective, it is important to step back and realize what an ever-increasing Beta implies about future risk for utilities specifically. Since Beta is used as a proxy for risk, the assumption that utility Betas are going to eventually be at 1.0 means that at some point in the relatively near future, regulation will produce utilities that are as risky as the average non-utility company. This seems unlikely given the long-standing regulatory system in which utilities operate. The utility industry is inherently different due to its regulatory environment. An entire regulatory regime is in place, in large part, to ensure utilities do not become too risky.

Q: Do you know of academic research supporting the position that adjusted Betas are not applicable to utilities?

A: Yes. An article in the Electricity Journal from 2013 addressed this specific issue.[29] The conclusion stated, "We have shown empirically that public utility betas do not have a tendency to converge to 1."[30] The article further stated: "The single significant equation implies a long-term convergence of beta to approximately 0.59," and "Therefore the Blume

[29] Public Utility Beta Adjustment and Biased Costs of Capital in Public Utility Rate Proceedings, Richard A. Michelfelder from Rutgers University and Panayiotis Theodossiou of Cyprus University of Technology. This article is included in my workpapers.
[30] *Id*., page 67.

equation overpredicts utility betas and Blume-adjustments of utility betas are not appropriate."[31] The chart below is from this article, and shows the boxplots of utility stock betas using four-year periods data.[32] This chart clearly shows that Betas are not converging toward one over time.

Table SD-5

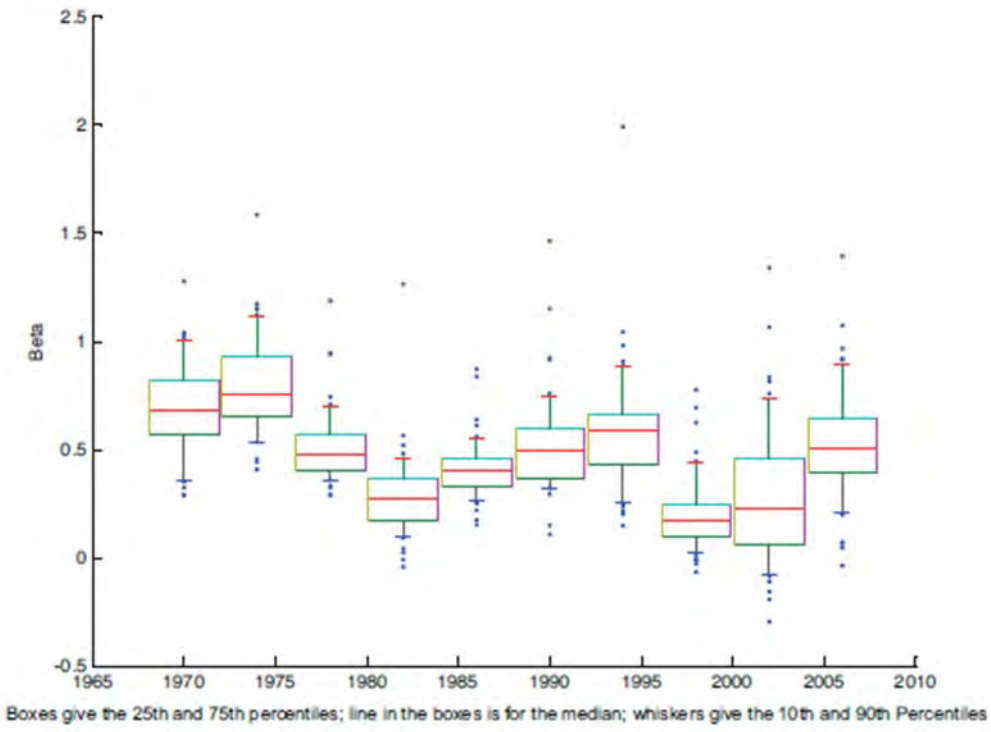


Figure 1: Boxplots of Utility Stock Betas Using 4 Year Periods Data

1. Market Risk Premium

Q: Please discuss how Ms. Bulkley estimated 8.48%-9.10% market risk premiums.

[31] *Id*., page 67.
[32] Figure 1 may be found on page 66 of this issue. Public Utility Beta Adjustment and Biased Costs of Capital in Public Utility Rate Proceedings, Richard A. Michelfelder from Rutgers University and Panayiotis Theodossiou of Cyprus University of Technology.

A: In her Attachment AEB-2, Ms. Bulkley uses the DCF model to estimate the cost of equity for the S&P 500. Ms. Bulkley multiplies each company's "Current Dividend Yield" and its estimated "Long Term Growth Est" by its weight in the modified S&P 500 index to determine a "Cap Weighted Dividend Yield" and its "Cap-weighted Long term Growth Est." Ms. Bulkley sums each figure to produce a 11.01% "Estimated Weighted Average Long-term Growth Rate" and a 1.79% "Estimated Weighted Average Dividend Yield." These two figures produce Ms. Bulkley's "Estimated Required return for the S&P 500" of 12.90%. Ms. Bulkley then subtracts various 30-year U.S. Treasury Bond yields to estimate her risk premiums.

Q: Please summarize your disagreements with Ms. Bulkley's CAPM analyses.

A: Ms. Bulkley's CAPM analyses produce estimated costs of equity of 10.60% (Long-Term average Beta, and Longer-Term Projected 30-Year Treasury Yield) average of the 30-Year Treasury yield) to 11.95% (the Current Value Line Beta and the Current 30-Day Average of the 30-year Treasury yield). As discussed above, the primary concern with Ms. Bulkley's CAPM analyses is her use of an estimated market return of 12.90%, rather than a more reasonable return, as well as utilizing only the highest Betas available for her analyses.

Q: Did you use multiple sources to determine the Equity Risk Premium?

A: Yes. Some sources estimated the market return, and some estimated the ERP directly, as described below.

Q: What sources did you use to determine the estimated market return?

A: I used thirteen (13) sources that provided information for an expected long-term market return. (See OUCC Attachment SD-1, tab "Market Risk Premium".)

Table SD-6

Source:	Forecast
Blackrock	6.95%
BNY Mellon	7.40%
Damodoran	8.44%
Federal Reserve-Professional Forecaster:	7.00%
Fidelity	6.60%
Horizon Actuarial Services	7.37%
INPRS	7.70%
Invesco	7.00%
JP Morgan	7.00%
Richmond Federal Reserve/CFO Survey	8.90%
Charles Schwab	6.20%
Vanguard	5.20%
Verus	6.30%
Average	7.08%

Q: Did you ask CenterPoint for a return estimate from the pension fund?

A: I did. Data Request 2-13 asked for this information. The response was marked confidential, so therefore I am not including it in the table above, or in my discussion of a general market return forecast of 7.08%. This response may be found in Confidential OUCC Attachment SD-10.

Q: What is the return assumption for large cap U.S. Equity for CEI South Pension Assets?

A: <**CONFIDENTIAL**>[redacted]

[redacted]

[redacted] <CONFIDENTIAL>

Q: How do you need to modify the above numbers to determine the ERP?

A: As previously described, to calculate an equity risk premium, one subtracts the risk-free rate from the market return. For instance, if we use a risk-free rate based on the 7-day average yield of the 30-year U.S. Treasury, which was 4.26% as of February 1, 2024, and subtract it from the OUCC's recommended estimated market return from Table SD-6 of 7.08%, this results in an equity risk premium of 2.82% (7.08%–4.26%). In comparison, substituting Ms. Bulkley's S&P 500 12.90% estimated market return would result in an equity risk premium of 8.64% (12.90%-4.26%), or over 3 (8.64%/2.82%=3.06) times greater. Ms. Bulkley's estimate of investor required returns is significantly higher than the expected returns of market participants such as Blackrock, Fidelity, INPRS, or JP Morgan. This overly inflated estimate drives the bulk of the different results between the CAPM estimated in our respective testimonies and is easily rectified by simply using reputable third-party sources. It is compelling that the highest third party estimate in the table above is still a full 400 basis points lower than Ms. Bulkley's estimate.

Q: Do informed sources project the ERP directly?

A: Yes. For instance, Kroll currently estimates the ERP at 5.50% (as of September 18, 2023).[34] KPMG estimates the MRP at 5.0%, updated December 31, 2023. Professor Aswath Damodaran at the New York University Stern School of Business publishes well-

[33] <CONFIDENTIAL> [redacted] <CONFIDENTIAL>

[34] On September 18. 2023, Kroll released an update confirming the MRP was 5.50%, although it did not update the report, which is dated June 8, 2023.

known datasets, including updated ERPs. His update as of February 1, 2024, listed an implied 4.50% ERP (based on the 12-month cash yield). (See OUCC Attachment SD-1, tab ERP, for a summary table.

Table SD-7

Source	Estimate
KPMG	5.00%
Kroll	5.50%
Damodaran	4.50%
	5.00%

Q: Did you use these three equity risk premium estimates in your models?

A: Yes, and they resulted in one of my preferred metrics. These current estimates are designed specifically to answer what the Equity Risk Premium is right now. It is also a conservative estimate, insofar as this method of relying on reputable, third-party estimates of this critical input results in a higher ERP, and thus a higher Cost of Equity, than relying on the market forecasts. The results relying on both methods of determining the Equity Risk Premium are found in Attachment SD-1 and my summary graphs.

Q: Please summarize the results of your CAPM analyses.

A: The results of my CAPM analyses are shown on OUCC Attachment SD-1. The cost of equity based on my CAPM analyses (using my preferred inputs of the 7-day average of 30-year treasury yields as the risk-free rate, the Forecasted ERP of 5.00%, the mean Beta from all five sources results and removing outliers) is 7.24%. The results were significantly lower when using the equity risk premium generated by using the average forecasted market return of 7.08% less the risk-free rate of 4.26%, which results in an ROE of 5.94%.

Q: What is your recommended ROE based on the CAPM?

A: My recommended CAPM ROE is 7.24% calculated on the mean of the ROEs for each member of the proxy group. This is based on the 7-day average yield for the 30-year

treasury of 4.26%, plus the product of the mean Beta from all five sources of 0.61, multiplied by the ERP of 5.00%. As with the DCF model, the mean is a more appropriate result to use and is my preferred result. Based on a market return of 7.08%, I also recommend a CAPM result of 5.94%.

D. ECAPM

Q: Did you also run an ECAPM analysis?

A: I did. I do not find the ECAPM compelling as a model, and the Commission explicitly rejected the use of ECAPM in at least two previous Orders (Cause Nos. 40003 and 42359). The Commission reaffirmed that ECAPM is unreliable for ratemaking purposes in its Order dated May 18, 2004, in Cause No. 42359:

> With respect to the ECAPM analysis performed by Dr. Morin we note that the Commission rejected this model in Cause No. 40003, and found that: "the Empirical CAPM is not sufficiently reliable for ratemaking purposes." Cause No. 40003 at 32. We went on to conclude that the ECAPM ". . . would adjust, in essence, future expectations with regard to investor perceptions of relative risks for further change which may occur years hence." The Commission concluded that ". . . we do not believe exercises in approximating future cost of capital are conducive to such precise estimation as the Empirical CAPM would suggest." Id. We find that nothing presented in this Cause has changed our prior determination that ECAPM is not sufficiently reliable for ratemaking purposes and hereby reject the model in this proceeding.[35]

To the best of my knowledge, the ECAPM does not appear in any general corporate finance literature and is only found in utility rate case proceedings.

However, I did run the calculations. The ECAPM adjusts the Betas up toward one for low-risk companies, such as utilities that have a Beta below one. Since some of the

[35] *In re PSI Energy*, Cause No. 42359, Final Order, p. 56 (Ind. Util. Regul. Comm'n May 18, 2004).

Betas used above (and all of them in Ms. Bulkley's CAPM, namely Value Line and Bloomberg) are already adjusted, this results in using twice-adjusted Betas in the ECAPM. I accepted Ms. Bulkley's convention of assigning a 25% weight to "the market" as the adjusting factor in the ECAPM. This results in an ROE of 7.75% on a mean basis for the ECAPM after removing outliers and using the ERP of 5.0% discussed above. I put no weight on this model in my determination of the appropriate COE.

Q: Please summarize your results for the CAPM and ECAPM calculations.

A: For the CAPM, my result is 7.24% ROE for the results obtained by using a directly forecasted ERP, and 5.94% for the results obtained by incorporating the forecasted market return of 7.08%. I do not recommend use of the ECAPM, but it results in a 7.75% ROE.

E. Risk Premium

Q: Please explain the Risk Premium Model.

A: The risk premium model's base proposition is that common stocks are riskier than debt and, as a result, investors require a higher expected return on stocks than bonds. This assumes that (1) investors consider bonds an alternative investment to stocks on a risk-adjusted basis, (2) that the equity risk premium is constant over time, (3) the return differential between stocks and bonds is measurable, (4) investors follow the present value theory of investment, and (5) the markets are efficient.[36] The model simply takes the cost of debt plus the risk premium to determine the cost of equity. The higher the risk premium,

[36] David C. Parcell, The Cost of Capital – A Practitioner's Guide 167-68 (2020 ed. 1997).

or spread, the higher the return for investors and conversely, the higher the cost for ratepayers.

Q: Do you assign weight to this model?

A: I do not. First, it does not measure the COE like the models discussed above, but is instead dependent on the awarded ROE, which, as discussed in the market to book pricing discussion below, are not necessarily the same thing. Second, one of the primary requirements of this model is that the spread is stable over time. This is clearly not the case based on the information Ms. Bulkley highlighted, which I did analyze in a previous case (I&M Cause No. 45933) and present here.[37] The first table shows the historical relationship between the risk premium and the 30-year treasury yield, and the second is the same

[37] I&M Cause No. 45933, Direct Testimony of Shawn Dellinger, Nov. 15, 2023. These two tables were originally presented as tables SD-14 and SD-15, on page 46.

information, but looking at the spread over time.

Table SD-8

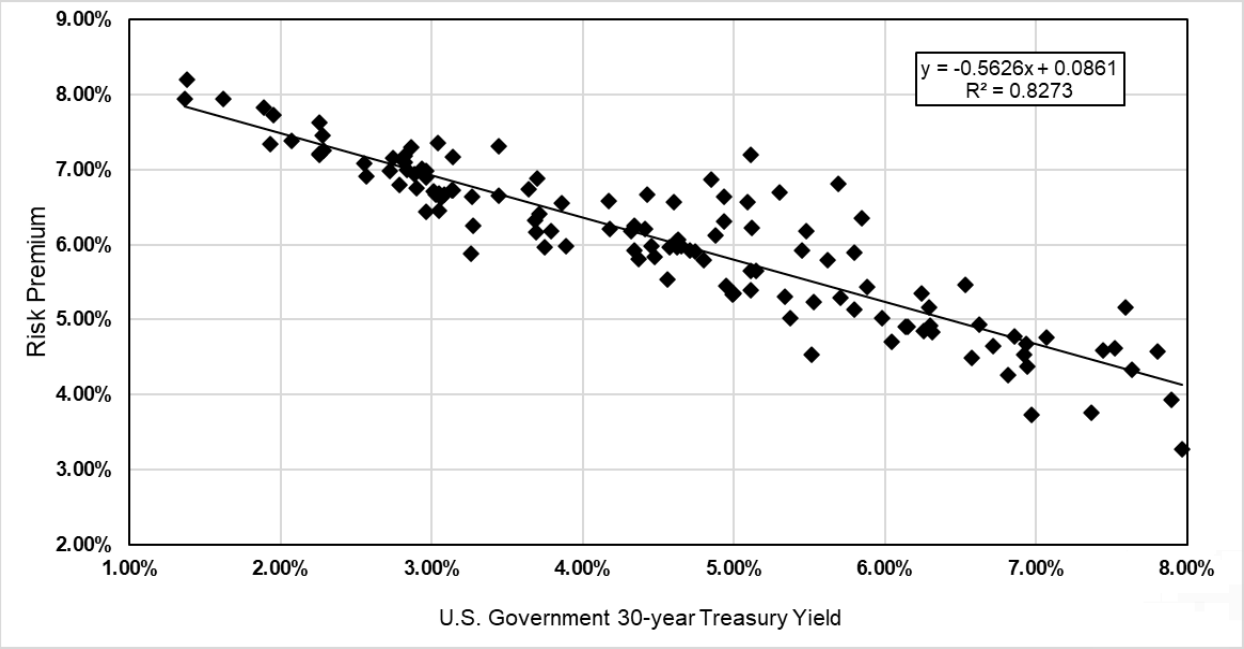
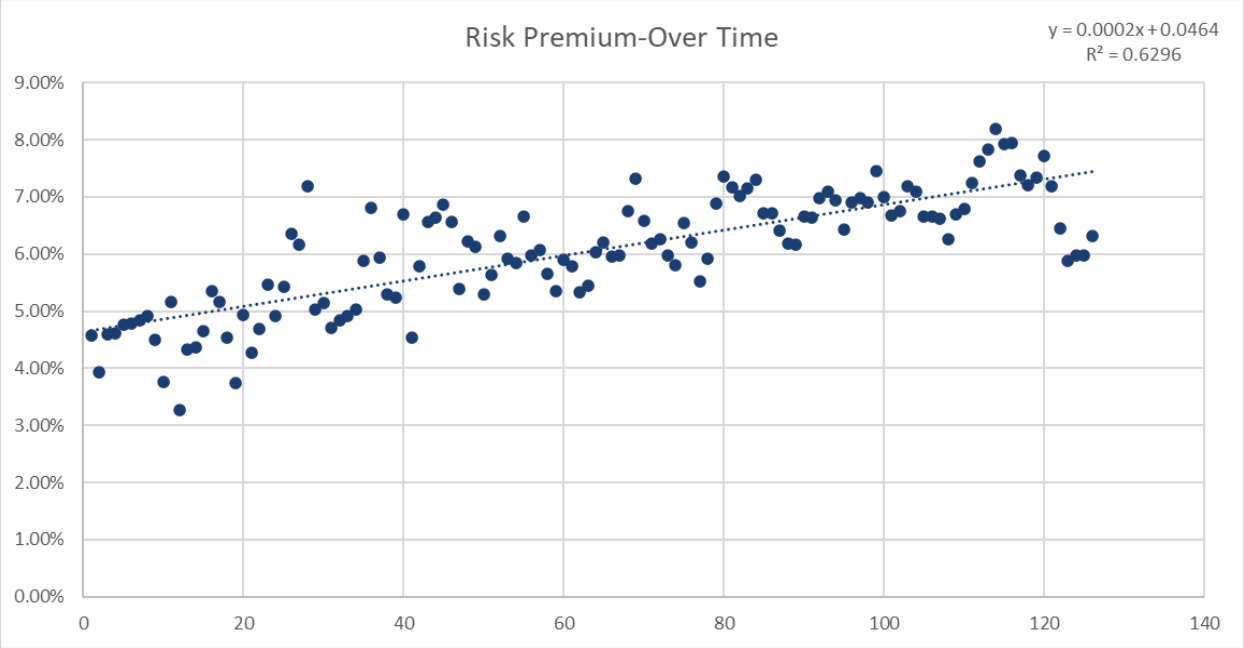


Table SD-9



Further, in its 45870 Order, the Commission advised analysts to not rely on regression models when simpler approaches would work.[38] **<CONFIDENTIAL>** [redacted] **<CONFIDENTIAL>**

F. Summary of ROE Analysis Results and Resulting Recommended ROE

Q: Please summarize the results of the Constant Growth DCF model, 2-stage DCF model, and CAPM analyses.

A: Table SD-10 below shows both the range and the recommendation based on four models to which I assign weight. This table also shows the average of all the models:

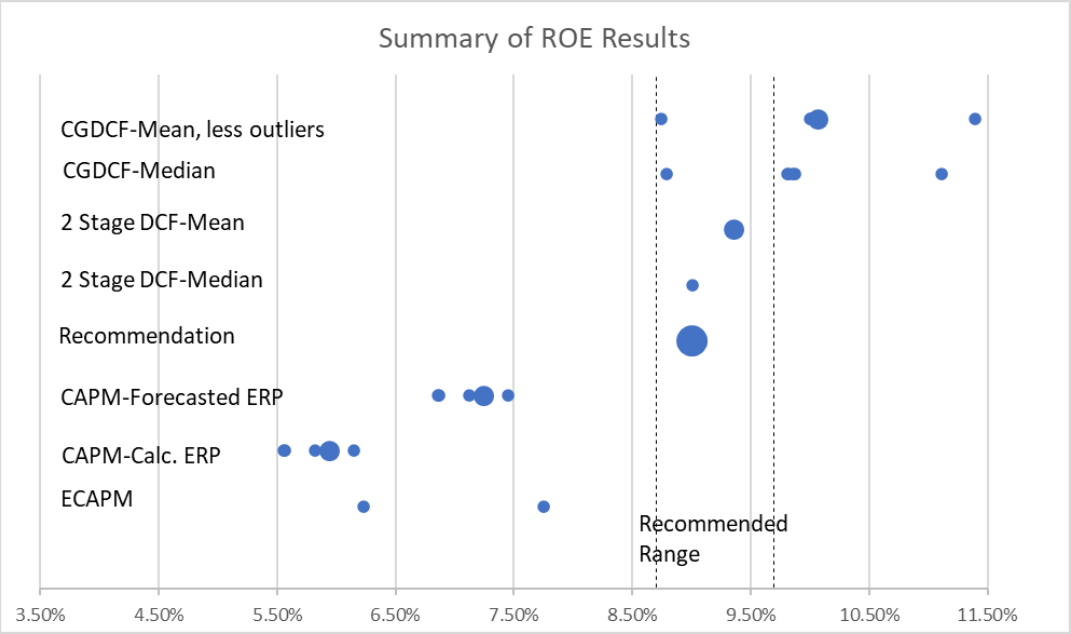
[38] *In re Indiana-American Water Company*, Cause No. 45870, Final Order, p. 56 (Ind. Util. Reg. Comm'n, February 14, 2024).
[39] [redacted]

Table SD-10

Model	Low	Recommendation	High
DCF-Constant Growth-Mean	8.75%	10.06%	11.40%
DCF-2 Stage-Mean		9.36%	
CAPM-Forecasted ERP	6.86%	7.24%	7.45%
CAPM-Calculated ERP	5.56%	5.94%	6.15%
Average:	7.05%	8.15%	8.33%

The results of each individual set of inputs can be seen below. This is the same information presented in Table SD-10 above, but incorporating results attained by using data other than my preferred inputs and models.

Table SD-11



Q: Your model estimates are significantly lower than Ms. Bulkley's. Why are your estimates and recommended ROE more reasonable?

A: First, the market-to-book ratio of the proxy group indicates that the required risk adjusted returns for that group is lower than the awarded ROE on a national basis. The second reason is based on the availability of academic research showing that returns on utilities are generally higher than justified by the risk adjusted return standard.[40]

Q: Please elaborate on your statement that the market-to-book ratio of the proxy group would indicate that the required risk-adjusted returns for these companies is lower than what is being awarded nationally regarding the return on equity component.

[40] A recent article entitled "Rate of Return Regulation Revisited" from Werner (of the U.S. Treasury) and Jarvis (of the London School of Economics) stated that estimated current (as of September 2022) average returns on equity could be around 0.5-5.5 percentage points higher than various benchmarks and historical relationships would suggest. Found at: https://haas.berkeley.edu/wp-content/uploads/WP329.pdf. *See also*, "Based on a database of U.S. electric utility rate cases spanning nearly four decades, the returns on equity authorized by regulators have exhibited a large and growing premium over the riskless rate of return. This growing premium does not appear to be explained by traditional asset-pricing models, often in direct contrast to regulators' stated intent. We suggest possible alternative explanations drawn from finance, public policy, public choice, and the behavioral economics literature. However, absent some normative justification for this premium, it would appear that regulators are authorizing excessive returns on equity to utility investors and that these excess returns translate into tangible profits for utility firms." "Regulated Equity Returns, a Puzzle" abstract, Rode and Fischbeck (Carnegie Mellon 2019), found at: https://www.sciencedirect.com/science/article/abs/pii/S0301421519304690.

A: The basic theory behind an ROE in a regulatory framework is that an investor may invest his or her money in a multitude of potential investments, and the return on a utility investment should equal what he or she could get from an alternative investment of similar risk.[41] Once that investment is made, the value of the investment is still $1.00, meaning a dollar of equity is earning an appropriate risk-adjusted return. This is what the market to book ratio measures - the market price compared to the book value of a company. Generally, we make the simplifying assumption that the book value of a utility stock is approximately equal to the equity component of its capital structure, so the market-to-book ratio should be generally measuring the market price of a dollar of equity. Alfred Kahn, the "father of airline deregulation," wrote: "…the sharp appreciation in the prices of utility stocks, to one and a half and then two times their book value…reflected a growing recognition that the companies in question were in fact being permitted to earn considerably more than their cost of capital," and

> …the source of this discrepancy between the market and book value has been that commissions have been allowing r's in excess of k; if instead they had set r equal to k, or proceeded at some point to do so, both the discrepancy between market to book value and the inconsistency would have disappeared, or would never have arisen.[42]

In this context, k represents the cost of capital, and r represents the allowed return on equity.

[41] *See FPC v. Hope Natural Gas Co.*, 320 U.S. 591,603, which defined a fair return as "commensurate with returns on investments in other enterprises having corresponding risks."
[42] *See* The Economics of Regulation: Principles and Institutions, Alfred Kahn, 1970, pages 48 and 50.

Q: What is the current market to book ratio of the proxy group you selected?

A: The current market-to-book price of the proxy group I selected is 1.60.[43] This means the market values of a dollar of equity investment in rate base is $1.60 for the "average" electric utility.[44] This strongly implies that the risk-adjusted returns being enjoyed by the average electric utility are currently higher than necessary to compensate the investors for the risk they are incurring, as shown by the value of a dollar of rate base being valued by the market at 60% higher, or $1.60. Put another way, a market to book value in excess of one means that investors believe the return on investment (in this case, the awarded return on equity) is in excess of the actual cost of capital, or the ROE is higher than the COE. All the models I have prepared are estimating the Cost of Equity; the Return on Equity in the context of a regulated utility ROE determination is a decision by the appropriate Commission, which is not necessarily based on the cost of equity alone.

Q: What is the implied return investors are actually anticipating based on awarded ROEs and current market to book ratios?

A: A simplified method of looking at this question is to remember what a stock price represents, from a net present value perspective.[45] It is the stream of cash flows over time, presented as a present value (using a discount rate to convert all future cash flows into a value today). Since the awarded return on equity represents the return the investors will experience on their equity, one can simply take this return divided by the market to book

[43] Based on S&P reports on February 1, 2024. These numbers may be found on Attachment SD-1, tab "S&P Data" and consists of the price/book ratio average of my proxy group.

[44] I acknowledge there may be subtleties in the holding company structure that result in discrepancies in the representation of the book value as equal to the rate base assumption, but those discrepancies should not be of the scale we are discussing here. Also, this is not really an analysis of the electric utility industry as a whole, but rather just the proxy group that I am using. There is no reason to think this proxy group is materially different from that of the proxy group, but I did not do that analysis.

[45] The simplification assumes that the actual return is the awarded return, and new equity is added over time. Those factors do not invalidate the overall point, however.

ratio. If the return is anticipated to be 10%, and the market to book ratio is 2.0, this shows investors are actually anticipating a 5% return on their investment.[46] This is intuitively true, in that the anticipated cash flows of the firm do not change dependent on the stock price. Therefore, the higher price an investor pays for the same cash flows, the lower the anticipated return. This means that it must be true that an investor who purchases a stock return on equity of 10.4% at a market to book value of greater than one must be anticipating a return less than 10.4%, and therefore the cost of equity must be less than the return on equity.

Q: Would your proposed ROE negatively impact the ratepayers in Indiana?

A: No. It would be a benefit to CEI South's ratepayers. The ratepayers would receive the benefit of bills that more appropriately align with the costs incurred in providing the services. The decision on an ROE is a zero-sum decision that directly affects affordability and is a decision to determine if cash is better in the hands of Petitioner's shareholders or Hoosier ratepayers. Some argue that investment decisions and economic growth depend on high ROEs to encourage investor-owned utilities to provide safe and reliable service, and encourage economic development.[47] For example, Ms. Bulkley stated the following in her Direct Testimony: "It is reasonable to expect that equity investors will seek alternative investment opportunities for which the expected return reflects the perceived risks, thereby inhibiting the Company's ability to attract new equity capital at reasonable cost."[48] The market to book analysis presented above shows that the cost of equity is below the return

[46] This fact also explains, broadly, why anticipated longer-term market returns as discussed elsewhere in my testimony are around 7%, and utilities with a beta under one would be assumed to be below that anticipated return.
[47] *See e.g.* Statement of Commissioner Ralph V. Yanora, Pennsylvania P.U.C. Docket No. M-2023-3042679 dated October 19, 2023.
[48] The full Q&A is found in Ms. Bulkley's testimony, page 8, line 20 through line 4 on page 9. The actual quote is from page 9, lines 1-4.

on equity, otherwise this premium for existing shareholders would not exist. She also stated: "In determining how to allocate its finite discretionary capital resources, it would be reasonable for CenterPoint Energy to consider the authorized ROE of each of its subsidiaries.[49]

However, when pressed in discovery (OUCC Attachment SD-4, Data Request Response 1-39), it is clear this is a red herring. In Petitioner's response to this discovery inquiry, it was pointed out that the testimony actually also includes this statement, which was considered important enough by the Petitioner to include as part of its response:

> While CEI South is committed to investing the required capital to provide safe and reliable service, because CEI South is a subsidiary of CenterPoint Energy, Inc., the Company competes with the other CenterPoint Energy subsidiaries for discretionary investment capital. In determining how to allocate its finite discretionary capital resources, it would be reasonable for CenterPoint Energy to consider the authorized ROE of each of its subsidiaries.[50]

However, the response to whether CenterPoint Energy considers the awarded ROEs in each of its subsidiaries when making investment decisions was that "An investment analysis incorporating ROE for allocating capital resources does not exist." (found in OUCC Attachment SD-4, Data Request Response 1-39).

As a separate part of this same discovery response, Petitioner provided the authorized ROEs for each CenterPoint Energy, Inc. subsidiary. CEI South's ROE is currently the highest among all CenterPoint Energy, Inc. subsidiaries by 30 basis points. If Petitioner is awarded its requested ROE in this Cause, Petitioner's ROE would continue to

[49] Bulkley Direct, p. 9, ll. 20-22.
[50] *See* OUCC Attachment SD-4, CEI South Response to OUCC DR 1-39.

be the highest by this same, significant, margin. The average for the other subsidiaries is 9.72.

Although Ms. Bulkley may imply in testimony that an increased ROE is the only way to compete for scarce capital (and thus to encourage economic development via discretionary projects, there is a reasonable assumption that the provision of safe and reliable service will be ensured regardless), this is actually not the case. CenterPoint Energy does not consider the awarded ROE when making these decisions. Based on that fact, the higher ROE authorized in Indiana has simply increased shareholder profits. An awarded ROE more in line with the Cost of Equity will not impair the ability of the utility to borrow money, nor impact the volume of discretionary projects in Indiana.

Q: Should CenterPoint Energy's electric subsidiary in Indiana have a higher ROE than the company's subsidiaries in other states?

A: No. This would imply that the Indiana subsidiaries are riskier than the rest of the subsidiaries, and this implication would not be consistent with industry data. S&P ranks each state for investor "friendliness" or constructiveness. In this rating, S&P considers Indiana to be above average (somewhere between #11 and #18 in terms of all the Commissions reviewed, in its terminology this is an Average/1 rating, see OUCC Attachment SD-14). <**CONFIDENTIAL**> [redacted]

[redacted][51]

<**CONFIDENTIAL**>

Indiana is overall, an above average jurisdiction for investors, <**CONFIDENTIAL**> [redacted]

[redacted]

<**CONFIDENTIAL**> Of all of the CenterPoint subsidiaries listed in OUCC Attachment SD-4, and found in Data Request Response 1-39, there is only one other subsidiary that has an awarded ROE over 10%, although this subsidiary is still 30 basis points lower than CEI South.

Q: What is your recommendation for the authorized return on equity for CenterPoint?

A: I recommend an ROE of 9.00%. The average result of my models using my preferred inputs for which I assign weight is 8.15%. My recommendation considers these results and leans toward the higher end of the results (meaning well above the average), although it is not a result that flows only from a mathematical average or a formulaic output. Considering the results of all the models, giving more or less weight to each model as appropriate, considering the *Hope* and *Bluefield* standards, and the general economic environment, this is a reasonable return to balance financial concerns for the investors and affordability for ratepayers.

V. FLOTATION COSTS

Q: Did CenterPoint present flotation costs in this cause?

[51] Information responsive to this request has been designated as "Confidential – Not for Public Access" and will be produced only to the appropriate Reviewing Representatives in accordance with the Confidentiality Agreement in effect in this docket. Sourced from S&P Global Market Intelligence via Capital IQ Pro.

A: Yes. CenterPoint has not requested recovery of a specific amount, instead requesting flotation costs be considered in the determination of cost of equity.

Q: What is CenterPoint 's request for flotation costs based upon?

A: Ms. Bulkley states that the most recent two equity issuances are from September 2018 and June 2010, but that the dates are not particularly important.[52]

Q: Do you agree with the inclusion of flotation costs in this case?

A: No. First, the last case that determined a Cost of Equity for what is now CenterPoint made no mention in the Commission Findings section on Flotation Costs, so it doesn't appear to have been a consideration in the determination of the ROE.[53]

Second, the vast majority of equity would not be subject to flotation costs, since it consists of retained earnings which have no flotation costs. The market capitalization (the total value of stock) for CenterPoint Energy, which is the parent company, is $17.6 Billion.[54] Ms. Bulkley states approximately $2.2 billion of stock has been issued since 2010. This is only 12.5% of the total equity. Total financing costs were approximately $65 Million. Using a $65 Million expense (of which it appears $1.39 Million was a cash expense) from well before the current case years ago and stating that this now amounts to a 0.13% additional cost on a rate base of over $17 Billion every year is unreasonable.[55] If this flotation cost is one of the reasons for Ms. Bulkley's recommendation of a 10.60% ROE, the recommendation is overstated.[56]

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[52] Bulkley Direct, p. 35, ll. 1-9.
[53] *See* Cause No. 43839, Final Order dated April 27, 2011, pp. 31-32.
[54] From the most recent Value Line report, dated 12/8/23.
[55] Acknowledging that CenterPoint is not requesting this amount on the entirety of its rate base, but only on the Indiana portion in this case. However, if the parent company only proposes to collect this cost from Indiana, that is more problematic. Also, the 0.12% would only apply to the equity component of the WACC.
[56] I also have issues with incorporating this cost via the proxy group through a constant growth DCF model, when no analysis has been done on the flotation costs for any members of that proxy group.

Q: Does the market already account for flotation costs?

A: Yes. Investors are well aware of underwriters' fees and know a portion of the amount they are paying for the shares does not go directly to the company.[57] Since it is a well-known fact, investors adjust the stock's market price to account for this. The market price of the stock affects other calculations; for instance, the dividend yield would rise if the market price fell. This directly impacts the dividend yield used to calculate the DCF (and thus, increases the resulting ROE).[58]

VI. SUMMARY AND RECOMMENDATIONS

Q: Please provide a summary of your testimony.

A: I ran multiple models to determine an appropriate ROE. These models include a constant growth DCF model, which resulted in a recommended ROE of 10.06%, a 2 Stage DCF which resulted in a recommended ROE of 9.36%, and a CAPM that resulted in a recommended ROE of 7.24% and 5.94%, depending on which measure of a market risk premium is utilized. It also included two models which I discussed but did not consider in my final recommendation, namely the ECAPM with a recommended ROE of 7.75% and a risk premium model. The average results of the preferred metrics of the models to which

[57] It is, in fact, a federal requirement this information to be shared on the first page of a prospectus, see Regulation S-K, 17 C.F.R. §229.501(b)(3).
[58] If the market price falls by 1% and dividends stay the same (there would be no reason for dividends to change based on an equity issuance), the yield will increase by 1% (for example, from 2% to 2.02%).

I give weight are 8.15%, but accounting for other macroeconomic factors, as well as the Hope and Bluefield standards, my final recommendation is 9.00%.

Q: Please summarize your recommendations.

A: I recommend the Commission authorize a return on equity of 9.00%.

Q: Does this complete your testimony?

A: Yes.

Appendix A

QUALIFICATIONS

Q: Please describe your educational background.

A: I graduated from Indiana University with a degree in Biology, a minor in Economics and a certificate from the Liberal Arts and Management Program (LAMP) which is an honors certificate program through the Kelley School of Business and the College of Arts and Sciences. I received my MBA from Indiana University with a concentration in finance. I am a member of Phi Beta Kappa honor society for my undergraduate studies and Beta Gamma Sigma honor society for my master's program. I have a certificate from Stanford University for the Energy Innovation and Emerging Technologies Program. I am a certified rate of a return analyst (CRRA designation) from the Society of Utility Regulatory Financial Analysts. Although not specifically related to my educational background, I am a member of Mensa.

Q: Please describe your work experience.

A: Upon graduating college, I moved to New York and worked at Grant's Interest Rate Observer, which is a financial newsletter and Lebenthal and Co., which was a municipal bond brokerage. I moved back to Indianapolis and worked at RCI Sales in Indianapolis, which was a manufacturer's representative/distributor in commercial and institutional construction. I became an owner and left when I sold the company. I then worked at Amazon as a financial analyst in its fulfillment division.

Q: How long have you been at the OUCC?

A: I started at the OUCC in the Water/Wastewater Division in December 2019 as a Utility Analyst II and was promoted to a Senior Utility Analyst in May 2022. My focus is financial

issues, such as ROEs, Capital Structures, Debt Issuances, Cost of Debt, etc.

Q: Have you previously testified before the Indiana Utility Regulatory Commission?

A: Yes, I have testified before the Commission regarding various aspects of finance in multiple cases.

Appendix B

LIST OF ATTACHMENTS

SD-1 Spreadsheet with DCF, CAPM, RP Models, and Inputs

SD-2 Screening Criteria for Proxy Group by Ms. Bulkley

SD-3 Avangrid/PNM Acquisition

SD-4 Data Request 1-39-ROE Basis for Investment, ROE of Subsidiaries

SD-5 Dominion Dividend Payments

SD-6 Dominion M&A Article

SD-7 DTE/PPL Dividend HistorySD-8 Discovery Response-Value Line Market Return

SD-9 Discovery Request 21-1 Bloomberg Betas

SD-10 Discovery Request 2-13 Pension Returns (Confidential)

SD-11 RRA State Rankings (Confidential)

SD-12 Discovery Request 21-2 Dividend Criteria

SD-13 Discovery Request 32-12 Blue Chip Report

SD-14 RRA State Rankings - Public

APPENDIX C

PROXY GROUP

Q: Why did you add Avangrid, Inc. (ticker AGR) to your proxy group?

A: From my perspective, Avangrid, Inc. passed the screening Ms. Bulkley laid out in her testimony. Ms. Bulkley identified screening criteria to determine the appropriate proxy group from an initial group of 36 utilities. As stated above, for purposes of my testimony, I accepted her criteria. Avangrid, Inc. failed the screen for M&A activity, which Ms. Bulkley describes as "[the company was] not party to a merger or transformative transaction during the analytical period considered or did not have a material event that would have affected the market data for the company."[59] Although not stated in her testimony, the merger or transformative transaction event she is apparently referencing is the acquisition of PNM resources, announced in 2020, which was denied by New Mexico regulators in 2021 due to "reliability risks, the potential for higher electricity prices and slower development of renewable resources." *See* OUCC Attachment SD-3, article dated January 2, 2024, discussing the specifics of this event. As of 2024, Avangrid has terminated its bid. Since there is no current M&A activity, and the transaction that was proposed was

[59] Petitioner's Exhibit No. 13, Direct Testimony of Ann E. Bulkley, p. 22, ll.15-17.

declined over two years ago by the relevant authority, Avangrid should have passed Ms. Bulkley's screen and should be included in the Proxy Group.

Q: Why did you not add Dominion Resources to your proxy group?

A: Dominion Resources failed the screen for dividends but passed all other screens according to Ms. Bulkley's response to Data Request 4-1, which is included as OUCC Attachment SD-2.[60] Ms. Bulkley defined her dividend criterion as follows: companies that pay "consistent quarterly cash dividends."[61] Ms. Bulkley eliminated Dominion Resources from consideration due to this criterion. *See* OUCC Att. SD-2.[62] As shown in Attachment SD-5, Dominion Resources has *not* missed any quarterly dividend payments, and in a recent press release announcing dividends, stated "[t]his is the 383rd consecutive dividend that Dominion Energy or its predecessor company has paid holders of common stock."[63] This is nearly a 100-year record of consecutive dividend payments. The dividend payment was reduced from $0.94 in September 2020 to $0.63 in December 2020, but the dividend was still paid, and is therefore appropriately analyzed within the DCF model.[64] However, previously Ms. Bulkley stated Dominion "…is engaged in an M&A transaction that would be considered transformative and therefore would not meet my M&A screen."[65] The

[60] This same attachment contains the filter for all other companies discussed in this section.
[61] Bulkley, p. 22, ll. 5-6. A company that pays erratic dividends may be modeled with a DCF analysis, but the analysis is far more complex and of a different nature than what either Ms. Bulkley or myself are proposing in this cause.
[62] Attachment SD-2 includes only the pertinent information from Ms. Bulkley's discovery response.
[63]. https://news.dominionenergy.com/2023-11-02-Dominion-Energy-Declares-Quarterly-Dividend-of-66-75-Cents
[64] *See* OUCC Attachment SD-5.
[65] Ms. Bulkley Rebuttal Testimony, Cause 45933, p. 27, ll. 4-5.

specifics of this transaction may be found in OUCC Attachment SD-6. So, I agree with not including Dominion in the proxy group, but for different reasons than Ms. Bulkley.[66]

Q: Why did you include DTE Energy Company ("DTE") in your proxy group?

A: Ms. Bulkley eliminated DTE from her proxy group because, like Dominion Resources, it lacked dividends.[67] DTE has made consistent dividend payments for the past number of years, although it did cut the dividend in September 2021.[68] In DTE's press release announcing the most recent dividend, the first line stated the "Company continues more than 100-year history of issuing cash dividend[.]"[69]

Q: Why did you include PNM Resources in your proxy group?

A: PNM Resources was removed by Ms. Bulkley due to not passing her screening criteria for M&A activity. In this case, there does not appear to be any imminent activity, as the transaction Ms. Bulkley was presumably referencing was the one with Avangrid, discussed above. Because PNM passes all other screening criteria, it should be included in the proxy group.

Q: Why did you include PPL Corporation in your proxy group?

A: Ms. Bulkley eliminated PPL from her proxy group because, like Dominion Resources, and DTE Energy, PPL allegedly lacked dividends. PPL has, however, made consistent dividend payments since at least 2006[70], although it cut the dividend in March 2022.[71]

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[66] Both Dominion Resources (as referred to in Ms. Bulkley's screening criteria) and Dominion Energy (as described in the press release and the stock reports) are the same company, with a stock ticker of D.
[67] *See* Ms. Bulkley Rebuttal Testimony, Cause 45933, p. 27, ll. 4-5.
[68] *See* OUCC Attachment SD-7.
[69] https://ir.dteenergy.com/news/press-release-details/2023/DTE-Energy-issues-dividend-cf8ea3337/default.aspx
[70] https://www.nasdaq.com/market-activity/stocks/ppl/dividend-history. There appears to be an issue with the historical numbers on this site for 2005. Per the following link, payments have been made since 1996 at least. Regardless, either date would be sufficient to pass a dividend screen as presented. https://www.dividend.com/stocks/utilities/integrated-utilities/other/ppl-ppl-corporation/
[71] See OUCC Attachment SD-7. https://investors.pplweb.com/2023-11-17-PPL-to-Pay-Quarterly-Stock-Dividend-January 2, 2024

Because PPL has paid "consistent quarterly cash dividends[,]" it should have passed the screen and should be included.

Q: In discovery, was CenterPoint asked about Dominion Resource's, DTE's and PPL's dividend payment histories and whether the three companies met the criteria for removal from the proxy group?

A: Yes. In Data Request 21-2, attached as OUCC Attachment SD-12, CenterPoint was asked whether these companies met the criteria Ms. Bulkley established for payment of consistent quarterly cash dividends. The response indicated her criteria include a previously unstated provision of "(without a reduction in dividends)[.]"

Q 21.2: Please reference the attachment provided in response to OUCC data request 4-1, Proxy Group Information, found on tab "Proxy Group Screening". Please confirm the companies listed below were excluded from the proxy group due to not paying dividends. The testimony of Ms. Bulkley, page 22, lines 5-6 clarifies that proxy companies are screened to select companies that "pay consistent quarterly cash dividends[.]" Please confirm the time period for which it was necessary for these companies to have paid "consistent quarterly dividends" and confirm that these three companies did not meet that threshold.

1. Dominion
2. DTE Energy
3. PPL Corporation

Response: Ms. Bulkley's screening criterion requires that a company pay consistent quarterly dividends (without a reduction in dividends) for a three-year period.

1. Confirmed.
2. Confirmed.
3. Confirmed.

I disagree with this new, expanded definition of suitable dividends. The constant growth DCF model is agnostic in terms of a company's previous history of dividend payments. The DCF model relies on a starting point of current dividends and a future growth rate, both of which are not affected by past dividend payment amounts. Analyzing past dividend actions and incorporating these changes into the proxy group only serves to

screen any companies with past earnings shortfalls (which presumably would lead to dividend cuts), essentially gold plating the proxy group.

Q: What is the effect of Ms. Bulkley removing these companies from her proxy group?

A: Based on the data from February 1, 2024, and my preferred metrics, removing these companies had the effect of decreasing the ROE by approximately 1 basis point.[72] The results of the DCF model are discussed in that section of my testimony. My proxy group consists of companies that pass the screens Ms. Bulkley established for dividends and mergers and acquisitions in her direct testimony; consequently, I recommend the Commission adopt the proxy group I have used.

[72] Based on the constant growth DCF model. The change in proxy group will have an impact in other models as well. This is determined by noting the recommended ROE less outliers of 10.06% and removing the four companies from consideration on tab Constant Growth DCF of Attachment SD-1, which changes the result to 10.05%.

APPENDIX D

DISCOUNTED CASH FLOW ("DCF") ANALYSIS

A. Introduction to DCF Model

Q: Please describe the Discounted Cash Flow Model.

A: The DCF model is typically used by investors to determine the appropriate price to pay for a security. This model assumes that the price of a security should be determined by its expected cash flows, discounted by the company's cost of equity. On a one-year horizon, the price of a stock (P_0) is equal to the anticipated dividends paid during the year (D_1) plus the anticipated price of the stock at the end of the year (P_1) divided by one plus the company's cost of equity (k). The year-end price (P_1) is determined by adding next year's anticipated dividends (D_2) and next year's anticipated year-end price (P_2) divided by one plus the company's cost of equity (k).

$$P_0 = \frac{(D_1 + P_1)}{(1 + k)} \quad \text{and} \quad P_1 = \frac{(D_2 + P_2)}{(1 + k)}$$

Because investors may plan to hold securities for many periods, the DCF equation can be restated for an infinite or unknown number of periods as follows:

$$P_0 = D_1/(k-g)$$

(Where the price of a security (P_0) equals the anticipated dividends paid over the current period (D_1) divided by the company's cost of equity (k) minus the expected growth rate of

dividends (g)). The company's cost of equity must be greater than its expected dividend growth rate for this model to be valid. By rearranging the above formula, the DCF formula regularly used in regulatory proceedings can be derived as follows:

$$k = (D_1/P_0) + g$$

This formula reflects the cost of equity (k) equals the forward dividend yield (D_1/P_0) plus the expected growth rate in dividends per share (g). To estimate the cost of equity (k), the forward yield (D_1/P_0) and the expected growth rate in dividends (g) must be estimated).

B. Dividend Yield

Q: How did you calculate the forward yields (D_1/P_0)?

A: To calculate a forward yield (D_1/P_0), the current yield (D_0/P_0) must be calculated first. A company's current yield equals its current annual dividends (D_0) divided by its current stock price (P_0). The current annual dividend is calculated by multiplying the company's most recent quarterly dividend by four.

Q: How do you convert current yields (Do/Po) into forward yields (D_1/Po)?

A: The following equation is used to convert a current yield to a forward yield: (D_1/P_0) = (D_0/P_0) * (1 + .5g). For example, if Company X had a current dividend yield of 4.0% and an expected growth rate of 6.0%, the formula multiplies the 4.0% current dividend yield by 1 plus 3.0% or 1.03, (3.0% is one half of the 6.0% expected growth rate). This results in a forward dividend yield of 4.12% or an increase of 12 basis points over the current dividend yield. This is the method I used.

Q: Has the Commission supported the use of the one-half-year's growth methodology to convert current yields to forward yields?

A: Yes. Although there is no universally accepted methodology, the one-half-year growth

methodology to convert current yields to forward yields has been regularly accepted by this Commission:

> We are well aware of the advantages and limitations of the various approaches used by each of the witnesses. For example, the half-year method used by the OUCC for calculating the forward dividend yield is the most frequently used approach in this jurisdiction, and it is rarely a point of contention in DCF analysis. We believe that it fairly represents the dividend payments expected and received by investors, while the full year method employed by Petitioner overstates the dividend yield.

In re Ind. Amer. Water, Cause No. 40103, Final Order at 40 (Ind. Util. Regul. Comm'n May 30, 1996.)

I do not expect the calculation of the forward dividend yield in this cause to be controversial. The inputs and calculation will likely change as more current data becomes available, but the methodology is generally accepted by the parties.

C. Dividend Growth Rate

Q: How did you estimate the long-run dividend growth component (g) of the DCF model?

A: The Constant Growth, or single stage, DCF model assumes investors expect cash flows to grow at a constant rate into perpetuity. I relied on earnings growth estimates from various sources including Value Line, Yahoo! Finance, Zacks and Standard and Poors. Also, I incorporated historical data from Value Line for the last ten years and the last five years, respectively, for earnings per share, dividends per share, and book value per share.

The formula relies on an estimate for future growth, so while historical results provide a ballast to the estimates and inform the forecasts, the estimates of future growth

are more important for our purposes, which is estimating future growth.[73]

D. Case specific discussion of the DCF Model

Q: How did you determine the dividend yields you incorporated into your model?

A: I sourced annual dividend information from Yahoo! Finance and used stock prices on the spot market (on February 1, 2024, in this case), and the seven days prior to the spot price (January 26 through February 1, 2024), the previous month, the previous three months, and the previous six months. The dividend yields are adjusted for growth via the half year model, and future yields are used. Both Ms. Bulkley and I use this convention.

Table SD-12[74]

Company	Ticker	Annualized Dividend	Dividend Yield-Spot	Expected Dividend Yield-Spot	Dividend Yield-1 Week	**Expected Dividend Yield-1 Week**	Dividend Yield-1 Month	Expected Dividend Yield-1 Month	Dividend Yield-3 Months	Expected Dividend Yield-3 Months	Dividend Yield-6 Months	Expected Dividend Yield-6 Months
ALLETE, Inc.	ALE	$2.82	4.67%	4.81%	4.73%	**4.88%**	4.67%	4.82%	4.80%	4.95%	4.97%	5.13%
Alliant Energy Corporation	LNT	$1.92	3.85%	3.98%	3.91%	**4.04%**	3.83%	3.96%	3.82%	3.94%	3.82%	3.95%
Ameren Corporation	AEE	$2.52	3.56%	3.66%	3.60%	**3.71%**	3.54%	3.63%	3.39%	3.48%	3.30%	3.39%
American Electric Power Company, Inc.	AEP	$3.52	4.42%	4.53%	4.48%	**4.60%**	4.38%	4.50%	4.41%	4.53%	4.48%	4.60%
Avangrid, Inc.	AGR	$1.76	5.60%	5.70%	5.73%	**5.83%**	5.51%	5.61%	5.53%	5.63%	5.60%	5.70%
Avista Corporation	AVA	$1.84	5.33%	5.48%	5.39%	**5.54%**	5.28%	5.43%	5.28%	5.42%	5.39%	5.53%
CMS Energy Corporation	CMS	$1.95	3.31%	3.43%	3.40%	**3.52%**	3.37%	3.49%	3.40%	3.51%	3.46%	3.58%
DTE Energy Company	DTE	$3.88	3.61%	3.71%	3.70%	**3.79%**	3.62%	3.72%	3.65%	3.75%	3.73%	3.82%
Duke Energy Corporation	DUK	$4.10	4.19%	4.30%	4.26%	**4.38%**	4.22%	4.34%	4.35%	4.47%	4.45%	4.57%
Entergy Corporation	ETR	$4.52	4.43%	4.56%	4.43%	**4.56%**	4.43%	4.56%	4.43%	4.56%	4.63%	4.76%
Evergy, Inc.	EVRG	$2.57	4.97%	5.08%	4.97%	**5.08%**	4.97%	5.08%	4.97%	5.08%	4.92%	5.04%
IDACORP, Inc.	IDA	$3.32	3.52%	3.60%	3.52%	**3.60%**	3.52%	3.60%	3.52%	3.60%	3.45%	3.53%
NextEra Energy, Inc.	NEE	$1.87	3.13%	3.27%	3.16%	**3.30%**	3.13%	3.26%	3.16%	3.30%	3.07%	3.21%
NorthWestern Corporation	NWE	$2.56	5.26%	5.37%	5.29%	**5.41%**	5.21%	5.32%	5.09%	5.20%	5.09%	5.20%
OGE Energy Corporation	OGE	$1.67	4.93%	5.05%	5.02%	**5.14%**	4.91%	5.03%	4.82%	4.94%	4.86%	4.97%
Pinnacle West Capital Corporation	PNW	$3.52	5.02%	5.14%	5.02%	**5.14%**	5.02%	5.14%	5.02%	5.14%	4.73%	4.84%
PNM Resources, Inc.	PNM	$1.55	4.27%	4.52%	4.23%	**4.48%**	4.15%	4.39%	3.82%	4.05%	3.66%	3.87%
Portland General Electric Company	POR	$1.90	4.56%	4.67%	4.56%	**4.67%**	4.56%	4.67%	4.56%	4.67%	4.47%	4.59%
PPL Corporation	PPL	$0.96	3.61%	3.75%	3.67%	**3.81%**	3.60%	3.74%	3.64%	3.78%	3.76%	3.90%
Southern Company	SO	$2.80	3.97%	4.08%	4.03%	**4.13%**	3.99%	4.09%	3.99%	4.10%	4.07%	4.17%
Xcel Energy Inc.	XEL	$2.08	3.40%	3.50%	3.47%	**3.57%**	3.41%	3.51%	3.41%	3.51%	3.49%	3.59%
Mean			4.27%	4.39%	4.31%	**4.44%**	4.25%	4.38%	4.24%	4.36%	4.26%	4.38%
Median			4.27%	4.52%	4.26%	**4.48%**	4.22%	4.39%	4.35%	4.47%	4.45%	4.57%

[73] In the long-run, dividends should mirror earnings growth. In the utility context, book value growth should also mirror earnings growth in the long run, since that is the ultimate source of profits for a regulated utility.

[74] This table is a presentation of data on tab Constant Growth DCF in OUCC Attachment SD-1, with some columns hidden.

The expected dividend yields for the proxy group as a whole range from 4.36% (calculated on the three-month average stock price) to 4.44% (calculated on the one-week stock prices) if calculated on a mean basis. Calculating on a median basis results in a range of 4.39% (calculated on stock prices over the previous month) to 4.57% (calculated on the six-month price).

Q: What are your inputs for the forecasted growth?

A: Please see Table SD-13 below.

Table SD-13

Company	Ticker	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	S&P Earnings Growth (Mean)	**Average Future Earnings Growth Rate**
ALLETE, Inc.	ALE	6.00%	8.10%	8.10%	6.65%	**7.21%**
Alliant Energy Corporation	LNT	6.50%	6.55%	6.16%	6.07%	**6.32%**
Ameren Corporation	AEE	6.50%	4.80%	5.89%	6.28%	**5.87%**
American Electric Power Company, Inc.	AEP	6.50%	4.20%	5.11%	5.85%	**5.42%**
Avangrid, Inc.	AGR	4.50%	-1.40%	3.63%	6.68%	**3.35%**
Avista Corporation	AVA	6.00%	6.20%	6.21%	5.20%	**5.90%**
CMS Energy Corporation	CMS	5.50%	7.70%	7.50%	7.42%	**7.03%**
DTE Energy Company	DTE	4.50%	5.10%	6.00%	7.04%	**5.66%**
Duke Energy Corporation	DUK	5.00%	6.55%	6.34%	6.05%	**5.99%**
Entergy Corporation	ETR	0.50%	11.00%	7.01%	6.88%	**6.35%**
Evergy, Inc.	EVRG	7.50%	2.50%	4.35%	4.54%	**4.72%**
IDACORP, Inc.	IDA	4.00%	4.40%	4.38%	5.74%	**4.63%**
NextEra Energy, Inc.	NEE	9.50%	7.81%	8.18%	8.30%	**8.45%**
NorthWestern Corporation	NWE	3.50%	4.08%	5.16%	5.57%	**4.58%**
OGE Energy Corporation	OGE	6.50%		3.98%	4.03%	**4.84%**
Pinnacle West Capital Corporation	PNW	2.50%	5.90%	3.95%	6.99%	**4.84%**
PNM Resources, Inc.	PNM	5.00%	6.25%	37.04%	4.03%	**13.08%**
Portland General Electric Company	POR	5.00%	4.60%	6.02%	6.04%	**5.42%**
PPL Corporation	PPL	8.00%	17.21%	7.42%	8.56%	**10.30%**
Southern Company	SO	6.50%	7.10%	4.00%	5.64%	**5.81%**
Xcel Energy Inc.	XEL	6.00%	6.57%	6.02%	5.95%	**6.14%**
Mean		5.50%	6.26%	7.26%	6.17%	**6.28%**
Median		6.00%	6.23%	6.02%	6.05%	5.87%

Q: What are your inputs for your historical growth calculations?

A: Please see Table SD-14 below.

Table SD-14

Company	Ticker	Value Line-Earnings Growth-Last 5 Years	Value Line-Earnings Growth-Last 10 Years	Value Line-Book Value Growth-Last 5 Years	Value Line-Book Value Growth-Last 10 Years	Value Line-Dividend Growth-Last 5 Years	Value Line-Dividend Growth-Last 10 Years	**Average Historical Growth Rate**
ALLETE, Inc.	ALE	0.50%	3.00%	3.00%	4.50%	3.50%	3.50%	**3.00%**
Alliant Energy Corporation	LNT	8.00%	6.00%	7.00%	6.00%	6.50%	6.50%	**6.67%**
Ameren Corporation	AEE	8.00%	4.00%	5.50%	2.00%	5.00%	3.50%	**4.67%**
American Electric Power Company, Inc.	AEP	4.00%	5.00%	3.50%	3.50%	5.00%	5.00%	**4.33%**
Avangrid, Inc.	AGR	7.00%		0.50%		9.00%		**5.50%**
Avista Corporation	AVA	0.50%	2.50%	3.50%	4.00%	4.00%	4.50%	**3.17%**
CMS Energy Corporation	CMS	6.00%	6.50%	7.50%	6.00%	7.00%	8.00%	**6.83%**
DTE Energy Company	DTE	2.50%	4.00%	1.50%	3.00%	5.50%	5.50%	**3.67%**
Duke Energy Corporation	DUK	4.50%	3.00%	1.00%	2.00%	3.50%	3.00%	**2.83%**
Entergy Corporation	ETR	15.00%	-0.50%	4.00%	1.50%	2.50%	1.50%	**4.00%**
Evergy, Inc.	EVRG							
IDACORP, Inc.	IDA	4.00%	4.00%	4.50%	5.00%	6.50%	8.50%	**5.42%**
NextEra Energy, Inc.	NEE	11.00%	8.00%	7.50%	8.00%	12.00%	11.00%	**9.58%**
NorthWestern Corporation	NWE	1.00%	3.50%	4.50%	6.00%	4.00%	5.50%	**4.08%**
OGE Energy Corporation	OGE	4.50%	3.00%	1.50%	4.00%	6.50%	7.50%	**4.50%**
Pinnacle West Capital Corporation	PNW	3.50%	4.50%	4.00%	4.00%	5.50%	4.00%	**4.25%**
PNM Resources, Inc.	PNM	9.00%	8.50%	3.50%	2.50%	8.00%	9.50%	**6.83%**
Portland General Electric Company	POR	5.00%	4.00%	3.00%	3.00%	6.00%	5.00%	**4.33%**
PPL Corporation	PPL	-11.50%	-6.00%	4.00%	0.00%	-2.00%	0.00%	**-2.58%**
Southern Company	SO	3.00%	3.00%	2.50%	3.00%	3.50%	3.50%	**3.08%**
Xcel Energy Inc.	XEL	6.00%	5.50%	5.50%	5.00%	6.00%	6.00%	**5.67%**
Mean		4.58%	3.76%	3.88%	3.84%	5.38%	5.34%	4.49%
Median		4.50%	4.00%	3.75%	4.00%	5.50%	5.00%	**4.33%**

Q: What are your inputs for your overall growth calculations?

A: Please see Table SD-15 below.

Table SD-15

Company	Ticker	Average Future Earnings Growth Rate	Average Historical Growth Rate	Overall Growth Rate (80% Future Earnings, 20% Historical)
ALLETE, Inc.	ALE	**7.21%**	**3.00%**	**6.37%**
Alliant Energy Corporation	LNT	**6.32%**	**6.67%**	**6.39%**
Ameren Corporation	AEE	**5.87%**	**4.67%**	**5.63%**
American Electric Power Company, Inc.	AEP	**5.42%**	**4.33%**	**5.20%**
Avangrid, Inc.	AGR	**3.35%**	**5.50%**	**3.78%**
Avista Corporation	AVA	**5.90%**	**3.17%**	**5.36%**
CMS Energy Corporation	CMS	**7.03%**	**6.83%**	**6.99%**
DTE Energy Company	DTE	**5.66%**	**3.67%**	**5.26%**
Duke Energy Corporation	DUK	**5.99%**	**2.83%**	**5.35%**
Entergy Corporation	ETR	**6.35%**	**4.00%**	**5.88%**
Evergy, Inc.	EVRG	**4.72%**		**4.72%**
IDACORP, Inc.	IDA	**4.63%**	**5.42%**	**4.79%**
NextEra Energy, Inc.	NEE	**8.45%**	**9.58%**	**8.67%**
NorthWestern Corporation	NWE	**4.58%**	**4.08%**	**4.48%**
OGE Energy Corporation	OGE	**4.84%**	**4.50%**	**4.77%**
Pinnacle West Capital Corporation	PNW	**4.84%**	**4.25%**	**4.72%**
PNM Resources, Inc.	PNM	**13.08%**	**6.83%**	**11.83%**
Portland General Electric Company	POR	**5.42%**	**4.33%**	**5.20%**
PPL Corporation	PPL	**10.30%**	**-2.58%**	**7.72%**
Southern Company	SO	**5.81%**	**3.08%**	**5.26%**
Xcel Energy Inc.	XEL	**6.14%**	**5.67%**	**6.04%**
Mean		**6.28%**	4.49%	5.92%
Median		5.87%	**4.33%**	**5.35%**

Q: To estimate the dividend growth (g) for your DCF analysis, did you include negative growth rates?

A: Yes. There is one instance of forecasted negative earnings growth. This is the Yahoo! Finance estimate for Avangrid, of -1.40%. The Yahoo! Estimate is the lowest, but I do not consider this inappropriate to include since the overall growth estimate is also low (for

instance, Zacks projects a 3.63% growth forecast), so this is a reasonable estimate. That is the only estimate of the 83 points of data included in my forecasted earnings growth analysis that is negative.

There is one other instance of negative growth. Yahoo! has an estimate of -12.34% growth (negative growth) for OGE Energy Corporation, while Value Line is at 6.50% growth, and Zacks and S&P are at 3.98% and 4.03% respectively. In Ms. Bulkley's data, the results were 6.50% for Value Line, negative for Yahoo! (no number given) and 3.70% for Zacks. Ms. Bulkley eliminated the negative number from consideration and used an average growth rate of 5.10%. I consider this an outlier and thus delete the Yahoo! Forecast from consideration and use an average growth rate of 4.84%. Outliers like this show these estimates are not meant to be long-term growth projections; in the case of Yahoo!, the estimate is three to five years.

Q: Has the Commission commented on what inputs parties should use in their analyses?

A: Yes. In Cause No. 40103, the Commission encouraged parties to exercise sound judgment when deciding which inputs to include in their analyses.[75] Instead of discouraging the use of all negative growth rates, by encouraging the use of sound judgment, the Commission discouraged cherry-picking inputs to reach a certain result. In this case, it is reasonable to use negative forecasted growth numbers from one utility, where the overall average remains positive.

[75] *In re Ind. Amer. Water Co.*, Cause No. 40103, Final Order, pp. 40 - 41 (Ind. Util. Regul. Comm'n May 30, 1996) ("In all cases, however, the Commission expects the parties to exercise sound judgment when deciding which inputs to include as part of their analysis. In this case, the inclusion of negative growth rates for certain earnings and book value per share data by the OUCC biased the derivation of its growth rates downward. On the other hand, the Petitioner's sole reliance on Value Line's 10-year dividend growth rate data had the opposite effect")(emphasis in the original).

There is also a negative growth rate incorporated into the historical growth numbers for Entergy of -0.50% for earnings growth over the past 10 years. I also kept 15% growth for Entergy Earnings Growth over the last five years, for a blended earnings growth rate of 7.25%, this is reasonably close to the expected future growth of 6.35% overall. There is also negative growth for PPL Corporation of -11.50% and -6.00% for Earnings Growth of five and ten years respectively, as well as -2.00% for the dividend growth rate for the last five years. I also included high growth numbers such as 11%-12% historical growth rates for NextEra because these are not outliers, but are historical results. I used all available historical numbers in a wide range, reaching a reasonable result.[76]

These negative numbers are only four of the 117 numbers that were combined for the average historical growth rate. It is not sound judgment to remove certain, very limited points of data simply because the data is slightly on the "wrong side" of zero.

However, when checking for outliers on the resultant ROEs for my preferred metric, the anticipated 95% confidence interval is between 7.24% and 13.48%. NextEra Energy falls outside of this range (with a forecasted rate of 16.31%) and is thus not included in my 10.06% result. Without this adjustment, the ROE would be 10.36%, this elimination of outliers (a convention Ms. Bulkley has encouraged me to adopt in the past, and which I have done in this cause) results in a reduction of 30 basis points in the overall result.

Q: Please explain your preferred inputs.

A: I prefer using:

(1) a seven-day average price to determine the yield of a stock;

[76] There are 126 points of data for my historical analysis.

(2) using all forecasted "long-term" earnings growth estimates on an equal weighting;

(3) calculating historical growth measures equally weighted between dividends, book values, and earnings for both five- and 10-year historical periods (i.e. giving each factor a 1/6 weighting); and

(4) blending the forecast and historical growth figures at an 80%/20% weighting; and

(5) for the ROE calculations only, applying an outlier screen to remove results outside of a 95% confidence interval (2 standard deviations).

Finally, the mean is a better approach to calculating the ROE, as the median is more appropriate when outliers are present. In my professional opinion, analysts should discard significant outliers, rather than relying on a median presentation of the results, which I have done. Seven-day stock prices reflect the best balance between the current market price, while addressing day to day volatility that may result from using only the spot (or current) price. Using all analysts as equally valid sources of forecasted growth is appropriate and alleviates potential bias concerns, and incorporating historical growth numbers is consistent with past Commission practice and provides a grounding to the forecasts. A 20% weighting of the historical numbers is appropriate, because the purpose of this model is to forecast future growth, not historical.

Q: What are the results of your Constant Growth DCF model?

A: My DCF results in a recommended ROE of 10.06% on a mean basis after removing outliers.[77] The overall range is 8.75%-11.40%. I arrived at this range by incorporating

[77] This number also reflects the removal of outlier results in the data, as discussed elsewhere.

extreme scenarios, i.e., taking only the lowest growth rate from any of the four sources for each proxy company (so the lowest may be S&P for one company but Zacks for another). I then took the lowest dividend yield for all time periods for each individual company (which for each company may be the spot price, a one week, a one month, a three month or a six month) to determine the low end of the range. The high and low ranges are the result of torturing the data to arrive at the lowest or highest possible result regardless of consistency. A breadth of results incorporating different assumptions on yields or interest rates may be found in table SD-1, The data on results other than my preferred metric may be found in OUCC Attachment SD-1. *See* table SD-16 below.

Table SD-16

Company	Ticker	Annualized Dividend	Stock Price-7 Days	Expected Dividend Yield-1 Week	Average Future Earnings Growth Rate	Average Historical Growth Rate	Overall Growth Rate (80% Future Earnings, 20% Historical)	Mean ROE-7 Day Stock Price
ALLETE, Inc.	ALE	$2.82	$59.57	**4.88%**	**7.21%**	**3.00%**	**6.37%**	**11.25%**
Alliant Energy Corporation	LNT	$1.92	$49.08	**4.04%**	**6.32%**	**6.67%**	**6.39%**	**10.43%**
Ameren Corporation	AEE	$2.52	$69.92	**3.71%**	**5.87%**	**4.67%**	**5.63%**	**9.33%**
American Electric Power Company, Inc.	AEP	$3.52	$78.50	**4.60%**	**5.42%**	**4.33%**	**5.20%**	**9.80%**
Avangrid, Inc.	AGR	$1.76	$30.74	**5.83%**	**3.35%**	**5.50%**	**3.78%**	**9.62%**
Avista Corporation	AVA	$1.84	$34.13	**5.54%**	**5.90%**	**3.17%**	**5.36%**	**10.89%**
CMS Energy Corporation	CMS	$1.95	$57.36	**3.52%**	**7.03%**	**6.83%**	**6.99%**	**10.51%**
DTE Energy Company	DTE	$3.88	$104.98	**3.79%**	**5.66%**	**3.67%**	**5.26%**	**9.05%**
Duke Energy Corporation	DUK	$4.10	$96.16	**4.38%**	**5.99%**	**2.83%**	**5.35%**	**9.73%**
Entergy Corporation	ETR	$4.52	$101.99	**4.56%**	**6.35%**	**4.00%**	**5.88%**	**10.44%**
Evergy, Inc.	EVRG	$2.57	$51.75	**5.08%**	**4.72%**		**4.72%**	**9.81%**
IDACORP, Inc.	IDA	$3.32	$94.45	**3.60%**	**4.63%**	**5.42%**	**4.79%**	**8.39%**
NextEra Energy, Inc.	NEE	$1.87	$59.14	**3.30%**	**8.45%**	**9.58%**	**8.67%**	**11.97%**
NorthWestern Corporation	NWE	$2.56	$48.36	**5.41%**	**4.58%**	**4.08%**	**4.48%**	**9.89%**
OGE Energy Corporation	OGE	$1.67	$33.28	**5.14%**	**4.84%**	**4.50%**	**4.77%**	**9.91%**
Pinnacle West Capital Corporation	PNW	$3.52	$70.13	**5.14%**	**4.84%**	**4.25%**	**4.72%**	**9.86%**
PNM Resources, Inc.	PNM	$1.55	$36.66	**4.48%**	**13.08%**	**6.83%**	**11.83%**	**16.31%**
Portland General Electric Company	POR	$1.90	$41.71	**4.67%**	**5.42%**	**4.33%**	**5.20%**	**9.87%**
PPL Corporation	PPL	$0.96	$26.14	**3.81%**	**10.30%**	**-2.58%**	**7.72%**	**11.54%**
Southern Company	SO	$2.80	$69.51	**4.13%**	**5.81%**	**3.08%**	**5.26%**	**9.40%**
Xcel Energy Inc.	XEL	$2.08	$59.96	**3.57%**	**6.14%**	**5.67%**	**6.04%**	**9.61%**
Mean				**4.44%**	**6.28%**	4.49%	5.92%	10.36%
Median				**4.48%**	5.87%	**4.33%**	**5.35%**	**9.87%**
Mean-Less Outliers								**10.06%**

E. 2-Stage DCF Model

Q: Do you use a 2-stage DCF model in your analysis?

A: Yes. I explain in detail below.

Q: Can short to intermediate-term forecasts lead to unreasonably high estimated growth rates (g) in a DCF analysis?

A: Yes. In fact, intermediate term forecasts are not long-term forecasts making it inappropriate to mechanically incorporate them into a DCF analysis. The DCF model requires a growth rate that is sustainable into perpetuity. Thus, even if intermediate term forecasts are accurate, they are not meant to reflect growth beyond the time period the analysts who created the estimates are considering. The long-term growth rates from different sources in some cases may not even extend through the life of rates in a case before the Commission.

By way of example, Value Line uses an estimate of long-term growth comparing the average of earnings from 2020-2022 to the average of earnings from 2026-2028, or to approximately four years in the future. Yahoo! Finance uses a long-term growth estimate of the next five years, and Zacks and S&P use expected EPS Growth for a 3-5-year period.[78]

[78] From S&P Global, explanation of long-term growth rates. "Long Term Growth Rate (LTG) is a compound annual growth rate based on current and projected EPS values provided directly by the analysts. S&P Capital IQ does not calculate the growth rate based on available EPS Estimates. Most analysts define LTG as an estimated average rate of earnings growth for the next 3-5 years. The exact time frame differs from broker to broker. Since the analysts providing LTG may differ from the analysts providing fiscal year estimates and the variation in time periods of 3-5 years, it is not possible to reconcile LTG with fiscal year estimates." https://spglobal.my.site.com/s/article/10000747

Also of note, any growth rate above nominal GDP growth, applied in perpetuity, means that the company, at some point, would be estimated to become larger than that economy's GDP, since it would, at some point, surpass that economy.[79]

Finally, there are well documented findings that intermediate term forecasted growth rates in EPS (forecasted by analysts) tend to be optimistic.

Q: Are you aware of any financial articles that support your position that intermediate term forecasted growth rates tend to be optimistic?

A: Yes. I include these sources in my discussion on General Concerns with Analyst Forecasts found in Appendix E.

Q: How can intermediate-term forecasts in EPS be used while addressing concerns that these growth rates are not sustainable to estimate cost of equity?

A: Due to the methodology, using a 2-stage DCF model can incorporate current forecasted growth rates in the near term (over the forecasted period), while still using a sustainable growth rate over the long term. A National Regulatory Research Institute (NRRI) article (discussed in Appendix E) explains long-term sustainable growth for the utility industry cannot exceed the long-term sustainable growth rate in the US economy. Therefore, applying a second stage to the DCF model and incorporating a forecasted growth rate of the U.S. economy (as measured by growth in nominal GDP) as a long-term sustainable growth rate for the second stage, can result in a more accurate estimate of the cost of equity for the DCF model.

Q: Explain the mechanics of the 2-stage DCF Model.

[79] Nominal long-term growth rates in excess of long-term nominal GDP growth imply that the business will eventually grow larger than the economy itself, even if that takes a number of years. A company with $10,000 annual revenue in the year 1882 (when CenterPoint was founded), could easily grow at 20% a year for some period of time. However, that growth rate over the intervening 142 years would result in current sales of $1,725, trillion, or approximately 69 times current GDP of around $25 trillion. This number would be increasing next year by an additional $345 trillion next year. This shows the absurdity of excessive growth rates over long periods of time. The formula is $10,000*(1.2).[142]

A: A 2-stage DCF model is similar to the more traditional single-stage DCF model except that it uses two growth rates (g) instead of a single growth rate. Because two growth rates are used, the equation is more complex than the traditional single stage DCF model Po= D_1 / (k- g). Instead, the equation for the 2-stage DCF model is as follows:

$$P_0 = \frac{DPS_0(1+0.5g_1)(1-\frac{(1+g_1)^n}{(1+k)^n}}{k-g_1} + \frac{DPS_0+(1+g_1)^n(1+g_2)}{(k-g_2)(1+k)^n}$$

Where:

DPSo = expected dividends per share in year 0
k = required rate of return (cost of equity) during forecast period
Po = price of stock at year 0
g_1 = growth rate during the first stage
g_2= growth rate during the second stage
n = length of the first stage (in years)

Unlike the single-stage DCF model, due to its complexity, this equation cannot simply be rearranged to solve for k (the cost of equity [k = (D_1/P_0) + g.]).

Instead, one must assume or pick a "target" price (Po) and, through "successive iterations," determine (with given growth rates and a dividend yield) what cost of equity (k) produces the assumed "target" price. In layman's terms, successive iterations mean inserting different costs of equity into the equation until it produces the assumed "target" price.

Hypothetically, assuming a price of $100.00 per share, with annual dividends of $3.00 per share (a dividend yield of 3.0%), and a growth rate of 6.0% during the first stage, (5 years), with a long run growth rate of 5.0% during the second stage, the rate of return necessary to produce a price of $100.00 per share is 8.29%. Mechanically, this is done by

plugging in different rates of return (costs of equity or "k") into the above equation until it calculates the cost of equity (k) that produces a price of $100.00 per share.

Fortunately, the "goal-seek" function in Excel can run the iterations and can be used to determine what cost of equity produces a price of $100.00 share (a target price). Therefore, I used the "goal-seek" function in Excel to calculate the result.

Q: Why is it necessary to complete a 2-Stage DCF analysis in a mature industry such as the electric utility industry?

A: Dealing with a mature industry does not, in any way, negate the benefits of completing a 2-Stage DCF model. No company, whether it be a high growth company like Apple, Tesla, or Nvidia, or relatively low growth companies such as utilities can grow over the long run at rates exceeding the growth rate of the economy as a whole. This would ultimately result in nonsensical situations where companies which are the components of an economy are estimated to be larger than the economy itself. The higher the short-term growth, the more dramatic the adjustment when growth rates in perpetuity are adjusted downwards. Nominal GDP is a theoretical ceiling on growth in the long run. Industries cannot realistically grow at that rate, since new industries come into existence which make up some percentage of the economy in the future.

F. Case specific discussion of the two-stage DCF Model

Q: Please explain the inputs in your two-stage DCF models.

A: For the first calculation I used the mean dividend per share of 4.31% established in my Constant Growth (single stage) DCF model. This was based upon the one-week average stock price and the annualized current dividends sourced from Yahoo! Finance for my proxy group.

I then used an overall growth rate of 5.92%, which is the overall growth rate I used in the Constant Growth DCF model previously derived. The Constant Growth DCF model was calculated with mean inputs from an 80% weighting of earnings growth estimates from four different sources and a 20% weighting for historical growth factors (five and 10 years, for earnings, book value, and dividends, respectively) from Value Line.

I assumed the first phase of my two-stage model lasted for 15 years, approximately three to four times as long as the time period the analysts covered. It is reasonable to assume these estimates will not immediately fall to a lower rate; therefore, 15 years would be reasonable and represents a substantial amount of time for the first stage before the growth rates transition to the second stage. There is research that shows the market treats these estimates as covering a period of approximately five to 10 years, or approximately half the number of years I am assuming, so the assumption of 15 years is longer than may be supported (and would

lead to a higher COE than a shorter first period).[80]

My long-term growth rate was assumed to be 3.89%, approximately the rate of long-term nominal GDP growth, which serves as a theoretical growth ceiling in the long-term for company growth.[81] The inputs resulted in a k value (COE) of 9.36%. For the second calculation, the process was the same, except the inputs were based on the median values for dividend yield (4.26%) and growth (5.35%). This results in a k value (COE) of 9.00%.[82]

Q: You also completed a two-stage DCF analysis based on Ms. Bulkley's preferred inputs for her CAPM. Please explain your methodology.

A: Ms. Bulkley's CAPM analysis used an estimated market return of 12.90%, which consisted of a dividend yield of 1.79% and a growth estimate of 11.01% (see Attachment AEB-2). This growth estimate far exceeds long-term nominal GDP growth and is unsustainable in the long run. Using her inputs of a 11.01% growth and 1.79% dividend yield, with a 15-year term for the first stage and a 3.89% growth for the terminal phase, results in an ROE of 8.01%. *See* Attachment SD-1, tab "2-Stage DCF for Market Return". This return is much more reasonable and in line with the estimates from other market forecasters (7.08% as discussed in the CAPM portion of my testimony). If we use 10 years for the first stage,

[80] "The estimated coefficients on consensus long-term growth forecasts suggest that the market applies these forecasts to an average horizon somewhere in the range of 5 to 10 years. Thus, these growth forecasts are more important for valuation than assumed in the many applications that treat them as 3-to-5 year forecasts, though far less influential than forecasts of growth into perpetuity." "How does the Market Interpret Analyst's Long-term Growth Forecasts?" p, 2, Steven Sharpe, Division of Research and Statistics of the Federal Reserve Board, April, 2004.

[81] The CBO estimates 3.8% nominal GDP growth from 2023-2052, in Long-Term Economic Projections, found here: https://www.cbo.gov/system/files/2023-06/59014-LTBO.pdf. The Federal Reserve estimates 3.8%, from figure 1 "Longer Run change in GDP" median estimate of 1.8% for real GDP and 2.0% for PCE longer run inflation, here : https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20231213.pdf. The social security agency estimates as its intermediate projection a nominal growth rate of 4.08% in the 60 years from 2040-2100, found in Table VI.G4 in the 2023 OASDI Trustees Report, here: https://www.ssa.gov/OACT/TR/2023/tr2023.pdf. The average of these three estimates is 3.89%.

[82] Calculations may be found in Attachment SD-1, tab "Two-Stage DCF."

which is consistent with the upper range of the time academic research [83] states these intermediate term forecasts are incorporated into the market price, the resultant ROE is 7.21%. It is notable that this estimate is based only on a growth estimate from a single source, Bloomberg, which is not as robust as using the four sources I used when calculating the growth estimates for the constant growth DCF model. Ms. Bulkley recently switched from using Value Line estimates to Bloomberg estimates for this calculation, with this single change altering her anticipated market return upwards by 82 basis points (from 12.08% to 12.90%).[84]

[83] *See* "How does the Market Interpret Analyst's Long-term Growth Forecasts?" p. 2, Steven Sharpe, Division of Research and Statistics of the Federal Reserve Board, April, 2004.
[84] *See* data request response 16-3, found in OUCC Attachment SD-8.

APPENDIX E

GENERAL CONCERNS WITH ANALYST ESTIMATES

On page 106 of his book, The Equity Risk Premium-The Long Run Future of the Stock Market, Bradford Cornell states as follows:

> The practical problem raised by relying on analysts' forecasts is that such forecasts typically have short horizons. Services that aggregate such forecasts, including those by IBES and Zack's Investment Research, do not provide forecasts beyond 5 years. *From the standpoint of the DCF model, which extends into perpetuity, this horizon is too short.*

Emphasis added.

Mr. Cornell goes on to discuss the problems with assuming that the forecasted growth rate can be maintained in perpetuity.

> In most cases, the IBES forecasts are greater than the long-run economic growth rates. Such growth rates clearly cannot be maintained forever. Although it is possible that a company's dividends can grow significantly faster than the general economy for 5 years, if such a growth rate were maintained indefinitely, the company would eventually engulf the entire economy.

Also, Cost of Capital - Estimation and Application 2nd edition by Shannon Pratt makes the following assertions about using analyst forecasts to estimate cost of equity:

> It is theoretically impossible for the sustainable perpetual growth rate for a company to significantly exceed the growth rate in the economy. Anything over a 6-7% perpetual growth rate should be questioned carefully.
>
> A common approach to deriving a perpetual growth rate is to obtain stock analysts' estimates of earnings growth rates. The advantage of

using these growth estimates is that they are prepared by people who follow these companies on an ongoing basis. These professional stock analysts develop a great deal more insight on these companies than a causal investor or valuation analyst not specializing in the industry is likely to achieve.

There are however, three caveats when using this information:

1. These earnings growth estimates typically are for only the next three to five years; they are not perpetual. Therefore, any use of these forecasts in a single-stage DCF model must be tempered with a longer-term forecast.

2. Most published analysts' estimates come from "sell-side" stock analysts who work for firms that are in the business to sell stocks. Thus, although their earnings forecasts fall within the range of "reasonable" possibilities, they may be on the high end of the range.

3. Usually, these estimates are obtained from firms that provide consensus earnings forecasts; that is, they aggregate forecasts from a number of analysts and report certain summary statistics (mean, median, etc.) on these forecasts. For a small publicly traded firm, there may be only one or even no analyst following the company. The potential for forecasting errors is greater when the forecasts are obtained from a very small number of analysts. These services typically report the number of analysts who have provided earnings estimates, which should be considered in determining how much reliance to place on forecasts of this type.

Many of the problems inherent in using a single-stage model to estimate cost of capital are addressed by using a multistage model.

APPENDIX F

POTENTIAL BIAS IN ANALYST FORECASTS

The National Regulatory Research Institute (NRRI) Journal of Applied Regulation supports both of my concerns about using unreasonably high growth rates in a DCF analysis with the following:[85]

> Financial research has made it clear that no company, especially a utility, can sustain a growth rate over the long run that exceeds the growth rate of the economy.[86] Since 1959 the long-term sustainable real growth rate in the economy has been about 3.5%.[87] If long-term inflation is expected to be about 2.5%, the maximum long-term sustainable nominal growth for any company today is about 6.0%. Since utilities are amongst the slowest growing firms in the economy, a utility today would be expected to have a long-term sustainable growth rate that is significantly below 6%.

The article also notes a tendency toward upside bias in analyst forecasts:

> The other problem with using analyst forecasts as the long-term growth rate in the DCF model is such forecasts are biased to the upside. The evidence on this issue is overwhelming.[88] The forecast bias persists year after year in large part due to the incentive structures in place at many Wall Street firms that tend to reward more optimistic projections and to discourage the incorporation of potentially negative views in analysts' forecasts. (emphasis added).[89]

[85] How improper risk assessment leads to overstated required returns for utility stocks, by Steven G. Kihm NRRI Journal of Applied Regulation-Volume 1, June 2003, p. 98.
[86] Robert D. Arnott and Peter L. Bernstein "What Risk Premium is Normal? Financial Analysis Journal, 58 (2) March/April 2022; 64-85.
[87] Council of Economic Advisors, Economic Report of the President, 2002.
[88] See for example, Vijay Kumar Chopra, "Why so much error in analysts' Earning Forecasts?" Financial Analysts Journal, 54 (6) November/December 1998); 35-42.
[89] See Masakao N. Darrough and Thomas Russal, "A Positive Model of Earnings Forecasts: Top Down Versus Bottom Up." Journal of Business, 75 (1) (January 2002) 127-52.

The Wall Street Journal published an article on January 27, 2003, titled Analysts: Still Coming up Rosy. The article discusses how, despite a $1.5 billion settlement pending with regulators over stock research conflicts, analysts are unshaken in their optimism that most of the companies they cover will have above average double-digit growth rates during the next several years. The article asserts that such growth is unlikely:

> Historically, growth in corporate earnings has slightly lagged nominal growth in gross domestic product. In other words, profits can only grow as fast as the economy. Right now, optimistic Wall Street analysts expect earnings to defy history and grow far faster than that.

And:

> Those overly optimistic growth estimates also show that, even with all regulatory forces on too-bullish analysts allegedly influenced by their firms' investment-banking relationships, a lot of things haven't changed: Research remains rosy and many believe it always will.

The concern regarding bias in intermediate term analyst forecasts, such as those relied upon by Ms. Bulkley, is also mentioned in The Real Cost of Equity by Marc H. Goedhart, Timothy M. Koller, and Zane D. Williams (McKinsey Quarterly Autumn 2002):

> Some theorists have attempted to meet this challenge by surveying equity analysts, but since we know that analyst projections almost always overstate the long-term growth of earnings or dividends,[90] analyst objectivity is hardly beyond question.

In a more recent article, Equity analysts: Still too bullish by Marc H. Goedhart, Rishi Raj and Abhishek Saxena (McKinsey Quarterly - April 2010) the authors reiterated the concern regarding analyst forecast bias:

[90] See Marc H. Goedhart, Brendan Russel and Zane Williams, "Prophets and profits?" McKinsey on Finance, Number 2, Autumn 2001.

> No executive would dispute that analysts' forecasts serve as an important benchmark of the current and future health of companies. To better understand their accuracy, we undertook research nearly a decade ago that produced sobering results. Analysts, we found, were typically overoptimistic, slow to revise their forecasts to reflect new economic conditions, and prone to making increasingly inaccurate forecasts when economic growth declined.[91]
>
> Alas, a recently completed update of our work only reinforces this view - despite a series of rules and regulations, dating to the last decade, that were intended to improve the quality of the analysts' long-term earnings forecasts, restore investor confidence in them, and prevent conflicts of interest.[92] For executives, many of whom go to great lengths to satisfy Wall Street's expectations in their financial reporting and long-term strategic moves, this is a cautionary tale worth remembering.

Also, the abstract of Do Analyst Conflicts Matter? Evidence from Stock Recommendations by Anup Agrawal and Mark Chen (Journal of Law and Economics, 2008, V 51), includes the following statement:

> However, evidence from the response of stock prices and trading volumes to upgrades and downgrades suggests that the market recognizes analyst conflicts and properly discounts analyst options.

While it predates the October 31, 2003, final judgment in the Global Research Analyst Settlement ("GRAS"), the following article: Stock Analysts Still Put Their Clients First, Financial Analysts Journal, Volume 59 Issue 3, May 1, 2003, discusses the separation of research and investment banking services and its influence on analyst estimates. The article

[91] See Marc H. Goedhart, Brendan Russel and Zane Williams, "Prophets and profits?" McKinsey on Finance, Number 2, Autumn 2001.

[92] SEC Regulation Fair Disclosure (FD) passed in 2000, prohibits the selective disclosure of material information to some people but not others. The Sarbanes-Oxley Act of 2002 includes provisions specifically intended to help restore investor confidence in the reporting of securities analysts, including a code of conduct for them and a requirement to disclose knowable conflicts of interest. The Global Settlement of 2003 between regulators and ten of the largest US investment firms aimed to prevent conflicts of interest between their analyst and investment businesses.

concludes that the separation of research and investment banking services has not resolved the concern that analyst forecasts are still upwardly biased.

> The new requirements *imply* that independent research (brokerage research without investment banking ties) is better for investors. But why independent analysts will be less vulnerable than brokerage firm analysts to the same pressures for optimism is unclear. Analysts themselves have remarked that one source of strong pressure for "optimism biases" in recommendations is the need to keep access to the managers of the companies they cover; in other words, issue positive research or expect to be cut off from management guidance. Unfortunately, the Sarbanes-Oxley bill, which mandated many improvements in corporate managers' financial practices, did nothing to reduce the unethical practice by many managers of communicating only with those analysts who "cooperate" with management's implicit (and usually positive) forecasts of the future. Finding a way to fix this blind spot may be more important than all the other "sticks" regulating analysts combined.
>
> Interestingly, the *Wall Street Journal* reported in April 2003 that after reviewing disclosure reports issued as a result of the new requirements, they concluded that the brokerage firms of the top investment banks are still more likely to give optimistic research recommendations to their own banking clients. Of course, the new disclosure requirements attempt to protect investor clients by making them aware of investment research's potential as an advising medium, but the attempt works only if investors read and understand the disclosures. Institutional investors are probably more likely than retail investors to read, put into context, and fully appreciate these new disclosures. (emphasis added)

While the GRAS may have reduced some of the causes of analyst bias, the problem of optimistic analyst forecasts has not been eliminated. Moreover, the Equity Analysts: Still Too Bullish article by Goedhart, Raj, and Saxena and Do Analyst Conflicts Matter? Evidence from Stock Recommendations by Agrawal and Chen were both published several years after the GRAS. Both articles support my professional viewpoint that concerns about analyst optimism still exist.

When using analyst forecasts of EPS to estimate growth (g) in a DCF analysis, both the

potential for analyst bias and the intermediate term nature of the forecasts may make these estimates unreliable. Even assuming no analyst bias, unsustainable growth rates should be adjusted or given reduced weight. This is particularly emblematic in the DCF analysis Ms. Bulkley conducts on companies in the S&P 500 to calculate her estimated market growth where about half the companies with estimates have a 3-5 year forecasted growth rate in EPS 10.0% or above.[93]

[93] Of the 393 companies that Ms. Bulkley used to calculate a 11.015% growth rate, 189 of them had growth of 10% or higher. This is 48.1%.

APPENDIX G

USE OF HISTORICAL GROWTH ESTIMATES

Q: What data should the Commission use to estimate growth (g) in a DCF analysis?

A: Just as this Commission has done in past cases, such as Cause No. 43860 (Indiana American Water Co.), it should review and give weight to both historical and forecasted data of growth rates in EPS, DPS, and BVPS.

Q: Has the Commission supported the use of DPS, BVPS, and EPS data in estimating the growth (g) component of the DCF calculation?

A: Yes. In Gary-Hobart Water Corporation (acquired by Indiana American), Cause No. 39585, in its final order dated December 1, 1993, at page 17, this Commission stated that "although we agree historical and projected dividend information are important considerations when estimating future rates of growth for the DCF model, we do not believe that book value and earnings data should be ignored." In Cause No. 42029, the Commission stated that it "has consistently sanctioned the use of both historical and forecasted per share data" and that it "continue[s] to believe that both historical and forecasted earnings, dividends and book value per share data are useful when employing the DCF model." *Ind. Amer. Water Co.,* Cause No. 42029, Final Order p. 32 (Ind. Util. Regul. Comm'n Nov. 6, 2002).

The Commission has more recently affirmed its determination that historical and forecasted earnings and dividends and book value per share data are useful when employing the DCF model in Cause No. 43680:

> The Commission expects the parties to exercise sound judgment when deciding which inputs to include as part of their analysis.

> We have concerns regarding Mr. Moul's sole reliance on analysts' intermediate-term forecasts in his DCF model. The Commission believes that both historical and forecasted earnings and dividends and book value per share data are useful when employing the DCF Model. Although Mr. Gorman agreed with Mr. Moul's forecasted growth rates, Mr. Gorman recommended adjustments that modify Mr. Moul's outcomes to be much more in line with Mr. Kaufman's and Mr. Gorman's results. We agree with Mr. Kaufman that Mr. Moul's reliance on intermediate-term forecasts result in a growth rate that is unrealistically high.
>
> We also agree with Mr. Gorman that the constant growth DCF return used by Mr. Moul for the Water Proxy Group is not reasonable and represents an inflated return for Indiana-American at this time. The constant growth DCF results for the Water Proxy Group are based on growth rates of 7.29% (Mr. Gorman) and 7.5% (Mr. Moul). The Commission finds these growth rates to be unsustainable for the long-term, which is required by the constant growth model.

Ind. Amer. Water Co., Cause No. 43680, Final Order, p. 47 (Ind. Util. Regul. Comm'n Apr. 30, 2010).

APPENDIX H

CAPITAL ASSET PRICING MODEL (CAPM) ANALYSIS

Q: Does the CAPM give a better indication of the required returns than the DCF model?

A: No. If the DCF is used with a reasonable estimated growth rate of dividends, it produces results at least as reasonable as the CAPM. The CAPM is typically more controversial and less reliable than the DCF model.

Brigham and Davis comment on the lack of precision in the CAPM on page 89 of their text Intermediate Financial Management (7th Edition):

> When applied in practice, the CAPM appears to provide neat, precise answers to important questions about risk and required rates of return. However, the answers are less clear than they seem. The simple truth is that we do not know precisely how to measure any of the inputs required to implement the CAPM. These inputs should all be ex ante, yet only ex post data are available. Further, historical data on kN, kRF, and betas vary greatly depending on the time period studied and the methods used to estimate them. Thus, although the CAPM appears precise, estimates of Ki found through its use are subject to potentially large errors.

Q: Please describe your CAPM analysis.

A: The Capital Asset Pricing Model, or CAPM, is a form of risk premium analysis used to estimate the cost of capital. The CAPM is based on the premise that investors require a higher return for assuming additional risk. Total risk is divisible into two categories: systematic risk and unsystematic risk. Systematic risk is risk that affects the entire market, including inflation, monetary policy, fiscal policy, or politics. Unsystematic risk is risk unique to the company and may include the characteristics of the industry in which the company operates as well as factors involving the individual company being examined,

such as strikes, management errors or ability, merger activity, or individual financing policy.

Investors can mitigate unsystematic risk through diversification. Because returns of individual securities of a portfolio do not usually move in the same direction at the same time, the total risk of a portfolio is less than the risk of the individual securities that make up the portfolio. Because investors can eliminate unsystematic risk through diversification, the market does not compensate investors for assuming unsystematic risk. Conversely, systematic risk, sometimes referred to as market risk, cannot be eliminated through diversification. However, because investments will move with different relationships to the market, investors can form a portfolio to assume the amount of market risk they wish. An investor's required return depends on the market risk that the investor assumes.

Q: How is systematic (market) risk measured?

A: Beta is the measurement of an investment's relationship to the market. More specifically, Beta measures an asset's price volatility compared to the market. By definition, the market has a Beta of one. The market refers to the returns on all assets. Because it is very difficult to measure the return on all assets, analysts typically rely on a market index, such as the Standard & Poor's 500 Index, as a proxy for the market. Assets more volatile than the market will have a Beta greater than one and, thus, they are considered riskier than the market. Similarly, assets that are less volatile will have a Beta less than one and are considered less risky than the market. Utility stocks would be considered low-risk, and almost always have a Beta less than one, and that is true in the present cause.

The CAPM formula can be stated as follows:

K	**=**	**Rfc + β*(Rm-Rf) where,**
K	=	Cost of Equity
Rfc	=	Current Risk-Free Rate of Return
β	=	Beta
Rm-Rf	=	Expected Market Equity Risk Premium
Rm	=	Market Equity Return
Rf	=	Risk-Free Rate of Return

The return on an asset (K) equals the risk-free rate of return (Rfc) plus its Beta (β) multiplied by the market equity risk premium (Rm - Rf). The market equity risk premium equals the market equity return minus the risk-free rate of return.[94]

Q: What is your expert opinion of the CAPM?

A: The CAPM is a model to which I give weight. In the initial introduction to the CAPM in Cost of Capital,[95] this textbook quotes the following from Michael Dempsey: "[n]evertheless, we consider that in choosing to attribute CAPM rationality to the markets, we are imposing a model of rationality that is firmly contradicted by the empirical evidence of academic research." As an introduction to the model, this is not a full-throated endorsement. However, the very next sentence states "[d]espite its many criticisms, the CAPM in its pure form is still one of the most widely used models for estimating the cost of equity capital[.]"[96] The CAPM is typically more controversial and less reliable than the DCF model. Different applications of CAPM may result in vastly different cost of equity estimates. For example, the source of Beta can influence the results of a CAPM analysis. If a market risk premium of 5.0% is used, a difference in Beta of only 0.10 changes the results of a CAPM analysis by 50 basis points.

[94] I refer to the Market Risk Premium or the Equity Risk Premium as interchangeable concepts throughout my testimony, the difference between the two concepts is not relevant for purposes of establishing a Utility ROE, since there is a general understanding that by "market" we mean the stock market and not other investable assets.
[95] Cost of Capital, Applications and Examples, Fifth Edition. Shannon P. Pratt and Roger J. Grabowski, page 190.
[96] *Id*.

A. Forecasted Equity Risk Premium

Q: Do you propose to use forecasted information to determine the equity risk premium?

A: Yes. Both historical and forecasted equity risk premiums provide relevant insight to estimate cost of equity.

> A hard to dismiss critique came from Roger Ibbotson's dissertation advisor, Eugene Fama. In a series of papers written with Dartmouth College's Kenneth French, Fama has argued that the capital asset pricing model, or at least its 1970s corollary, that the risk premium is constant doesn't match the facts. "My own view is that the risk premium has gone down over time basically because we have convinced people that it's there[,] Fama says. Ibbotson's stock market forecasting model is thus a victim of its own success. Ibbotson agrees that Fama has a point, and that he can no longer bank on the historical equity premium to predict the future. [97]

Importantly, even Dr. Ibbotson has now expressed concerns about using historical data to estimate the risk premium. At the time of this article (2005), Dr. Ibbotson had forecasted a long-run equity-return forecast of 9.27% compared to an annual return on stocks from 1925 to the (then) present day of 10.31%.

B. Risk-free rate of return

Q: Is the risk-free rate of return also controversial?

A: Aside from the market risk premium controversy, financial analysts do not agree on the determination of the risk-free rate. Theoretically, the risk-free rate is the rate of return on a completely risk-free asset. In practice, analysts typically use yields on United States Treasury Securities as a proxy for the risk-free rate. An analyst could use the yield on very

[97] Fox, J. (2005) *9% forever?*, *CNNMoney*. Available at: https://money.cnn.com/magazines/fortune/fortune_archive/2005/12/26/8364640/index.htm (Accessed: 04 March 2024).

short term 91-day Treasury Bills as a proxy for the theoretical risk-free rate of return. However, the volatility of 91-day Treasury Bill rates has led many analysts to use longer term Treasury instruments as an estimate of the risk-free rate.

Q: How did you estimate the risk-free rate?

A: I analyzed the 10-year and 30-year Treasury long-term yields from both a current and a forecasted time frame. For the current results, I calculated yields based on the spot yield (as of the date I selected to procure my data), the 7-day average yield (prior the date selected), and 1-month, 3-month and 6-month average yields.

Q: What metric do you use?

A: My preferred metric is the 30-year 7-day average yield because at this point in time, the 30-year yield is the most reliable (meaning the most market driven and the least influenced by the short-term gyrations and manipulations of the Federal Reserve). Further, the Treasury market is so deep and robust that the market will have minimal volatility from day to day that is not explained by relevant information, and since the purpose of using longer time frames for calculation of current yields is to remove this volatility, this is of minimal value in the treasury market.

C. Beta

Q: What source did you review to estimate Beta?

A: Like Ms. Bulkley, I relied on Value Line and Bloomberg as two sources of Beta. In addition to those two sources, I used Yahoo! Finance, Zacks, NYSE, and Standard and Poor's (S&P).

Q: Is there a difference in the Betas calculated from different sources?

A: Yes. Although Beta is a mathematical construct, the choice of time frames, data points, and indexes can result in a significant difference of calculated Betas. Further, both Bloomberg and Value Line use adjusted Betas, meaning that the mathematical results are adjusted towards one. For utilities which are low risk (a Beta below one) this means that both Value Line and Bloomberg will result in an increased Beta (and hence a higher resultant ROE when inputted into the CAPM formula). None of the other sources of Beta are adjusted. The adjustment results in a very significant difference in Beta between the adjusted and the unadjusted sources.

D. Case specific discussion of the DCF Model

Q: What inputs are required for the CAPM?

A: The CAPM relies on (1) a determination of the risk-free rate of interest; (2) the equity risk premium (i.e., the amount of excess returns an investor expects investing in equities instead of risk-free bonds), and (3) Beta, which is a measure of risk relative to the market as a whole.[98]

Q: How did you determine the risk-free rate of interest?

A: I calculated the risk-free rate of interest for a variety of time periods and for both ten-year and thirty-year maturities.

[98] As stated earlier I am using the Market Risk Premium and the Equity Risk Premium as interchangeable, however the CAPM actually uses the market risk premium, which includes things like real estate, precious metals, private companies, basically the entire potential universe of investments. I am using the S&P 500 as a proxy from this investible universe when we use the Equity Risk Premium.

Table SD-17

Interest Rates-as of February 1, 2024

	Spot	Average Yield Over 7-Day	1 Month	3 Month	6 Month	Long-Term Forecast
10 Year Treasury Yield	3.87%	4.03%	4.05%	4.18%	4.32%	3.63%
30 Year Treasury Yield	4.10%	4.26%	4.25%	4.34%	4.46%	4.13%

Q: What is your preferred risk-free rate?

A: Although it is one of the highest interest rates in Table SD-17, I prefer the 7-day average yield on the 30-year U.S. treasury because it captures the market's best price of a long-term risk-free rate, and due to other reasons discussed elsewhere in my testimony. This is 4.26% currently.[99]

Q: Did you incorporate the long-term forecasted rates in your model?

A: Yes. The forecasted interest rates are included in my calculations and do result in an ROE estimate. This is not my preferred metric, so it is given to show the results if this rate was used. I use forecasted rates for both 10-year and 30-year yields from a variety of sources. Generally, the best estimate of future rates is the current market yield, which is why a 7-day average is my preferred metric, and therefore forecasted rates are of limited utility in most cases. In this case, I tried to get the most updated forecasts possible, but CenterPoint chose not to reply to this request due to an obvious typographical error on my part, and chose to seize on that to not reply rather than read the rest of the request and reply appropriately. This data request response 32-12 may be found as OUCC Attachment SD-13. For this reason, I am forced to use the older Blue Chip forecasts rather than the more

[99] Currently means the 7 days prior to February 1, 2024. There is always a tension of getting the most up to data information vs. having enough time to prepare testimony after having fixed numbers. Ms. Bulkley used numbers from September 30, 2023, which was over 2 months before the filing date of December 5, 2023.

updated ones. This is unfortunate and makes the presentation of data to the Commission less robust than it should be. Long-Term Forecasts from Blue Chip for long-term from June of 2023 are out of date and superseded by data from December of 2023. This revision would presumably make the forecasted interest rates higher, and thus the results of that portion of my model higher.

Q: Should analysts use current or forecasted interest rates at this time?

A: I present both forecasted yields and current yields, but I have a strong preference for the current, actual market yields. In this case, the forecasted yields are lower than current yields for the 10 year, but broadly equivalent for the 30 year yields. The Bank of America Global Fund Manager Survey from January 2024 shows that 55% of respondents look for lower bond yields over the next 12 months (and 91% expect lower short-term interest rates in the next year).[100] Regardless, I reiterate my preference for the use of current market rates in lieu of forecasted rates. I believe that the best estimate for future long-term rates is the current long-term interest rate.

Q: How did you calculate Beta?

A: I used five different sources for Beta: Value Line, Yahoo! Finance, Zacks, S&P, and NYSE. Except for NYSE and Standard and Poor's, Ms. Bulkley used these same sources on different inputs (Value Line, Yahoo! Finance, and Zacks for growth and/or Beta estimates). Ms. Bulkley used only Value Line and Bloomberg for Betas. These two sources generally produce the two highest average values of the six sources since they are adjusted betas. For instance, Value Line has an average beta of .92 for my proxy group, whereas the unadjusted betas of Yahoo! (.55), Zacks (.55), S&P (.47), and NYSE (.55) have an

[100] https://macenews.com/bofa-global-research-fund-manager-survey-global-investors-choose-cash-at-start-of-2024/ for this information that is not behind a paywall.

average of 0.53. So, Value Line has a Beta of 73% higher than the average of the four unadjusted Betas.[101] Therefore, Ms. Bulkley's decision to use only these two adjusted sources unreasonably skews her Beta upward. I used the average of all five sources of Beta that were available to me for the CAPM calculation, which produces a reasonable result. Approximately 154 basis points of the difference between the OUCC's and Ms. Bulkley's CAPM results are because of the Beta sources she selected (based upon my proxy group and assumptions).[102]

[101] Average of all betas for my proxy group is 0.61, average of just Value Line 0.92, and average of the unadjusted betas (Yahoo!, Zacks, S&P and NYSE) is 0.53. (.92-.53)/0.53=.73292. Or alternatively, 1.73*.53=.92 (rounded).
[102] Keeping all of my other inputs the same, and using my preferred inputs, the ROE changes from 7.24% to 8.78%, the Beta changes from .53 (including all 5 sources) to .92 (including just Value Line). The difference between 8.78% and 7.24% is 154 basis points. This is simply changing the formulas in column AU of my CAPM analysis to point to the Value Line Beta (Column W) rather than the Mean Beta (column AC). Note, this adjustment would be less if I was able to use Bloomberg Beta's as well.

Table SD-18

Company	Ticker	Value LineBeta (β)	Bloomberg Beta (β)	Yahoo! Beta (β)	Zacks Beta (β)	S&P Beta (β)	NYSE Beta (β)	Mean Beta
ALLETE, Inc.	ALE	0.95		0.75	0.77	0.54	0.75	0.75
Alliant Energy Corporation	LNT	0.90		0.55	0.56	0.47	0.57	0.61
Ameren Corporation	AEE	0.90		0.46	0.43	0.47	0.45	0.54
American Electric Power Company, Inc.	AEP	0.80		0.50	0.49	0.50	0.50	0.56
Avangrid, Inc.	AGR	0.85		0.52	0.53	0.52	0.52	0.59
Avista Corporation	AVA	0.95		0.49	0.50	0.44	0.48	0.57
CMS Energy Corporation	CMS	0.85		0.39	0.38	0.42	0.39	0.49
DTE Energy Company	DTE	1.00		0.66	0.64	0.47	0.65	0.68
Duke Energy Corporation	DUK	0.85		0.47	0.48	0.40	0.47	0.53
Entergy Corporation	ETR	0.95		0.70	0.71	0.53	0.70	0.72
Evergy, Inc.	EVRG	0.95		0.55	0.57	0.48	0.56	0.62
IDACORP, Inc.	IDA	0.85		0.58	0.57	0.46	0.57	0.61
NextEra Energy, Inc.	NEE	0.95		0.52	0.52	0.71	0.51	0.64
NorthWestern Corporation	NWE	0.95		0.47	0.44	0.45	0.46	0.55
OGE Energy Corporation	OGE	1.05		0.72	0.74	0.54	0.74	0.76
Pinnacle West Capital Corporation	PNW	0.95		0.48	0.49	0.45	0.49	0.57
PNM Resources, Inc.	PNM	0.90		0.37	0.36	0.17	0.36	0.43
Portland General Electric Company	POR	0.90		0.60	0.58	0.49	0.59	0.63
PPL Corporation	PPL	1.05		0.85	0.82	0.56	0.84	0.82
Southern Company	SO	0.90		0.53	0.50	0.43	0.53	0.58
Xcel Energy	XEL	0.85		0.42	0.40	0.46	0.41	0.51
Mean		0.92		0.55	0.55	0.47	0.55	0.61
Median		0.90		0.52	0.52	0.47	0.52	0.59

Q: Why did you not use Bloomberg's Beta in your analysis?

A: I did not use Bloomberg's Beta because I do not have access to the Bloomberg numbers, since they are behind a paywall. The OUCC asked CEI South for these numbers in Data Request 21-1 (response received on February 8, 2024, *See* OUCC Attachment SD-9). In response CenterPoint objected "to the extent it calls for a calculation, compilation, or analysis CEI South has not performed and to which CEI South objects to performing," *Id.* No response was forthcoming since it was stated Ms. Bulkley had not conducted the

requested analysis. *Id* As a result, I opted to discard the Bloomberg Betas. CEI South's response to Data Request 21-1 may be found in OUCC Attachment SD-9.

Q: How did Ms. Bulkley estimate her Beta coefficient in calculating her CAPM analyses?

A: Ms. Bulkley used both Value Line and Bloomberg inputs.

Q: Do you agree with Ms. Bulkley's use of these two sources?

A: I accept these sources, but additional sources should also be used. Both Value Line and Bloomberg are adjusted Betas, meaning they will always be higher (and thus result in a higher ROE) than an unadjusted Beta for low-risk stocks. Other sources I used (S&P, NYSE, Zacks, and Yahoo! Finance) provide Betas that are unadjusted. These are as valid as the adjusted Betas - otherwise, these reputable sources would not publish these results - and they should be used as well. I am using these sources in addition to Value Line because they are publicly available (i.e., Yahoo!, Zacks and NYSE), or because the OUCC has a subscription to the source (i.e., S&P). I did not eliminate any publicly available sources.

Q: Are all sources of Beta equally valid?

A: There are many different methods of calculating Betas with almost unlimited inputs - frequency (daily, weekly, monthly, annual); time period (a week, a month, a year, three years, five years, ten years, etc.); and the index you are comparing the stock price to (the S&P 500, the NYSE composite, the NASDAQ, etc.). Once those decisions are made, finer distinctions are often still required. For instance, a monthly data point could be determined in the middle of the month, the end of the month, the average of the entire month, etc. The sources upon which I relied (Value Line, Yahoo!, Zacks, S&P, and NYSE) are all nationally recognized and reputable. These sources have determined that the Beta they publish is "the best" – if they did not, they would choose a "better" model. If the data was all sourced from a third party, the results would be identical, which they are not. Given that

this is the case, all of these sources are equally valid, and should be given equal weight in any average.

Q: Are there differences in the Betas Ms. Bulkley and you used in your calculations?

A: Yes. Betas will differ because of the composition of our respective proxy groups.[103] Because Ms. Bulkley and I presented our data differently, we used Beta in different ways. Ms. Bulkley ran an analysis consisting of only Value Line Beta, whereas my analysis uses average Betas. Using multiple sources of Beta is advantageous, but the presentation of the results and how those are incorporated is the choice of the analyst.

Q: Please explain the Equity Risk Premium ("ERP").

A: The Equity Risk Premium is the excess return an investor expects by investing in equities rather than a risk-free investment. In other words, the equity risk premium would be the expected return on "the stock market" (the market rate of return), less the return on a treasury bond (the risk-free rate).

Q: How did Ms. Bulkley calculate the ERP?

A: Ms. Bulkley applied a single phase DCF model to market analyst estimates for certain stocks in the S&P 500 index. Her calculations resulted in an expected annual market return of 12.90%, which significantly exceeds what any source I have reviewed forecasts.

Q: Do you agree with this forecast?

A: No. Initially I disagree because Ms. Bulkley states the DCF cannot be fully trusted because utility stocks are overvalued.[104] But then she uses the DCF to calculate a generous Equity Risk Premium ("ERP"), which is a critical input for the CAPM.

[103] My Betas will also be slightly more updated, although that difference should be very minimal.

[104] Ms. Bulkley discusses the expected return of Utility Stocks in section IV.D. of her testimony, pages 17-20. She concludes on page 20, lines 23-25 "The expected underperformance of utilities means that DCF models using recent historical data likely underestimate investor's required return over the period that rates will be in effect."

Second, the calculation she performs is a single-phase model that produces problematic results when extrapolated over the long-term. Specifically, if a two-phase model is used where the estimated growth occurs over the next fifteen years, and then nominal GDP is used as the growth function beyond this time, the result is an ROE of 8.01%.[105] This is a two-stage DCF that incorporates the same intermediate term forecasts Ms. Bulkley used with the same modifications she made to the stocks selected. The initial period, however, would be approximately four times the estimated timeframe Ms. Bulkley used, to which the theoretical ceiling of long-term growth after that point would apply. The result reduces Ms. Bulkley's expected annual market return by 489 basis points, in addition to the Beta reduction discussed earlier.[106] Using Ms. Bulkley's Beta numbers, this reduces her ROE from 11.95% to 7.61% for the mean calculation, or a total of 434 basis points.[107]

It should be stressed that these growth estimates are not meant to be truly long-term estimates. They are intermediate term estimates prepared by Bloomberg.

The growth estimates are based on 348 companies out of the S&P 500. I agree with the decision to eliminate 155 of the 503 companies with growth estimates that were negative (47) or greater than 20% (45) per annum or did not have growth estimates (63). But this implicitly acknowledges the broader point that these estimates are not meant to be long-term estimates. They should be read as what they are, intermediate term growth

[105] Nominal GDP sources are from the CBO of 3.80%, the Federal Reserve of 3.80%, and the Social Security Administration of 4.08%. The average of these three is 3.89%. *See* OUCC Attachment SD-1, tab "Nominal GDP Growth" for details and links to sources.
[106] 12.90% - 8.01% =4.89%, or 489 basis points.
[107] This is simply changing her column F (Market Return Column, from tab Sch-4 CAPM) in AEB-2 to 8.01% and leaving all other inputs the same. For this example, I used the Current Risk-Free Rate and Value Line Beta inputs, which is the first model presented on this tab from lines 1-35. The other adjustments would be slightly different, but very similar.

estimates of approximately four years. Eliminating companies above 20% growth eliminates absurd results of annual growth rates for Royal Caribbean Cruises at 124.32% growth, Marathon Petroleum at 83%, or Amazon at 51.21%. It is not that these estimates are wrong - they are being misused and extrapolated far beyond their original intent (taking an estimate over approximately four years and extrapolating it forever).

As an example, Google, which is included in the adjusted S&P index Ms. Bulkley uses, is projected to grow, from today, at a rate of 18.01% in perpetuity based on the Bloomberg growth estimate[108] Since sales are currently estimated at approximately $341 Billion, in 35 years, Google would have revenues of $112 trillion annually, which will be larger than estimated US GDP by this time.[109] This is just Google. It does not include any of the other 499 companies in Ms. Bulkley's raw index, or all the companies and governments not included in this index. Microsoft alone would add $53 trillion in revenue. Again, Microsoft has a growth rate low enough to be included in this adjusted screen. Some companies that are not included in the screen, such as Royal Caribbean, would have an estimated revenue that, frankly, is indescribable by me.[110]

Third, estimates of long-term market returns are readily available from multiple reputable, national sources that invest considerable expertise and effort in creating this

[108] All numbers for Google (Alphabet) are sourced from the Value Line report February 3, 2023. Starting revenues of $341 billion are the estimate for 2024. The estimate is for earnings growth rather than revenue growth, but the broader point remains even if margins expand significantly.

[109] There are various estimates of US GDP growth, as discussed elsewhere in my testimony; a growth rate of 3.89% is appropriate. Starting with a baseline of $25.5 trillion in 2022 ($25.46 trillion per the BLS) and growing by a rounded-up estimate of 4.0% per year, in 35 years, nominal GDP would be $100.5 trillion. Per the CBO (https://www.cbo.gov/system/files/2023-06/59014-LTBO.pdf) GDP would be $79.50 trillion in 2053, or 30 years from now. The specific amounts are not important to the general point, however.

[110] Based on estimated 2024 sales of $15.8 billion, and projected "long-term" growth of 124.32%, the estimated sales after 35 years is $30,132,624,316,667,100,000,000. This is three orders of magnitude larger than 30 quadrillion dollars, or a 30 million times larger than a trillion. Again, the numbers are sourced from the most recent Value Line reports.

forecast.[111] (This is discussed in the market risk premium section of my testimony immediately following this section.) Ms. Bulkley's reliance on her own calculated market return is both less reliable and less transparent for several reasons. Ms. Bulkley's calculated market return is ultimately reliant on only one input (Bloomberg) for growth estimates. Additionally, growth rates ae projected in perpetuity that are only meant to cover the next four years.

[111] These estimates are not in perpetuity but are significantly longer than the intermediate term forecasts provided by Value Line, Zacks, S&P or Bloomberg.

APPENDIX I

INFLATION

Q: Have you incorporated inflation projections as an input in any of your models?

A: Yes. Most of the estimates are implied, but there are various places where the estimates and forecasts are explicit. This portion of my testimony is meant to highlight some specific forecasts that were either provided by the Petitioner or that I am utilizing within my models.

Q: Where would projected inflation be implied within your projections and models?

A: The most obvious place is as a component of interest rates. For instance, a 10-year Treasury yield implicitly includes the markets estimates of inflation over the next ten years. There are readily available interest rates without this component, specifically a security called a TIPS (Treasury Inflation-Protected Securities). A standard 10-year Treasury yield would be considered a nominal interest rate, as opposed to a real rate (which is a nominal rate of interest less the inflation rate). Since interest rates indirectly affect stock prices changes in implied inflation forecasts also affect stock prices. General inflation may also affect equities more directly, if inflation impacts are uneven, or as equities respond to the depreciation of the currency in which they are denominated.[112] Also, the anticipated

[112] This is just another definition of inflation, that inflation instead of measuring the increase in prices measures the decrease in value of the currency in which those prices are being measured. They are two sides of the same coin.

inflation rate is incorporated into a market return forecast, which is one of the primary inputs into the Capital Asset Pricing Model.

Q: Are explicit inflation projections available?

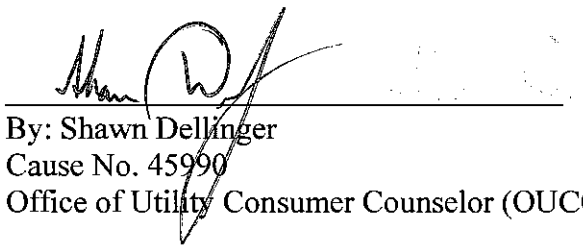
A: Yes. There are long-term inflation forecasts provided by the Federal Reserve and the Congressional Budget Office. There are inflation estimates included with the projections that the Indiana Public Retirement System ("INPRS") uses as part of its market return estimates. There are multiple other sources from companies to surveys of professional forecasters. Please find (13) separate projections for long-term inflation assumptions below. These are all nationally recognized, well-respected sources.

Table SD-19

Source:	Forecast
Blue Chip	2.20%
BNY Mellon	2.20%
Congressional Budget Office	2.16%
Congressional Budget Office	2.00%
Federal Reserve	2.00%
Fidelity	2.70%
Horizon Actuarial Services	2.46%
INPRS	2.00%
JP Morgan	2.50%
Philadelphia Fed	2.24%
Schwab	2.30%
Verus	2.50%
Verus	2.40%
Average	2.28%

AFFIRMATION

I affirm the representations I made in the foregoing testimony are true to the best of my knowledge, information, and belief.



By: Shawn Dellinger
Cause No. 45990
Office of Utility Consumer Counselor (OUCC)

Date: March 12, 2024

OUCC ATTACHMENT SD-1
IS FILED AS AN EXCEL DOCUMENT

OUCC ATTACHMENT SD-2
IS FILED AS AN EXCEL DOCUMENT

UTILITY DIVE

DIVE BRIEF

Avangrid ends PNM acquisition bid, sees 'no clear timing' to resolve New Mexico PRC's rejection of deal

New Mexico regulators denied the merger in 2021 over concerns of reliability risks, the potential for higher electricity prices and slower development of renewable resources.

Published Jan. 2, 2024

Robert Walton
Senior Reporter

In 2020 Avangrid announced an $8 billion deal to acquire PNM Resources, but on Tuesday said it had terminated the merger agreement. Maks_Lab via Getty Images

Dive Brief:

- Connecticut-based Avangrid has terminated its bid to acquire PNM Resources, the largest electric utility in New Mexico, two years after state regulators denied the merger. The $8 billion deal was announced in 2020.
- The utilities appealed the Public Regulation Commission's rejection but Avangrid said Tuesday there is "no clear timing" for the New Mexico Supreme Court to resolve the dispute.
- The PRC denied the Avangrid-PNM merger in December 2021 after a hearing examiner warned of reliability risks, the

potential for higher electricity prices and slower development of renewable resources.

Dive Insight:

PNM officials say they are "greatly disappointed" with Avangrid's decision to walk away from the deal.

"As we move forward, our strategic plans remain focused on the infrastructure investments necessary to meet the future energy needs of our customers and communities," PNM Chairman and CEO Pat Vincent-Collawn said in a statement. "We look to build upon our strong track record of delivering financial results and continue to target long-term earnings growth of 5%."

Shares of PNM Resources traded down about 6% Tuesday morning.

The deal was announced in October 2020 and received approvals from PNM shareholders, the Federal Energy Regulatory Commission, the Nuclear Regulatory Commission and the Public Utility Commission of Texas. But New Mexico regulators balked at the arrangement, leading the companies to challenge the denial in court.

"With the close of 2023 there is still no clear timing on the resolution of the court review of the New Mexico regulator's denial of the merger nor any subsequent regulatory actions," Avangrid said in a statement.

Avangrid owns New York State Electric & Gas and other utilities in the Northeast, and is itself owned by Spain's Iberdrola. Avangrid shares were up about 2.5% Tuesday morning.

"While our merger agreement with PNM has been terminated, we remain more than ever steadfast in our commitment to New

Mexico in the development of wind and solar renewables, helping explore options in the new hydrogen economy, and delivering on the partnership with the Navajo Nation to achieve its clean energy future," Avangrid said.

The utility company said it secured over $9 billion in incremental capital projects while waiting on the merger to close, and will focus on executing $5 billion in capital projects in New York and Maine under multi-year rate plans, $2 billion in capital projects related to clean energy transmission in New York, and repowering over $5 billion of renewable assets utilizing funds from the Inflation Reduction Act.

Avangrid is also developing Vineyard Wind, the first large-scale offshore wind farm in the United States, located off the coast of Massachusetts.

Q 1.39: Please refer to Ms. Ann Bulkley's Direct Testimony, page 9, lines 20-22 which states, "In determining how to allocate its finite discretionary capital resources, it would be reasonable for CenterPoint Energy to consider the authorized ROE of each of its subsidiaries." Please answer the following:

a. Does CenterPoint Energy consider the awarded ROEs in each of its subsidiaries when making investment decisions?

i. If not, please explain any financial measures that are used in capital project investment decisions and provide a recent investment analysis using those measures.

ii. If yes, please provide a recent investment analysis that incorporated the ROE and explain how specifically it is incorporated in the decision making.

b. Please identify projects that Petitioner completed since its last base rate case in Indiana (Cause Number 43839) that were completed because Petitioner's awarded ROE was higher than other similarly situated subsidiaries.

c. Please identify projects that Petitioner did not complete since its last base rate case in Indiana (Cause Number 43839) that were not authorized because Petitioner's awarded ROE was lower than other similarly situated subsidiaries.

d. Please provide a list of the authorized ROE of all other subsidiaries of CenterPoint Energy annually since 2011. For purposes of this question, a subsidiary is a state level regulated utility.

e. Please provide the annual investment amount and the growth rate of investments in each subsidiary by year for the time period since 2011, the year of Petitioner's last base rate case order in Indiana. For the purpose of this question, a subsidiary is a state level regulated utility.

Objection: CEI South objects to the Request on the grounds and to the extent it is incorrect in its premise and, or, mischaracterizes the testimony. CEI South's Exhibit No. 13, the Direct Testimony of Witness Bulkley, stated, on page 9, starting at line 6:

> **Q. IS A UTILITY'S ABILITY TO ATTRACT CAPITAL ALSO AFFECTED BY THE ROES THAT ARE AUTHORIZED FOR OTHER UTILITIES?**
>
> A. Yes. Utilities compete directly for capital with other investments of similar risk, which include other electric, natural gas, and water utilities. Therefore, the ROE authorized for a utility sends an important signal to investors regarding whether there is regulatory support for financial integrity, dividends, growth, and fair compensation for business and financial risk. The cost of capital represents an opportunity cost to investors. If higher returns are available elsewhere for other investments of comparable risk over the same time period, investors have an incentive to direct their capital to those alternative investments. Thus, an authorized ROE significantly

below authorized ROEs for other electric, natural gas, and water utilities can inhibit the utility's ability to attract capital for investment.

While CEI South is committed to investing the required capital to provide safe and reliable service, because CEI South is a subsidiary of CenterPoint Energy, Inc., the Company competes with the other CenterPoint Energy subsidiaries for discretionary investment capital. In determining how to allocate its finite discretionary capital resources, it would be reasonable for CenterPoint Energy to consider the authorized ROE of each of its subsidiaries.

CEI South further objects to the Request on the separate and independent grounds and to the extent it is overly broad and unduly burdensome in that it seeks information beyond the scope of this proceeding and beyond the time period when CenterPoint Energy, Inc. has been the indirect parent of CEI South. CEI South's authorized ROE at the time of CenterPoint Energy, Inc.'s acquisition of the Company had already been determined in its prior rate case and therefore the Request seeks information that is irrelevant for purposes of this proceeding including the testimony of Ms. Bulkley referenced in the Request.

CEI South further objects to the Request on the separate and independent grounds and to the extent it seeks a compilation, calculation or analysis that CEI South has not performed and CEI South objects to performing.

Response: Subject to and without waiver of the foregoing objections, CEI South responds as follows:

a. An investment analysis incorporating ROE for allocating capital resources does not exist. The referenced testimony of Ms. Bulkley simply acknowledges that considering CEI South's authorized ROE would be a reasonable factor (among others) to consider when determining how to allocate capital resources consistent with and in the context of the *Hope* and *Bluefield* standards for determining the fairness or reasonableness of a utility's authorized ROE, specifically (1) consistency with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and access to capital; and (3) that the end result, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates. *See* Bulkley Direct at 7-8.

b & c. See objections and answer to 1.39a

d. Authorized ROEs for CenterPoint Energy, Inc. subsidiaries as of Q3-2023 are as follows:

TX Elec	9.40%
IN Elec	10.40%
IN North Gas	9.80%
IN South Gas	9.70%

North LA Gas	9.95%
South LA Gas	9.95%
MN Gas	9.39%
MS Gas	10.10%
OH Gas (N/A; i.e., the respective order does not explicitly establish an ROE)	
TX Beaumont/East TX Gas	9.65%
TX South TX Gas	9.80%
TX Houston Gas	9.60%
TX Coast Gas	9.60%

e. See objections.

OUCC ATTACHMENT SD-5
IS FILED AS AN EXCEL DOCUMENT

Dominion Energy Advances Business Review; Announces Agreements to Sell Gas Distribution Companies to Enbridge

NEWS PROVIDED BY
Dominion Energy →
05 Sep, 2023, 16:10 ET

- *Consistent with the previously outlined commitments & priorities of the ongoing business review*
- *Transactions valued at $14.0 billion – all cash consideration of $9.4 billion plus assumption of debt*
- *Highly credit accretive—100% of after-tax proceeds expected to be used to retire debt*
- *All sales expected to close by end of 2024, subject to customary regulatory approvals*
- *Company now expects to conclude review and announce repositioned outlook during the fourth quarter of 2023 given vital importance of ensuring the company is best positioned to create maximum long-term value for shareholders*

RICHMOND, Va., Sept. 5, 2023 /PRNewswire/ -- Dominion Energy (NYSE: **D**) today announced that it has concluded a robust and competitive sale process and executed three separate definitive agreements to sell its three natural gas distribution companies to Enbridge (TSX: ENB) (NYSE: **ENB**).

The three LDCs – The East Ohio Gas Company, Public Service Company of North Carolina, Incorporated, and Questar Gas Company along with Wexpro Company – serve about 3 million homes and businesses in Ohio, North Carolina, Utah, Wyoming, and Idaho and collectively comprise approximately 78,000 miles of natural gas distribution, transmission, gathering, and storage pipelines; more than 62 Bcf of working underground and liquefied natural gas storage capacity; and approximately 400 Bcfe of cost-of-service regulated gas reserves as of year-end 2022.

Robert M. Blue, Dominion Energy chair, president, and chief executive officer, said:

"Dominion Energy's best-in-class gas utilities and our incredible employees set the standard for industry reliability, environmental and safety performance, customer service, and community engagement. These businesses and employees have been an integral part of the Dominion Energy team which is why we approached this decision with careful and deliberate consideration.

"We are delighted to be partnering with Enbridge who shares our ideals around employee engagement, regulatory transparency, local community investment, and exceptional customer service. As one of the largest and most experienced operators of energy infrastructure assets in North America, Enbridge will be an outstanding steward of these businesses to the benefit of employees, customers, and communities alike. Specifically, as part of the agreements, Enbridge has agreed to provide significant protections for existing employees, honor existing union commitments, and maintain local operating leadership."

Financial information

Aggregate transactions value of $14.0 billion, including the assumption of $4.6 billion of debt, represents approximately 1.5x estimated 2022 year-end rate base of $9.2 billion.

Aggregate purchase price of $9.4 billion represents approximately 16.6x estimated 2023 operating earnings of $564 million and approximately 16.7x estimated 2024 operating earnings of $561 million.

Total estimated after-tax proceeds of $8.7 billion are expected to be used to reduce parent debt in addition to the conveyance of $4.6 billion of operating company debt. The transactions are expected to improve the company's consolidated FFO to debt by approximately 3.4%.

Additional information related to the transactions can be found in materials included on the Investor Relations website at **investors.dominionenergy.com**. Transaction details by operating company are as follows:

The East Ohio Gas Company

- Implied transaction value: $6.6 billion
- Assumed indebtedness: $2.3 billion
- Purchase price: $4.3 billion
- Implied transaction value as a multiple of estimated 2022 year-end rate base: 1.5x
- Purchase price as a multiple of estimated 2023 operating earnings: 16.3x
- Purchase price as a multiple of estimated 2024 operating earnings: 16.0x
- Estimated after-tax proceeds: $4.2 billion

Public Service Company of North Carolina, Incorporated

- Implied transaction value: $3.1 billion
- Assumed indebtedness: $1.0 billion
- Purchase price: $2.2 billion
- Implied transaction value as a multiple of estimated 2022 year-end rate base: 1.7x
- Purchase price as a multiple of estimated 2023 operating earnings: 20.1x
- Purchase price as a multiple of estimated 2024 operating earnings: 20.7x
- Estimated after-tax proceeds: $1.8 billion

Questar Gas Company and Wexpro Company

- Implied transaction value: $4.3 billion
- Assumed indebtedness: $1.3 billion
- Purchase price: $3.0 billion
- Implied transaction value as a multiple of estimated 2022 year-end rate base: 1.5x
- Purchase price as a multiple of estimated 2023 operating earnings: 15.1x
- Purchase price as a multiple of estimated 2024 operating earnings: 15.5x
- Estimated after-tax proceeds: $2.7 billion

The transactions require clearance under the Hart-Scott-Rodino Act, approval from the Federal Communications Commission, approval from the Committee on Foreign Investment in the United States as well as review or approval from Idaho Public Utilities Commission, North Carolina Utilities Commission, Public Utilities Commission of Ohio, Utah Public Service Commission, and Wyoming Public Service Commission. Closing of each transaction is expected to occur following receipt of each respective state regulatory approval(s), as required, and are not cross conditioned upon each other.

Ongoing business review

Robert M. Blue, Dominion Energy chair, president, and chief executive officer, continued:

"Today's announcement further highlights Dominion Energy's premier state-regulated, electric utilities that operate in some of the most attractive regions in the country. Data center expansion, bolstered by artificial intelligence (AI), along with electrification, and general economic activity are driving the most significant demand growth in our company's history and shows no signs of abating. This unrivaled demand growth will drive very significant regulated capital investment to ensure reliable energy for our nearly 3.5 million electric utility customers.

"In addition, the thoughtful approach taken by Virginia legislators and regulators to develop a framework for our regulated offshore wind project is delivering exceptional results for customers and local economies. It enabled us to take a differentiated approach to project development, securing agreements early with offshore wind suppliers for material and services while giving them confidence in our project's completion. This allows our vendors to maintain focus on delivering their equipment and services on time. Not only is our project on budget

and on schedule, but it is also estimated to deliver electricity at a levelized cost that competes very favorably with the nation's unregulated offshore wind projects while creating hundreds of jobs and millions of dollars of local economic benefit.

"The transactions announcement also represents another significant step in our business review, which is focused on repositioning the company to create maximum long-term value for shareholders, employees, customers, and other stakeholders. However, our work is not complete.

"Consistent with prior communications, we are focused on strengthening the company's credit position within its existing consolidated rating categories of Baa2 (Moody's issuer rating), BBB+ (S&P issuer rating) and BBB+ (Fitch issuer rating). We want to emerge from the review with a sustainable credit foundation that, over time, will consistently meet and exceed our current downgrade thresholds even during temporary periods of cost or regulatory pressure.

"Therefore, as part of the ongoing business review we continue to evaluate efficient sources of capital to solidly position our balance sheet for the long-term while seeking to minimize any amount of external equity financing need. In combination with the sale of our remaining interest in Cove Point and today's announced sales of our natural gas distribution companies, additional capital sourcing would be driven by: (1) de-risking of our regulated offshore wind project through the assumption of a noncontrolling equity financing partner as provided for in recent Virginia legislation; (2) the impact of the $350 million customer rate reduction at Dominion Energy Virginia, which became effective July 1; (3) the potential impact of a prolonged period of elevated interest rates; and (4) funding of our industry-leading regulated investment opportunity driven by unrivaled demand growth."

Business review investor event

Dominion Energy expects to host an investor event during the fourth quarter to discuss the company's repositioned strategic and financial outlook. The event is expected to follow the completion of Dominion Energy's ongoing business review. During the investor event, management will review Dominion Energy's overall strategy, provide comprehensive and multi-year financial and capital investment guidance, and participate in Q&A.

Additional information

The assets included in the transactions will be reclassified as discontinued operations for GAAP reporting and excluded from operating earnings for the third-quarter and full-year 2023. We expect a decrease of $0.05 to $0.06 per share from the previously announced third-quarter operating earnings guidance range of $0.72 to $0.87 per share for the removal of such assets, which excludes any potential impact from the use of sales proceeds. Given the pending business review, the company has not provided full-year 2023 earnings guidance.

Legal and financial advisors

McGuireWoods LLP served as legal counsel to Dominion Energy. Citi and Goldman Sachs & Co. LLC acted as co-financial advisors for the transaction.

Important note to investors regarding operating earnings, FFO to debt, reported net income, net cash provided by operating activities, long-term debt, short-term debt and securities due within one year

Dominion Energy uses operating earnings (non-GAAP) as the primary performance measurement of its earnings guidance and results for public communications with analysts and investors. Operating earnings are defined as reported earnings adjusted for certain items. Dominion Energy also uses operating earnings internally for budgeting, for reporting to the Board of Directors, for the company's incentive compensation plans and for its targeted dividend payouts and other purposes. Dominion Energy management believes operating earnings provide a more meaningful representation of the company's fundamental earnings power. In providing estimated operating earnings of The East Ohio Gas Company, Public Service Company of North Carolina, Incorporated, Questar Gas Company, and Wexpro Company, the company notes that there could be differences between such non-GAAP financial measure and the GAAP equivalent of reported net income.

Dominion Energy intends to use FFO to debt (non-GAAP) as a supplemental liquidity measure of its ability to service its debt obligations in its guidance and results for public communications with analysts and investors. FFO to debt is defined as net cash provided by operating activities adjusted for certain items, including, but not limited to, discontinued operations and changes in working capital as a ratio to total debt, consisting of long-term debt, short-term debt, and securities due within one year, adjusted for certain items including, but not limited to, under-recovered fuel balances and operating leases. Dominion Energy

management believes FFO to debt provides a more meaningful representation of the company's ability to service its debt obligations. In providing FFO to debt, the company notes that there could be differences between such non-GAAP financial measure and the GAAP equivalents of reported net cash provided by operating activities and reported long-term debt, short-term debt, and securities due within one year.

Reconciliations of such non-GAAP measures to applicable GAAP measures are not provided, because the company cannot, without unreasonable effort, estimate or predict with certainty various components of such measures.

About Dominion Energy

About **7 million customers in 15 states** energize their homes and businesses with electricity or natural gas from Dominion Energy (NYSE: **D**), headquartered in Richmond, Va. The company is committed to **safely providing reliable, affordable and sustainable energy**. Please visit **DominionEnergy.com** to learn more.

This release contains certain forward-looking statements with respect to the sale of The East Ohio Gas Company, Public Service Company of North Carolina, Incorporated, Questar Gas Company, and Wexpro Company, and their consolidated subsidiaries, as applicable, which are subject to various risks and uncertainties. Factors that could cause actual results to differ include but are not limited to: the risk that Dominion Energy and Enbridge may be unable to obtain any necessary regulatory approvals for any, or all, of the transactions or that required regulatory approvals may delay any, or all, of the transactions and the risk that any conditions to the closing of any, or all, of the transactions may not be satisfied. Other risk factors are detailed from time to time in Dominion Energy's quarterly reports on Form 10-Q and most recent annual report on Form 10-K filed with the Securities and Exchange Commission. These forward-looking statements speak only as of the date of this press release. Dominion Energy assumes no obligation to provide any revisions to, or update, any projections and forward-looking statements contained in this press release.

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OUCC ATTACHMENT SD-7
IS FILED AS AN EXCEL DOCUMENT

OUCC ATTACHMENT SD-8
IS FILED AS AN EXCEL DOCUMENT

Q 21.1: Please reference Ms. Bulkley's Betas sourced from Bloomberg as used in her CAPM analysis (see, for example, Attachment AEB-2, tab Sch-4 CAPM, lines 110-144). Please provide updated Betas for the Proxy Group, and four (4) additional companies as detailed below, as of February 1, 2024.

1.	ALLETE, Inc.	ALE
2.	Alliant Energy Corporation	LNT
3.	Ameren Corporation	AEE
4.	American Electric Power Company, Inc.	AEP
5.	Avista Corporation	AVA
6.	CMS Energy Corporation	CMS
7.	Duke Energy Corporation	DUK
8.	Entergy Corporation	ETR
9.	Evergy, Inc.	EVRG
10.	IDACORP, Inc.	IDA
11.	NextEra Energy, Inc.	NEE
12.	NorthWestern Corporation	NWE
13.	OGE Energy Corporation	OGE
14.	Pinnacle West Capital Corporation	PNW
15.	Portland General Electric Company	POR
16.	Southern Company	SO
17.	Xcel Energy Inc.	XEL
18.	Avangrid	AGR
19.	DTE Energy	DTE
20.	PNM Resources	PNM
21.	PPL Corporation	PPL

Objection: CEI South objects to this Request to the extent it calls for a calculation, compilation, or analysis CEI South has not performed and to which CEI South objects to performing.

Response: See objection; Ms. Bulkley has not conducted the requested analysis.

Dated: February 8, 2024

As to objections only,

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CAUSE NO. 45990

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OUCC ATTACHMENT SD-11

CAUSE NO. 45990

Q 21.2: Please reference the attachment provided in response to OUCC data request 4-1, Proxy Group Information, found on tab "Proxy Group Screening". Please confirm the companies listed below were excluded from the proxy group due to not paying dividends. The testimony of Ms. Bulkley, page 22, lines 5-6 clarifies that proxy companies are screened to select companies that "pay consistent quarterly cash dividends[.]" Please confirm the time period for which it was necessary for these companies to have paid "consistent quarterly dividends" and confirm that these three companies did not meet that threshold.

1. Dominion
2. DTE Energy
3. PPL Corporation

Response: Ms. Bulkley's screening criterion requires that a company pay consistent quarterly dividends (without a reduction in dividends) for a three-year period.

1. Confirmed.

2. Confirmed.

3. Confirmed.

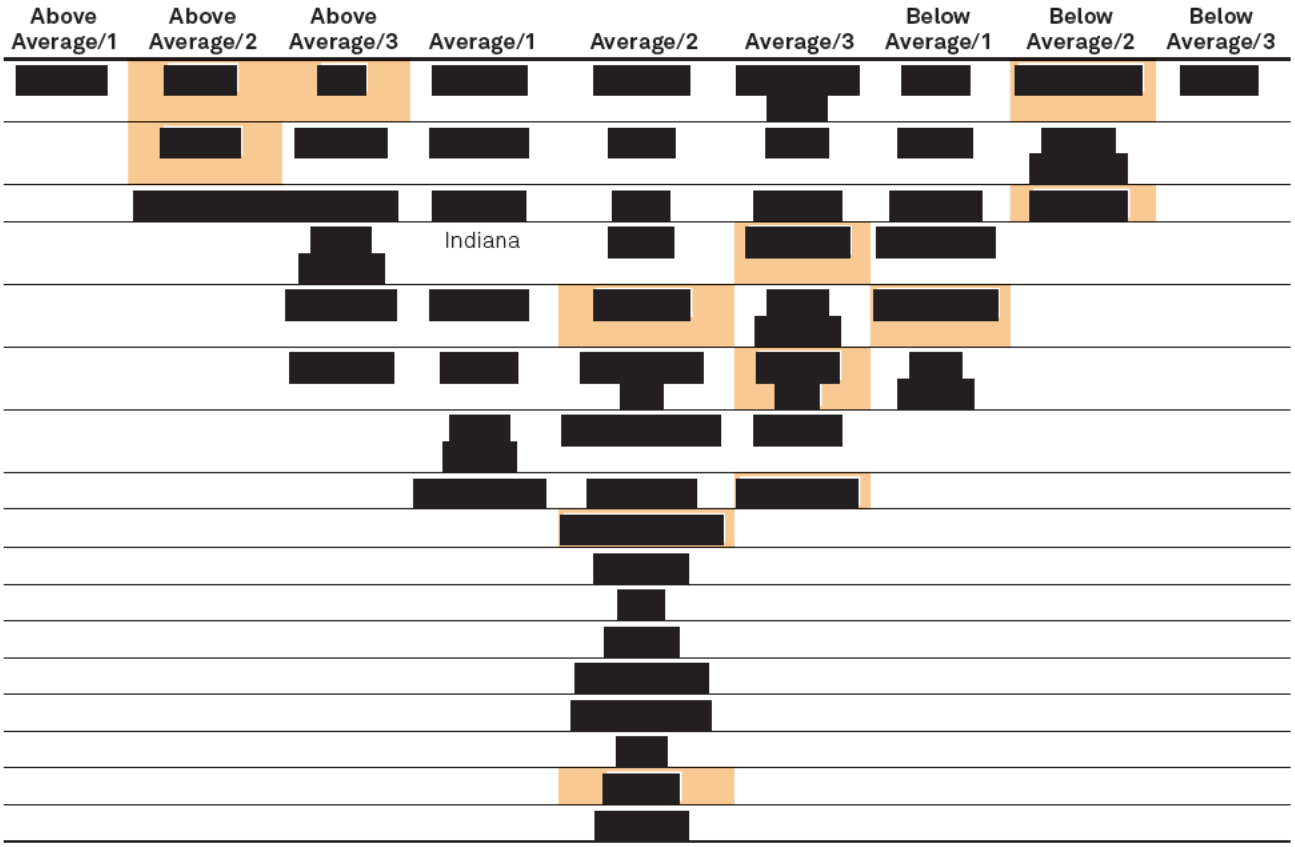
Q 32.12: This question is for Ms. Ann Bulkley. Please provide the December 2024 Blue Chip Forecast that includes the Long-Range Survey data, similar to what is found in Workpaper AEB-6. If the most recent information is in a report other than the December 2024 report, please provide the appropriate report.

Response: A "December 2024" Blue Chip Forecast does not exist.

"Excluded from public access per A. R. 9(G)"

RRA State Regulatory Evaluations — Energy*

(By category, jurisdictions to watch highlighted)



Data compiled Nov. 30, 2023.
NOCC = New Orleans City Council; PSC = Public Service Commission; PUC = Public Utility Commission; RRC = Railroad Commission.
*Within a given subcategory, states are listed in alphabetical order, not by relative ranking.
Source: Regulatory Research Associates, a group within S&P Global Commodity Insights.