

**SOUTHERN INDIANA GAS AND ELECTRIC COMPANY  
d/b/a CENTERPOINT ENERGY INDIANA SOUTH  
(CEI SOUTH)**

**DIRECT TESTIMONY  
OF  
ANN E. BULKLEY  
PRINCIPAL – THE BRATTLE GROUP**

**ON**

**RETURN ON EQUITY AND CAPITAL STRUCTURE**

**SPONSORING PETITIONER'S EXHIBIT NO. 13,  
ATTACHMENTS AEB-1 THROUGH AEB-2,  
SCHEDULES 1 THROUGH 13**

**DIRECT TESTIMONY OF ANN E. BULKLEY**1 **I. INTRODUCTION**2 **Q. PLEASE STATE YOUR NAME AND BY WHOM YOU ARE EMPLOYED AND IN**  
3 **WHAT CAPACITY.**4 A. My name is Ann E. Bulkley. I am employed by The Brattle Group, a consulting firm  
5 that advises clients on regulatory finance and ratemaking issues, as a Principal.6 **Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?**7 A. I am submitting this prepared direct testimony before the Indiana Utility Regulatory  
8 Commission (“IURC” or the “Commission”) on behalf of Southern Indiana Gas and  
9 Electric Company d/b/a CenterPoint Energy Indiana South (“CEI South,” “Petitioner,”  
10 or the “Company”). My testimony addresses the regulated electric operations of the  
11 Company in Indiana.12 **Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.**13 A. I hold a Bachelor’s degree in Economics and Finance from Simmons College and a  
14 Master’s degree in Economics from Boston University, with over 25 years of  
15 experience consulting to the energy industry. I have advised numerous energy and  
16 utility clients on a wide range of financial and economic issues with primary  
17 concentrations in valuation and utility rate matters. Many of these assignments have  
18 included the determination of the cost of capital for valuation and ratemaking purposes.19 **Q. HAVE YOU EVER TESTIFIED BEFORE THE INDIANA UTILITY REGULATORY**  
20 **COMMISSION (THE “IURC” OR “COMMISSION”) OR ANY OTHER STATE**  
21 **REGULATORY COMMISSION?**22 A. Yes. I have testified in approximately 140 regulatory cases across the country  
23 including on several occasions before the Commission. My resume and a summary of  
24 testimony that I have filed in other proceedings are provided in Petitioner’s Exhibit No.  
25 13, Attachment AEB-1.26 **Q. PLEASE DESCRIBE THE PURPOSE OF YOUR PRE-FILED DIRECT TESTIMONY.**27 A. The purpose of my prepared direct testimony is to present evidence and provide a  
28 recommendation regarding the appropriate return on equity (“ROE”) for CEI South’s

1 electric operations in Indiana to be used for ratemaking purposes. I will also assess  
2 the reasonableness of CEI South’s projected cost of debt and capital structure used  
3 for ratemaking purposes.

4 **Q. ARE YOU SPONSORING ANY ATTACHMENTS IN SUPPORT OF YOUR DIRECT**  
5 **TESTIMONY?**

6 A. Yes. My analysis and recommendations are supported by the following attachments  
7 in this proceeding, which were prepared by me or under my direction:

- 8 • Petitioner’s Exhibit No. 13, Attachment AEB- 1: Resume and Testimony  
9 Listing
- 10 • Petitioner’s Exhibit No. 13, Attachment AEB-2:
  - 11 ○ Schedule 1: Summary of Results
  - 12 ○ Schedule 2: Proxy Group Selection
  - 13 ○ Schedule 3: Constant Growth DCF
  - 14 ○ Schedule 4: Capital Asset Pricing Model and Empirical Capital Asset  
15 Pricing Model
  - 16 ○ Schedule 5: Long Term Beta
  - 17 ○ Schedule 6: Market Return
  - 18 ○ Schedule 7: Risk Premium
  - 19 ○ Schedule 8: Capital Expenditures
  - 20 ○ Schedule 9: Flotation Cost
  - 21 ○ Schedule 10: Regulatory Risk
  - 22 ○ Schedule 11: Size Premium
  - 23 ○ Schedule 12: Capital Structure
  - 24 ○ Schedule 13: Cost of Debt

25 **Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSES THAT LED TO**  
26 **YOUR ROE RECOMMENDATION.**

27 A. I have estimated CEI South’s cost of equity by applying traditional estimation  
28 methodologies to a proxy group of comparable utilities, including the constant growth  
29 form of the Discounted Cash Flow (“DCF”) model, the Capital Asset Pricing Model  
30 (“CAPM”), the Empirical Capital Asset Pricing Model (“ECAPM”), and a Bond Yield  
31 Risk Premium (“BYRP” or “Risk Premium”) analysis. My recommendation also takes  
32 into consideration the following factors: (1) the Company’s small size; (2) flotation  
33 costs; (3) the Company’s capital expenditure requirements; (4) the regulatory

1 environment in which the Company operates; (5) the Company’s customer  
2 concentration; and (6) the Company’s projected capital structure as compared to the  
3 capital structures of the proxy group companies. While I do not make specific  
4 adjustments to my ROE recommendation for these factors, I did consider them in the  
5 aggregate when determining where my recommended ROE falls within the range of  
6 the analytical results.

7 **Q. HOW IS THE REMAINDER OF YOUR DIRECT TESTIMONY ORGANIZED?**

8 A. The remainder of my direct testimony is organized as follows:

- 9 • Section II provides a summary of my analyses and conclusions.
- 10 • Section III reviews the regulatory guidelines pertinent to the development of  
11 the cost of capital.
- 12 • Section IV discusses current and projected capital market conditions and the  
13 effect of those conditions on the cost of equity.
- 14 • Section V explains my selection of the proxy group for CEI South.
- 15 • Section VI describes my cost of equity estimates and the analytical basis for  
16 my recommendation of the appropriate ROE for CEI South.
- 17 • Section VII provides a discussion of specific regulatory, business, and financial  
18 risks that have a direct bearing on the ROE to be authorized for CEI South in  
19 this case.
- 20 • Section VIII provides an assessment of the reasonableness of CEI South’s  
21 projected capital structure relative to the proxy group.
- 22 • Section IX provides my analysis of the reasonableness of CEI South’s  
23 projected cost of debt.
- 24 • Section X presents my conclusions and recommendations.
- 25 • Appendix A explains the four cost of equity methodologies on which I have  
26 relied.

27 **II. SUMMARY OF ANALYSIS AND CONCLUSIONS**

28 **Q. PLEASE SUMMARIZE THE KEY FACTORS CONSIDERED IN YOUR ANALYSES  
29 AND UPON WHICH YOU BASE YOUR RECOMMENDED ROE.**

30 A. The key factors that I considered in my cost of equity analyses and recommended  
31 ROE for the Company in this proceeding are:

- 1           •       The United States Supreme Court’s *Hope* and *Bluefield* decisions<sup>1</sup> established  
2           the standards for determining a fair and reasonable authorized ROE for public  
3           utilities, including consistency of the allowed return with the returns of other  
4           businesses having similar risk, adequacy of the return to provide access to  
5           capital and support credit quality, and the requirement that the result lead to  
6           just and reasonable rates.
- 7           •       The effect of current and prospective capital market conditions on the cost of  
8           equity estimation models and on investors’ return requirements.
- 9           •       The results of several analytical approaches that provide estimates of the  
10          Company’s cost of equity. Because the Company’s authorized ROE should be  
11          a forward-looking estimate over the period during which the rates will be in  
12          effect, these analyses rely on forward-looking inputs and assumptions (e.g.,  
13          projected analyst growth rates in the DCF model; a forecasted risk-free rate  
14          and market risk premium in the CAPM analysis).
- 15          •       Although the companies in my proxy group are generally comparable to CEI  
16          South, each company is unique, and no two companies have the exact same  
17          business and financial risk profiles. Accordingly, I considered the Company’s  
18          regulatory, business, and financial risks relative to the proxy group of  
19          comparable companies in determining where the Company’s ROE should fall  
20          within the reasonable range of analytical results to appropriately account for  
21          any residual differences in risk.

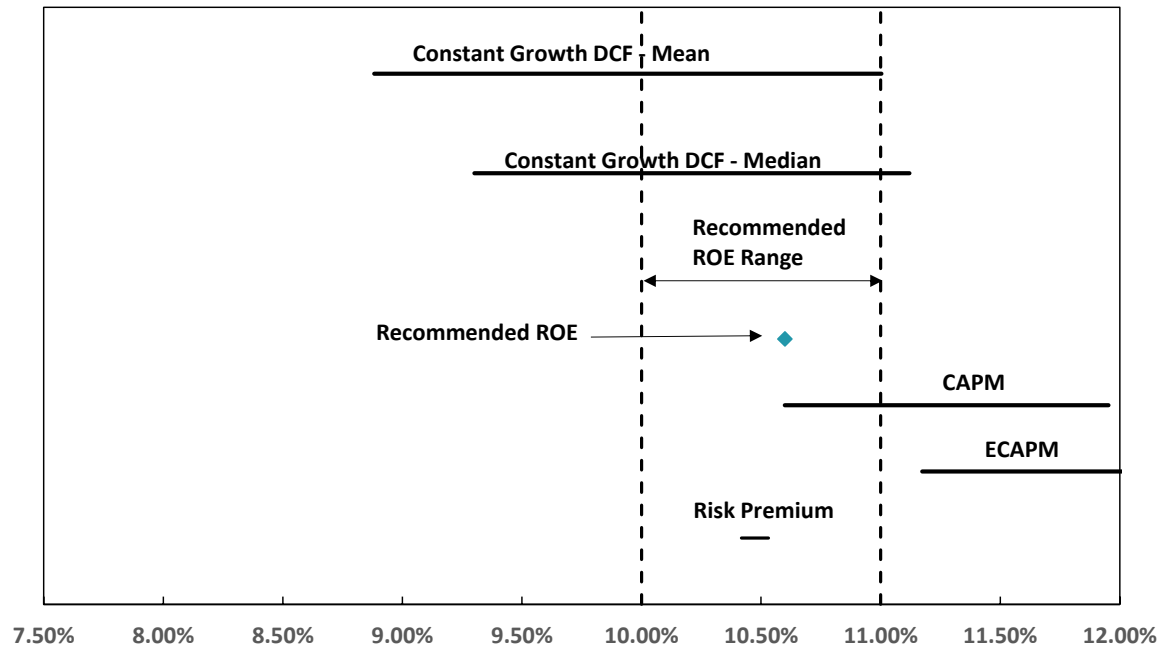
22   **Q.     WHAT ARE THE RESULTS OF THE MODELS THAT YOU HAVE USED TO**  
23   **ESTIMATE THE COST OF EQUITY FOR CEI SOUTH?**

24   **A.     Figure AEB-1** summarizes the range of results produced by the Constant Growth  
25   DCF, CAPM, ECAPM, and Bond Yield Risk Premium analyses based on data through  
26   the end of September 2023.<sup>2</sup>

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<sup>1</sup> *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) (“*Hope*”); *Bluefield Waterworks & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) (“*Bluefield*”).

<sup>2</sup> The cost of equity model results are also summarized on Petitioner’s Exhibit No. 13, Attachment AEB-2, Schedule 1.

**Figure AEB-1 – Summary of Cost of Equity Model Results**

1 As shown in **Figure AEB-1**, the range of results produced by the models used to  
 2 estimate the cost of equity is wide. While it is common to consider multiple models to  
 3 estimate the cost of equity, it is particularly important when the range of results varies  
 4 considerably across methodologies.

5 **Q. WHY IS IT IMPORTANT TO CONSIDER PROSPECTIVE CAPITAL MARKET**  
 6 **CONDITIONS IN SETTING THE ROE IN THIS PROCEEDING?**

7 A. Capital market conditions affect the investor-required return and the results of the cost  
 8 of equity estimation models. Specifically:

- 9
- 10 • Inflation is expected to persist over the near term, which increases the retail  
 11 revenue requirement due to increases in operating costs. Inflation increases  
 12 the risk that the revenue requirement that is set in a rate proceeding will not  
 13 recover the operating costs of the business going forward, which increases the  
 14 operating risk of the utility during the period in which rates will be in effect.  
 15 Further, interest rates have been increasing in order to reduce inflation, which  
 16 affects the investor-required return.
  - 17 • Specifically, long-term interest rates have increased substantially in the past  
 18 year and are expected to remain elevated at least over the next year in  
 response to inflation.

- 1           •       Since utility dividend yields are now less attractive than the risk-free rates of  
2                   government bonds, and interest rates are expected to remain near current  
3                   levels over the next year, it is likely that utility share prices will decline.
- 4           •       Rating agencies have responded to the risks of the utility sector, citing factors  
5                   including interest rates and inflation that create pressures for customer  
6                   affordability and prompt rate recovery and have noted the importance of  
7                   regulatory support in their current outlooks.
- 8           •       Similarly, equity analysts have noted the increased risk for the utility sector as  
9                   a result of rising interest rates and expect the sector to underperform over the  
10                  near term.
- 11          •       Consequently, the results of the DCF model, which relies on current utility  
12                  share prices, may understate the cost of equity during the period that the  
13                  Company’s rates will be in effect.

14           It is appropriate to consider all of these factors when estimating a reasonable range of  
15           the investor-required cost of equity and the recommended ROE for the Company.

16   **Q.    WHAT IS THE RECOMMENDED ROE FOR CEI SOUTH IN THIS PROCEEDING?**

17   A.    Considering the analytical results presented in **Figure AEB-1**, current and prospective  
18           capital market conditions, and the Company’s regulatory, business, and financial risk  
19           relative to the proxy group, I conclude that an ROE in the range of 10.00% to 11.00%  
20           is appropriate, and within that range, an ROE of 10.60% is reasonable. As discussed  
21           in the testimony of Petitioner’s Witness Richard C. Leger, taking into consideration the  
22           affordability for customers of the overall revenue requirement, the Company is  
23           requesting an ROE of 10.40%.

24   **Q.    IS YOUR RECOMMENDED ROE REASONABLE BASED ON RECENT ROE**  
25           **DETERMINATIONS MADE BY THE IURC?**

26   A.    Yes. In a fully litigated proceeding, the IURC authorized an ROE of 9.75% for Duke  
27           Energy Indiana’s vertically-integrated electric operations on June 29, 2020.<sup>3</sup> At the  
28           time the order was issued, the yield on the 30-year Treasury bond was approximately

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<sup>3</sup> *Petition of Duke Energy, LLC for Authority to Modify its Rates*, Cause No. 45253 (IURC June 29, 2020), p. 20. The Commission also applied a 5 basis point downward adjustment for the utility’s underspending on vegetation management, which resulted in an ROE of 9.70% for ratemaking purposes.

1 1.47%.<sup>4</sup> As discussed in more detail later in my testimony, the current 30-day average  
2 yield on the 30-year Treasury bond is 3.89%, an increase of over 240 basis points,  
3 which demonstrates that the cost of equity has increased for investors since that time.  
4 Therefore, it is reasonable to expect that the cost of equity would have increased since  
5 the Commission's decision in that prior proceeding.

6 **Q. IS CEI SOUTH'S REQUESTED CAPITAL STRUCTURE REASONABLE?**

7 A. Yes. The Company's projected equity ratio of 55% is within the range of equity ratios  
8 for the utility operating subsidiaries of the proxy group companies.<sup>5</sup> Further, the  
9 Company's projected equity ratio is reasonable considering the credit rating agencies'  
10 continued concern with the negative effect on the cash flows and credit metrics  
11 associated with relatively high interest rates and inflation and capital expenditures.

12 **Q. WHAT ANALYSIS DID YOU PERFORM TO DETERMINE THAT THE COST OF**  
13 **DEBT WAS REASONABLE?**

14 A. As shown in Petitioner's Exhibit No. 13, Attachment AEB-2, Schedule 13, I compared  
15 the issuance costs at the time of each debt issuance to the yield on the Moody's  
16 Investors Service, Inc. ("Moody's") A and Baa rated utility bond index. As shown in that  
17 schedule, the coupon rates achieved on the Company's debt issuances were generally  
18 within the range established by these indexes and in many circumstances were lower  
19 than the yield on the index. Therefore, I concluded that the Company's cost of debt  
20 was reasonable.

21 **III. REGULATORY GUIDELINES**

22 **Q. PLEASE DESCRIBE THE GUIDING PRINCIPLES TO BE USED IN ESTABLISHING**  
23 **THE COST OF EQUITY FOR A REGULATED UTILITY.**

24 A. The U.S. Supreme Court's precedent-setting *Hope* and *Bluefield* cases established  
25 the standards for determining the fairness or reasonableness of a utility's authorized  
26 ROE. Among the standards established by the Court in those cases are: (1)  
27 consistency with other businesses having similar or comparable risks; (2) adequacy of

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<sup>4</sup> Reflects 30-day average of the 30-year Treasury bond yield as of the date of the Commission's order.

<sup>5</sup> The equity ratio referenced is based on the capital structure resulting from investor-supplied capital and, therefore, excludes cost-free sources of funds.



1 the return to support credit quality and access to capital; and (3) that the end result,  
2 as opposed to the methodology employed, is the controlling factor in arriving at just  
3 and reasonable rates.<sup>6</sup>

4 **Q. HAS THE COMMISSION PROVIDED SIMILAR GUIDANCE IN ESTABLISHING THE**  
5 **APPROPRIATE RETURN ON COMMON EQUITY?**

6 A. Yes. The Commission follows the precedents of *Hope* and *Bluefield* and  
7 acknowledges that utility investors are entitled to a fair and reasonable return. For  
8 example, the Commission has stated, “The rate of return for a utility must be  
9 comparable to the return on investments in other enterprises having corresponding  
10 risks, sufficient to assure confidence in the financial integrity of the utility, maintain  
11 support of the utility’s credit, and attract capital.”<sup>7</sup>

12 **Q. IS DETERMINING A FAIR RATE OF RETURN JUST ABOUT PROTECTING THE**  
13 **UTILITY’S INTERESTS?**

14 A. No. As the court noted in *Bluefield*, a proper rate of return not only assures “confidence  
15 in the financial soundness of the utility and should be adequate, under efficient and  
16 economical management, to maintain and support its credit [but also] enable[s] the  
17 utility] to raise the money necessary for the proper discharge of its public duties.”<sup>8</sup> As  
18 the Court further explained in *Hope*, “[t]he rate-making process ... involves balancing  
19 of the investor and consumer interests.”<sup>9</sup>

20 **Q. WHY IS IT IMPORTANT FOR A UTILITY TO BE PROVIDED THE OPPORTUNITY**  
21 **TO EARN A RETURN THAT IS ADEQUATE TO ATTRACT CAPITAL AT**  
22 **REASONABLE TERMS?**

23 A. An authorized ROE that is adequate to attract capital at reasonable terms enables the  
24 utility to continue to provide safe and reliable service while maintaining its financial  
25 integrity. That return should be commensurate with returns required by investors  
26 elsewhere in the market for investments of comparable risk. It is important to recognize  
27 that equity investors have a choice of where to invest capital. If the authorized ROE is  
28 not comparable to the returns available for comparable risk investments, it is not just  
29 the value to current equity holders that will be harmed, but rather, access to

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<sup>6</sup> *Hope*, 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923).

<sup>7</sup> *Indianapolis Power & Light*, Cause No. 44576 (IURC March 16, 2016), p. 41.

<sup>8</sup> *Bluefield*, 262 U.S. at 679, 693.

<sup>9</sup> *Hope*, 320 U.S. at 591, 603.

1 incremental equity is also affected. It is reasonable to expect that equity investors will  
2 seek alternative investment opportunities for which the expected return reflects the  
3 perceived risks, thereby inhibiting the Company’s ability to attract new equity capital  
4 at reasonable cost.

5 **Q. IS A UTILITY’S ABILITY TO ATTRACT CAPITAL ALSO AFFECTED BY THE ROES**  
6 **THAT ARE AUTHORIZED FOR OTHER UTILITIES?**

7 A. Yes. Utilities compete directly for capital with other investments of similar risk, which  
8 include other electric, natural gas, and water utilities. Therefore, the ROE authorized  
9 for a utility sends an important signal to investors regarding whether there is regulatory  
10 support for financial integrity, dividends, growth, and fair compensation for business  
11 and financial risk. The cost of capital represents an opportunity cost to investors. If  
12 higher returns are available elsewhere for other investments of comparable risk over  
13 the same time period, investors have an incentive to direct their capital to those  
14 alternative investments. Thus, an authorized ROE significantly below authorized  
15 ROEs for other electric, natural gas, and water utilities can inhibit the utility’s ability to  
16 attract capital for investment.

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

23 **Q. IS THE REGULATORY FRAMEWORK, INCLUDING THE AUTHORIZED ROE AND**  
24 **EQUITY RATIO, IMPORTANT TO THE FINANCIAL COMMUNITY?**

25 A. Yes. The regulatory framework is one of the most important factors in debt and equity  
26 investors’ assessments of risk. Specifically regarding debt investors, credit rating  
27 agencies consider the authorized ROE and equity ratio for regulated utilities to be very  
28 important for two reasons: (1) they help determine the cash flows and credit metrics of  
29 the regulated utility; and (2) they provide an indication of the degree of regulatory  
30 support for credit quality in the jurisdiction. To the extent that the authorized returns in  
31 a jurisdiction are lower than the returns that have been authorized more broadly, credit  
32 rating agencies will consider this in the overall risk assessment of the regulatory

1 jurisdiction in which the company operates. Not only do credit ratings affect the overall  
2 cost of borrowing, they also act as a signal to equity investors about the risk of  
3 investing in the equity of a company.

4 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING REGULATORY GUIDELINES?**

5 A. The ratemaking process is premised on the principle that, in order for investors and  
6 companies to commit the capital needed to provide safe and reliable utility services, a  
7 utility must have a reasonable opportunity to recover the return of, and the market-  
8 required return on, its invested capital. Accordingly, the Commission’s order in this  
9 proceeding should establish rates that provide the Company with a reasonable  
10 opportunity to earn an ROE that is: (1) adequate to attract capital at reasonable terms;  
11 (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on  
12 investments in enterprises with similar risk. It is important for the ROE authorized in  
13 this proceeding to take into consideration current and projected capital market  
14 conditions, as well as investors’ expectations and requirements for both risks and  
15 returns. Because utility operations are capital-intensive, regulatory decisions should  
16 enable the utility to attract capital at reasonable terms under a variety of economic and  
17 financial market conditions. Providing the opportunity to earn a market-based cost of  
18 capital supports the financial integrity of the Company, which is in the interest of both  
19 customers and shareholders.

20 **IV. CAPITAL MARKET CONDITIONS**

21 **Q. WHY IS IT IMPORTANT TO ANALYZE CAPITAL MARKET CONDITIONS?**

22 A. The models used to estimate the cost of equity rely on market data that are specific  
23 either to the proxy group, in the case of the DCF model, or to the expectations of  
24 market risk, in the case of the CAPM and ECAPM. The results of the cost of equity  
25 estimation models can be affected by prevailing market conditions at the time the  
26 analysis is performed. While the ROE established in a rate proceeding is intended to  
27 be forward-looking, the analyst uses both current and projected market data,  
28 specifically stock prices, dividends, growth rates, and interest rates, in the cost of  
29 equity estimation models to estimate the investor-required return for the subject  
30 company.

1 Analysts and regulatory commissions recognize that current market conditions affect  
2 the results of the cost of equity estimation models. As a result, it is important to  
3 consider the effect of the market conditions on these models when determining an  
4 appropriate range for the ROE and the recommended ROE for ratemaking purposes  
5 for a future period. If investors do not expect current market conditions to be sustained  
6 in the future, it is possible that the cost of equity estimation models will not provide an  
7 accurate estimate of investors’ required return during that rate period. Therefore, it is  
8 very important to consider projected market data to estimate the return for that forward-  
9 looking period.

10 **Q. WHAT FACTORS ARE AFFECTING THE COST OF EQUITY FOR REGULATED**  
11 **UTILITIES IN THE CURRENT AND PROSPECTIVE CAPITAL MARKETS?**

12 A. The cost of equity for regulated utility companies is affected by several factors in the  
13 current and prospective capital markets, including: (1) changes in monetary policy; (2)  
14 high inflation; and (3) increased interest rates that are expected to remain high over  
15 the next few years. These factors affect the assumptions used in the cost of equity  
16 estimation models. In this section, I discuss each of these factors and how they affect  
17 the models used to estimate the cost of equity for regulated utilities.

18 **Q. WHAT EFFECT DO CURRENT AND PROSPECTIVE MARKET CONDITIONS HAVE**  
19 **ON THE COST OF EQUITY FOR CEI SOUTH?**

20 A. As is discussed in more detail in the remainder of this section, the combination of  
21 persistently high inflation and the Federal Reserve’s changes in monetary policy  
22 contribute to an expectation of increased market risk and an increase in the cost of the  
23 investor-required return. It is essential that these factors be considered in setting the  
24 forward-looking ROE. Inflation has recently been at some of the highest levels seen in  
25 approximately 40 years, and while inflation has declined from these recent peaks, it  
26 remains relatively high. Interest rates, which have increased significantly from  
27 pandemic-related lows seen in 2020, are expected to continue to remain relatively high  
28 in direct response to the Federal Reserve’s use of monetary policy to combat inflation.  
29 These market conditions are indicative of an increase in the cost of equity since (i)  
30 there is a strong historical inverse correlation between interest rates (i.e., yields on  
31 long-term government bonds) and the share prices of utility stocks (i.e., as interest  
32 rates increase, utility share prices decline, and thus the cost of equity increases); and  
33 (ii) the yields on long-term government bonds currently exceed the dividend yields of

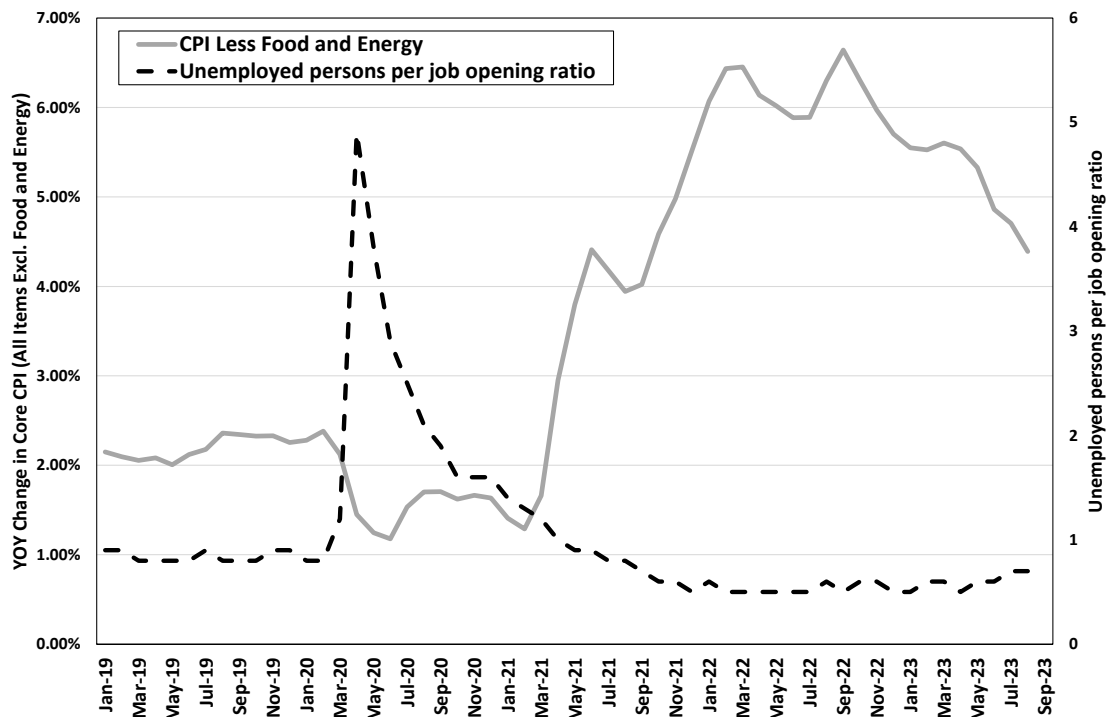
1 utilities, which supports the expectation that risk averse investors will rotate out of  
2 higher risk utility equity positions and into long-term government bonds. Because the  
3 cost of equity in this proceeding is being estimated for the future period that the  
4 Company’s rates will be in effect, and because the cost of equity is expected to  
5 increase over the near term for utilities, cost of equity estimates based in whole or in  
6 part on historical or current market conditions, as opposed to projected market  
7 conditions, will likely understate the cost of equity during the future period that the  
8 Company’s rates will be in effect.

9 **A. Inflationary Expectations in Current and Projected Capital Market**  
10 **Conditions**

11 **Q. HAS INFLATION INCREASED SIGNIFICANTLY RECENTLY?**

12 A. Yes. **Figure AEB-2** presents the year-over-year (“YOY”) change in core inflation as  
13 measured by the Consumer Price Index (“CPI”) excluding food and energy prices as  
14 published by the Bureau of Labor Statistics. I considered core inflation because it is  
15 the preferred inflation indicator of the Federal Reserve for determining the direction of  
16 monetary policy. Core inflation is preferred by the Federal Reserve since it removes  
17 the effect of food and energy prices, which can be highly volatile. As shown in **Figure**  
18 **AEB-2**, core inflation increased steadily beginning in early 2021, rising from 1.41% in  
19 January 2021 to a high of 6.64% in September 2022, which was the largest 12-month  
20 increase since 1982. Since that time, while core inflation has declined in response to  
21 the Federal Reserve’s monetary policy, core inflation continues to remain significantly  
22 above the Federal Reserve’s target level of 2.0%.

**Figure AEB-2 – Core Inflation and Unemployed Persons-to-Job Openings, January 2019 to September 2023<sup>10</sup>**



1 Finally, as shown in **Figure AEB-2**, I also considered the ratio of unemployed persons  
 2 per job opening which is currently 0.6 and has been consistently below 1.0 since mid-  
 3 mid-2021 despite the Federal Reserve’s accelerated policy normalization. This metric  
 4 indicates sustained strength in the labor market. Given the Federal Reserve’s dual  
 5 mandate of maximum employment and price stability, the continued increased levels  
 6 of core inflation coupled with the strength in the labor market has resulted in the  
 7 Federal Reserve’s sustained focus on the priority of reducing inflation.

8 **Q. WHAT ARE THE EXPECTATIONS FOR INFLATION OVER THE NEAR TERM?**

9 A. The Federal Reserve has indicated that it expects inflation will remain elevated above  
 10 its target level over at least the next year and that it will continue to increase short-  
 11 term interest rates to reduce inflation. For example, Federal Reserve Chair Powell  
 12 observed at the Federal Open Market Committee (“FOMC”) meeting in September  
 13 2023 that while inflation is down from its recent highs, it remains significantly above  
 14 the Federal Reserve’s long-term target:

<sup>10</sup> Bureau of Labor Statistics.

1 Inflation remains well above our longer-run goal of 2 percent. Based  
2 on the Consumer Price Index, or CPI, and other data, we estimate  
3 that total PCE prices rose 3.4 percent over the 12 months ending in  
4 August; and that, excluding the volatile food and energy categories,  
5 core PCE prices rose 3.9 percent. Inflation has moderated  
6 somewhat since the middle of last year, and longer-term inflation  
7 expectations appear to remain well anchored, as reflected in a  
8 broad range of surveys of households, businesses, and  
9 forecasters, as well as measures from financial markets.  
10 Nevertheless, the process of getting inflation sustainably down to 2  
11 percent has a long way to go. The median projection in the SEP for  
12 total PCE inflation is 3.3 percent this year, falls to 2.5 percent next  
13 year, and reaches 2 percent in 2026.<sup>11</sup>

14 After the September 2023 and the November 2023 meetings, Chair Powell kept open  
15 the possibility of additional rate increases, considering even December this year, or  
16 thereafter if it is appropriate to do so. Further, at the September 2023 meeting, he  
17 noted that interest rates would likely remain positive for some time:

18 First of all, interest rates – real interest rates are, are positive now.  
19 They’re meaningfully positive, and that’s a good thing. We need  
20 policy to be restrictive so that we can get inflation down to target.  
21 Okay. And we need - we’re going to need that to remain to be the  
22 case for some time. So I think, you know – remember that the – of  
23 course, the SEP [Summary of Economic Projections] is not a plan  
24 that is negotiated or discussed, really, as a plan. It’s accumulation,  
25 really, and what you see are the medians. It’s accumulation of  
26 individual forecasts from 19 people, and then what you’re seeing  
27 are the medians. So I wouldn’t want to, you know, bestow upon it  
28 the idea that, that it’s really a plan. But what it reflects, though, is  
29 that economic activity’s been stronger than we expected – stronger  
30 than I think everyone expected. And, so what you’re – what you’re  
31 seeing is, this is what people believe, as of now, will be appropriate  
32 to achieve what we’re looking to achieve, which is progress toward  
33 our – toward our inflation goal, as you see in the SEP.<sup>12</sup>

34 Similarly, he noted the following at the November 2023 meeting:

35 The fact is the committee is not thinking about rate cuts right now  
36 at all. We’re not talking about rate cuts. We’re still very focused on  
37 the first question, which is ‘have we achieved a stance of monetary

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<sup>11</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, September 20, 2023, p. 2, available at <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20230920.pdf>

<sup>12</sup> *Id.* at 6.

1 policy that’s sufficiently restrictive to bring inflation down to 2% over  
2 time, sustainably?’ That is the question we’re focusing on.<sup>13</sup>

3 **B. The Use of Monetary Policy to Address Inflation**

4 **Q. WHAT POLICY ACTIONS HAS THE FEDERAL RESERVE ENACTED TO**  
5 **RESPOND TO INCREASED INFLATION?**

6 A. The dramatic increase in inflation has prompted the Federal Reserve to pursue an  
7 aggressive normalization of monetary policy, removing the accommodative policy  
8 programs used to mitigate the economic effects of COVID-19. From the March 2022  
9 meeting through the September 2023 meeting, the Federal Reserve increased the  
10 target federal funds rate through a series of increases from 0.00 – 0.25% to 5.25% to  
11 5.50%.<sup>14</sup> Further, as noted above, while the Federal Reserve acknowledges that  
12 inflation has declined from its peak, it still is well above the Federal Reserve’s target  
13 of 2%. Therefore, the Federal Reserve anticipates the continued need to maintain the  
14 federal funds rate at a restrictive level in order to achieve its goal of 2% inflation over  
15 the long run.

16 **C. The Effect of Inflation and Monetary Policy on Interest Rates and the**  
17 **Investor-Required Return**

18 **Q. WHAT EFFECT WILL INFLATION AND THE FEDERAL RESERVE’S**  
19 **NORMALIZATION OF MONETARY POLICY HAVE ON LONG-TERM INTEREST**  
20 **RATES?**

21 A. Inflation and the Federal Reserve’s normalization of monetary policy are expected to  
22 result in long-term interest rates remaining high over at least the next year. Specifically,  
23 inflation reduces the purchasing power of the future interest payments an investor  
24 expects to receive over the duration of the bond. As a result, if investors expect

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<sup>13</sup> CNBC, “Full recap: Fed leaves rates unchanged, Powell discusses December decision,” November 1, 2023, *available at* <https://www.cnbc.com/2023/11/01/fed-meeting-today-live-updates-on-november-fed-rate-decision.html>.

<sup>14</sup> Federal Reserve, Press Releases, March 16, 2022, May 4, 2022, June 15, 2022, September 22, 2022, November 2, 2022, February 1, 2023, March 22, 2023, May 3, 2023, July 26, 2023, and September 20, 2023, *available at*: The Fed - Meeting calendars and information (federalreserve.gov).

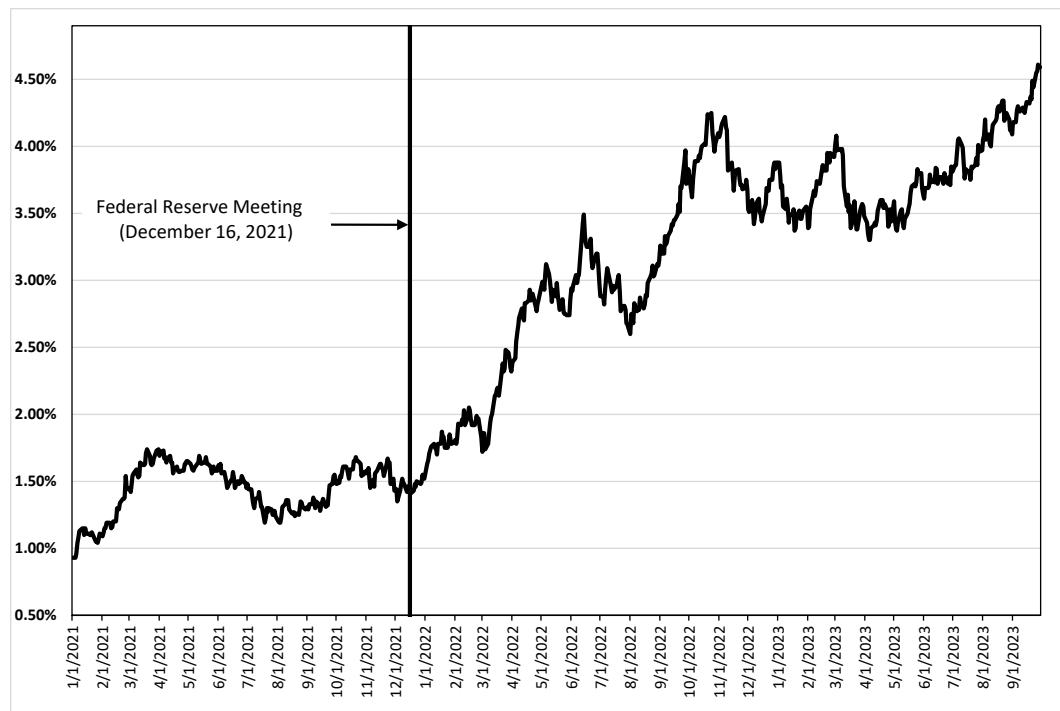


1 inflation to remain relatively high, they will require higher yields to compensate for the  
 2 increased risk of inflation, which means interest rates will also remain relatively high.

3 **Q. HAVE THE YIELDS ON LONG-TERM GOVERNMENT BONDS INCREASED IN**  
 4 **RESPONSE TO INFLATION AND THE FEDERAL RESERVE'S NORMALIZATION**  
 5 **OF MONETARY POLICY?**

6 A. Yes. As the Federal Reserve has substantially increased the federal funds rate in  
 7 response to increased levels of inflation that have persisted for longer than originally  
 8 projected, long-term interest rates have also increased. As shown in **Figure AEB-3**,  
 9 since the Federal Reserve's December 2021 meeting, the yield on the 10-year  
 10 Treasury bond has more than doubled, increasing from 1.47% on December 15, 2021  
 11 to 4.59% at the end of September 2023. Inflation and the Federal Reserve's  
 12 normalization of monetary policy are expected to result in long-term interest rates  
 13 remaining relatively high over at least the next year.

**Figure AEB-3 – 10-Year Treasury Bond Yield, January 2021 through September 2023<sup>15</sup>**



<sup>15</sup> S&P Capital IQ Pro.

1 **Q. WHAT HAVE EQUITY ANALYSTS SAID ABOUT LONG-TERM GOVERNMENT**  
2 **BOND YIELDS?**

3 A. Leading equity analysts have noted that they expect the yields on long-term  
4 government bonds to remain elevated through at least the end of 2024. According to  
5 the most recent *Blue Chip Financial Forecasts* report, the consensus estimate of the  
6 average yield on the 10-year Treasury bond is approximately 3.50% through the fourth  
7 quarter of 2024.<sup>16</sup> It is reasonable to expect that if government bond yields remain  
8 elevated the cost of equity will be increasing above the levels experienced in the 2020  
9 and 2021 lower interest rate environment.

10 **D. Expected Performance of Utility Stocks and the Investor-Required**  
11 **Return on Utility Investments**

12 **Q. ARE UTILITY SHARE PRICES CORRELATED TO CHANGES IN THE YIELDS ON**  
13 **LONG-TERM GOVERNMENT BONDS?**

14 A. Yes. Interest rates and utility share prices have historically been inversely correlated,  
15 which means that increases in interest rates result in declines in the share prices of  
16 utilities and vice versa. For example, Goldman Sachs and Deutsche Bank examined  
17 the sensitivity of share prices of different industries to changes in interest rates over  
18 the past five years. Both Goldman Sachs and Deutsche Bank found that utilities had  
19 one of the strongest negative relationships with bond yields (i.e., increases in bond  
20 yields resulted in the decline of utility share prices).<sup>17</sup>

21 **Q. HOW DO EQUITY ANALYSTS EXPECT THE UTILITIES SECTOR TO PERFORM**  
22 **IN AN INCREASING INTEREST RATE ENVIRONMENT?**

23 A. Equity analysts project that utilities will continue to underperform the broader market  
24 given high inflation and the recent increases in interest rates. For example, Fidelity  
25 Investments classifies the utility sector as underweight<sup>18</sup> and Bank of America recently  
26 noted that they are “not so constructive on [u]tilities” given that the dividend yields for  
27 utilities are below both the yields available on long- and short-term treasury bonds.<sup>19</sup>

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<sup>16</sup> *Blue Chip Financial Forecasts*, Vol. 42, No. 7, June 30, 2023, p. 2.

<sup>17</sup> Lee, Justina. “Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks.” Bloomberg.com, March 11, 2021.

<sup>18</sup> Fidelity Investments. “Fourth Quarter 2023 Investment Research Update.” October 19, 2023.

<sup>19</sup> Dumoulin-Smith, Julien, *et. al.* “US Electric Utilities & IPPs: As the leaves fall, preparing for Autumn utility outlook. Macro still has potholes.” BofA Securities, September 6, 2023.

1           Moreover, as referenced above, the professional investors surveyed by *Barron’s* in its  
2           most recent Big Money poll selected the utility sector as one of the four equity sectors  
3           that they liked the least over the next twelve months, indicating they are projecting that  
4           utilities will underperform the broader market in 2024.<sup>20</sup>

5           **Q.    HOW HAS THE UTILITY SECTOR PERFORMED IN 2023?**

6           A.    As interest rates have increased substantially over the past year, the valuations of  
7           utilities have declined. In a recent report, Bank of America (“BofA”) indicated that the  
8           utilities sector has been the worst performing of Standard & Poor’s Financial Services  
9           LLC’s (“S&P”) sectors and that despite the decline in utility stock prices, they were not  
10          recommending a rotation back into the sector. This suggests that equity investors  
11          expect further decline in the sector.

12                         Despite utilities -13% YTD decline, the clear worst S&P subsector,  
13                         we do not view the pullback as an overly attractive buying  
14                         opportunity. At risk of overly simplifying, the utilities sector has  
15                         simply been tracking US Treasury rates. With most utilities yielding  
16                         below 4%, the merits of ownership for a wide group of investors is  
17                         simply not there vs Treasuries at 4.3% +... and 5.3% short-term.<sup>21</sup>

18          **Q.    WHY DO EQUITY ANALYSTS EXPECT THAT UTILITIES WILL CONTINUE TO**  
19          **UNDERPERFORM THE MARKET?**

20          A.    While interest rates have increased substantially over the past year, the valuations of  
21          utilities have remained elevated and have not fully reflected the effect of the recent  
22          increase in interest rates. To illustrate why this is reasonable, I examined the difference  
23          between the dividend yields of utility stocks and the yields on long-term government  
24          bonds from January 2010 through September 2023 (“yield spread”). I selected the  
25          dividend yield on the S&P Utilities Index as the measure of the dividend yields for the  
26          utility sector and the yield on the 10-year Treasury bond as the estimate of the yield  
27          on long-term government bonds.

28                         As shown in **Figure AEB-4**, the recent significant increase in long-term government  
29                         bonds yields has resulted in the yield on long-term government bonds exceeding the  
30                         dividend yields of utilities. The yield spread as of September 30, 2023 was negative

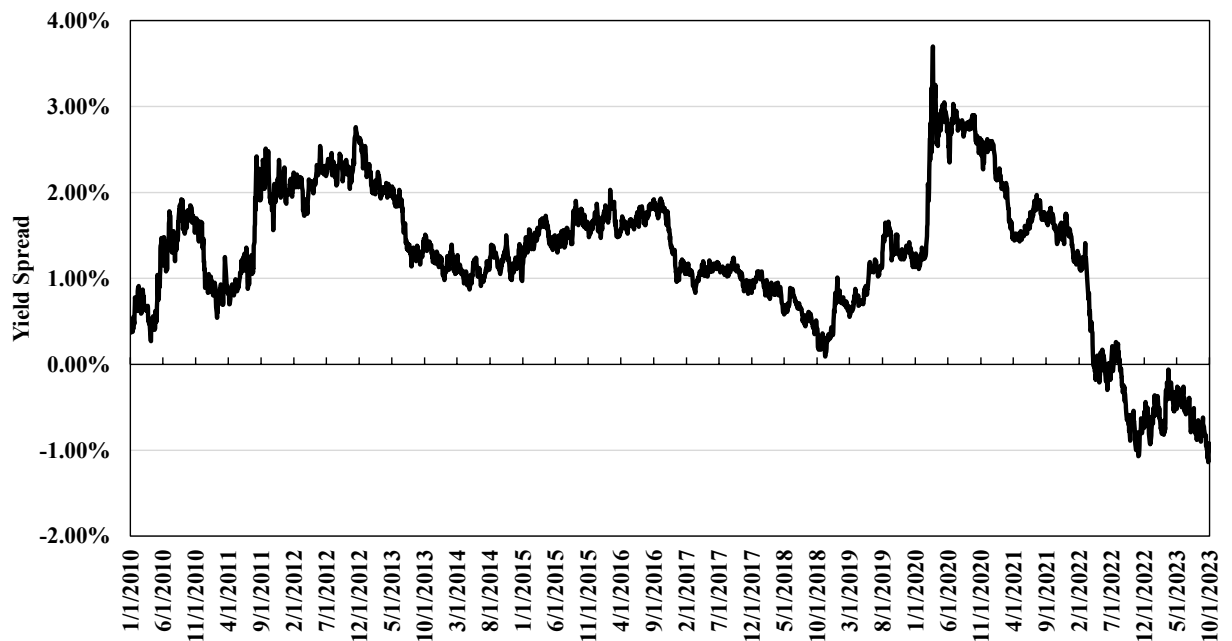
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<sup>20</sup> Jasinski, Nicholas, “Big Money Pros Are Split on the Outlook for Stocks. But They Are Fans of Bonds”, October 27, 2023, *available at* [https://www.barrons.com/articles/big-money-poll-stock-market-bonds-economy-outlook-375aebae?mod=hp\\_MAG](https://www.barrons.com/articles/big-money-poll-stock-market-bonds-economy-outlook-375aebae?mod=hp_MAG)

<sup>21</sup> Dumoulin-Smith, Julien, *et. al.* “US Electric Utilities & IPPs: As the leaves fall, preparing for Autumn utility outlook. Macro still has potholes.” BofA Securities, September 6, 2023.

1 0.92%, meaning that the yield on the 10-year Treasury bond exceeds the dividend  
 2 yield for the S&P Utilities Index. However, the long-term average yield spread from  
 3 2010 to 2023 is 1.26%. Therefore, the current yield spread is well below the long-term  
 4 average. Because of the fact that the yield spread is currently well below the long-term  
 5 average, and the expectation that interest rates will remain relatively high through at  
 6 least the next year, it is reasonable to conclude that the utility sector will most likely  
 7 underperform over the near term. This is because investors that purchased utility  
 8 stocks as an alternative to the lower yields on long-term government bonds would  
 9 otherwise be inclined to rotate back into government bonds, particularly as the yields  
 10 on long-term government bonds remain elevated, thus resulting in a decrease in the  
 11 share prices of utilities.

**Figure AEB-4 – Spread Between the S&P Utilities Index Dividend Yield and the 10-Year Treasury Bond Yield, January 2010 – September 2023<sup>22</sup>**



12 **Q. DO YOU HAVE ANY FURTHER CONTEXT AS TO HOW UNLIKELY IT IS TO HAVE**  
 13 **A NEGATIVE YIELD SPREAD OF THIS MAGNITUDE?**

14 **A.** Yes. For further context as to how unlikely it is to have a yield spread of negative  
 15 0.62%, I calculated the z-score for the current yield spread, which measures the  
 16 number of standard deviations from the mean. The current yield spread of negative

<sup>22</sup> S&P Capital IQ Pro and Bloomberg Professional.

1 0.62% has a z-score of negative 2.63, indicating that the current yield spread is over  
2 2 standard deviations from the mean of 1.26%.<sup>23</sup> In other words, 95% of the daily yield  
3 spread observations from 2010 through September 2023 fall between negative 0.40%  
4 and 2.92%, with the current yield spread of negative 0.92% being outside of that range.  
5 Thus, the current yield spread is an outlier, which is why equity analysts do not expect  
6 this current level to hold.

7 Since long-term bond yields are expected to remain elevated at current levels over the  
8 near term, equity analysts expect utilities to underperform, and thus the dividend yields  
9 for utilities will increase. This is because investors that purchased utility stocks as an  
10 alternative to the lower yields on long-term government bonds would otherwise be  
11 inclined to rotate back into government bonds, particularly as the yields on long-term  
12 government bonds remain elevated, thus resulting in a decrease in the share prices of  
13 utilities.

14 **E. Conclusion**

15 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF CURRENT**  
16 **MARKET CONDITIONS ON THE COST OF EQUITY FOR CEI SOUTH?**

17 A. Investors expect long-term interest rates to remain relatively high through 2024 in  
18 response to continued elevated levels of inflation and the Federal Reserve’s  
19 normalization of monetary policy. Because the share prices of utilities are inversely  
20 correlated to interest rates, and government bond yields are already greater than utility  
21 stock dividend yields, the share prices of utilities are likely to continue to decline, which  
22 is the reason a number of equity analysts have classified the sector as either  
23 underperform or underweight. The expected underperformance of utilities means that  
24 DCF models using recent historical data likely underestimate investors’ required return  
25 over the period that rates will be in effect. Therefore, this expected change in market  
26 conditions supports consideration of the higher end of the range of cost of equity  
27 results produced by the DCF models. Moreover, prospective market conditions  
28 warrant consideration of forward-looking cost of equity estimation models such as the  
29 CAPM and ECAPM, which better reflect expected market conditions.

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<sup>23</sup> The z-score is calculated as: (yield spread at September 30, 2023 minus average yield spread 2010 through September 2023)/standard deviation of yield spread from 2010 through September 2023. This equals: (-0.0092 minus 0.0126)/0.0083.

1 **V. PROXY GROUP SELECTION**

2 **Q. PLEASE PROVIDE A BRIEF PROFILE OF CEI SOUTH’S ELECTRIC UTILITY**  
3 **OPERATIONS.**

4 A. CEI South is a wholly owned subsidiary of Vectren Utility Holdings, LLC, which is a  
5 wholly owned subsidiary of Vectren, LLC (“Vectren”). Vectren is an indirect, wholly  
6 owned subsidiary of CenterPoint Energy, Inc. The Company provides vertically  
7 integrated electric utility service to approximately 150,000 customers in southwestern  
8 Indiana near Evansville.<sup>24</sup> The Company’s transmission is part of the Midcontinent  
9 Independent System Operator, Inc. As of the end of 2022, CEI South had net electric  
10 utility plant totaling approximately \$1.6 billion<sup>25</sup> and total electric sales of nearly 5.5  
11 million MWh to retail and wholesale customers. CEI South also provides natural gas  
12 utility service to approximately 115,000 customers in southwestern Indiana. CEI  
13 South’s current credit ratings are BBB+ (S&P)<sup>26</sup> and A3 (Moody’s).<sup>27</sup>

14 **Q. WHY HAVE YOU USED A PROXY GROUP OF PUBLICLY TRADED COMPANIES**  
15 **TO ESTIMATE THE COST OF EQUITY FOR THE COMPANY?**

16 A. One of the purposes of this proceeding is to estimate the cost of equity for a utility  
17 company that is not itself publicly traded. Because the cost of equity is a market-based  
18 concept and CEI South’s operations do not make up the entirety of a publicly traded  
19 entity, it is necessary to establish a group of companies that are both publicly traded  
20 and comparable to CEI South in certain fundamental business and financial respects  
21 to serve as its “proxy” in the cost of equity estimation process.

22 Even if CEI South was a publicly traded entity, it is possible that transitory events could  
23 bias its market value over a given period. A significant benefit of using a proxy group  
24 is that it moderates the effects of unusual events that may be associated with any one  
25 company. The companies included in the proxy group all possess a set of operating  
26 and risk characteristics that are substantially comparable to the Company, and thus  
27 provide a reasonable basis to derive and estimate the appropriate cost of equity for  
28 CEI South.

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<sup>24</sup> CenterPoint Energy, Inc. Form 8-K. March 13, 2023.

<sup>25</sup> Petitioner’s Exhibit No. 20, Schedule B-1.1.

<sup>26</sup> S&P Global Market Intelligence.

<sup>27</sup> Moody’s Investors Service.

1 **Q. HOW DID YOU SELECT THE COMPANIES INCLUDED IN YOUR PROXY GROUP?**

2 A. I began with the group of 36 companies that *Value Line Investment Survey* (“*Value*  
3 *Line*”) classifies as electric utilities and applied the following screening criteria to select  
4 companies that:

- 5 • pay consistent quarterly cash dividends because such companies can be  
6 analyzed using the constant growth DCF model;
- 7 • have investment grade long-term issuer ratings from S&P and/or Moody’s;
- 8 • are covered by at least two utility industry analysts;
- 9 • have positive long-term earnings growth forecasts from at least two equity  
10 analysts;
- 11 • own regulated generation assets;
- 12 • derive at least 40% of generation from owned generation;
- 13 • derive at least 60% of the company’s operating income from regulated electric  
14 operations; and,
- 15 • were not party to a merger or transformative transaction during the analytical  
16 period considered or did not have a material event that would have affected  
17 the market data for the company.

18 **Q. HOW DID YOU DETERMINE THAT THESE ARE THE APPROPRIATE SCREENING**  
19 **CRITERIA TO APPLY TO YOUR INITIAL LIST OF VALUE LINE ELECTRIC**  
20 **UTILITIES?**

21 A. The screening criteria and thresholds for each screen are widely used in the regulatory  
22 industry. They are designed to ensure that the proxy group is of sufficient size to  
23 generate a reasonable cost of equity measurement and to ensure that the individual  
24 proxy group companies are comparable in business and financial risk to the utility  
25 whose rates are at issue.

26 **Q. DID YOU INCLUDE CENTERPOINT ENERGY, INC. IN YOUR PROXY GROUP?**

27 A. No. Consistent with my general practice of excluding the subject company, or its parent  
28 holding company, from the proxy group, I have excluded CenterPoint Energy, Inc. from  
29 my proxy group for CEI South.

30 **Q. WHAT IS THE COMPOSITION OF YOUR PROXY GROUP?**

31 A. **Figure AEB-5** presents the companies in my proxy group.

**Figure AEB-5 – Proxy Group**

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Avista Corporation	AVA
CMS Energy Corporation	CMS
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
Portland General Electric Company	POR
Southern Company	SO
Xcel Energy Inc.	XEL

1 **VI. COST OF EQUITY ESTIMATION**

2 **Q. PLEASE BRIEFLY DISCUSS THE ROE IN THE CONTEXT OF THE REGULATED**  
 3 **RATE OF RETURN.**

4 A. The overall rate of return for a regulated utility is the weighted average cost of capital,  
 5 in which the cost rates of the individual sources of capital are weighted by their  
 6 respective book values. The ROE is the cost of common equity capital in the utility's  
 7 capital structure for ratemaking purposes. While the costs of debt and preferred stock  
 8 can be directly observed, the cost of equity is market-based and, therefore, must be  
 9 estimated based on observable market data.

10 **Q. HOW IS THE REQUIRED COST OF EQUITY DETERMINED?**

11 A. The required cost of equity is estimated by using analytical techniques that rely on  
 12 market-based data to quantify investor expectations regarding equity returns, adjusted



1 for certain incremental costs and risks. Informed judgment is then applied to determine  
2 where the Company's cost of equity falls within the range of results produced by  
3 multiple analytical techniques. The key consideration in determining the cost of equity  
4 is to ensure that the methodologies employed reasonably reflect investors' views of  
5 the financial markets in general, as well as the subject company (in the context of the  
6 proxy group), in particular.

7 **Q. WHAT METHODS DID YOU USE TO ESTABLISH YOUR RECOMMENDED ROE IN**  
8 **THIS PROCEEDING?**

9 A. I considered the results of the Constant Growth DCF model, the CAPM, the ECAPM,  
10 and the Risk Premium analyses. As discussed in more detail below, a reasonable cost  
11 of equity estimate considers alternative methodologies, observable market data, and  
12 the reasonableness of their individual and collective results. Each of these  
13 methodologies are explained briefly below, and in more detail in Appendix A.

14 **Q. IS IT IMPORTANT TO USE MORE THAN ONE ANALYTICAL APPROACH?**

15 A. Yes. Because the cost of equity is not directly observable, it must be estimated based  
16 on both quantitative and qualitative information. When faced with the task of estimating  
17 the cost of equity, analysts and investors are inclined to gather and evaluate as much  
18 relevant data as reasonably can be analyzed. Several models have been developed  
19 to estimate the cost of equity, and we use multiple approaches to estimate the cost of  
20 equity. As a practical matter, however, all the models available for estimating the cost  
21 of equity are subject to limiting assumptions or other methodological constraints.  
22 Consequently, many well-regarded finance texts recommend using multiple  
23 approaches when estimating the cost of equity. For example, Copeland, Koller, and  
24 Murrin<sup>28</sup> suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham  
25 and Gapenski<sup>29</sup> recommend the CAPM, DCF, and BYRP approaches.

26 **Q. DO CURRENT MARKET CONDITIONS INCREASE THE IMPORTANCE OF USING**  
27 **MORE THAN ONE ANALYTICAL APPROACH?**

28 A. Yes. As discussed previously, interest rates have increased substantially over the past  
29 year and are expected to remain elevated over at least the next year from the lows

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<sup>28</sup> Copeland, Tom, Tim Koller and Jack Murrin. *Valuation: Measuring and Managing the Value of Companies*. New York, McKinsey & Company, Inc., 3rd Ed., 2000 at 214.

<sup>29</sup> Brigham, Eugene and Louis Gapenski. *Financial Management: Theory and Practice*. Orlando, Dryden Press, 1994 at 341.

1 seen during the COVID-19 pandemic. The benefit of using multiple models is that each  
2 model relies on different assumptions, certain of which may better reflect current and  
3 projected market conditions at different times. As discussed previously, the CAPM,  
4 ECAPM, and BYRP analyses offer some balance through the use of projected interest  
5 rates since the effect of changes in interest rates, particularly the recent increase in  
6 interest rates, may not be captured as well in the DCF model at this time. Therefore, it  
7 is important to use multiple analytical approaches to ensure that the cost of equity  
8 results reflect market conditions that are expected during the period that the  
9 Company's rates will be in effect.

10 **Q. HAS THE COMMISSION ALSO RECOGNIZED THE BENEFITS OF USING MORE**  
11 **THAN ONE MODEL TO ESTIMATE THE COST OF EQUITY?**

12 A. Yes. For example, the Commission has previously explained:

13 The Commission recognizes that the cost of equity cannot be precisely  
14 calculated and estimating it requires the use of judgment. Due to this  
15 lack of precision, the use of multiple methods is desirable because no  
16 single method will produce the most reasonable result under all  
17 conditions and circumstances.<sup>30</sup>

18 **Q. PLEASE BRIEFLY DESCRIBE THE DCF APPROACH.**

19 A. The DCF approach is based on the theory that a stock's current price represents the  
20 present value of all expected future cash flows. In the constant growth DCF, the cost  
21 of equity is defined as the sum of the expected dividend yield and the expected long-  
22 term growth rate that is assumed in perpetuity. To reduce the long-term growth rate to  
23 a single measure, one must assume that the payout ratio remains constant and that  
24 earnings per share, dividends per share, and book value per share all grow at the  
25 same constant rate. However, over the long run, dividend growth can only be  
26 sustained by earnings growth. Therefore, it is important to consider a variety of sources  
27 in arriving at a single projected long-term earnings growth rate for the constant growth  
28 DCF model.<sup>31</sup>

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<sup>30</sup> *Indianapolis Power & Light*, Cause No. 44576 (IURC Mar. 16, 2016), at 41.

<sup>31</sup> As discussed in Appendix A, the constant growth DCF model requires the following four assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ("P/E") ratio; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions are violated, considered judgment and/or specific adjustments should be applied to the results.

1 **Q. PLEASE BRIEFLY DESCRIBE THE CAPM.**

2 A. The CAPM is a risk premium approach that estimates the cost of equity for a given  
3 security as the sum of a risk-free rate of return plus a risk premium to compensate  
4 investors for the non-diversifiable or “systematic” risk of that security. Systematic risk  
5 is the risk inherent in the entire market or market segment, which cannot be diversified  
6 away using a portfolio of assets. Unsystematic risk is the risk of a specific company  
7 that can, theoretically, be mitigated through portfolio diversification. According to the  
8 theory underlying the CAPM, because unsystematic risk can be diversified away,  
9 investors should only be concerned with systematic or non-diversifiable risk. In the  
10 CAPM, non-diversifiable risk is measured by a beta coefficient, which represents the  
11 risk of the security relative to the general market. Therefore, the CAPM is defined as  
12 the sum of a risk-free rate of return plus the beta coefficient multiplied by the market  
13 risk premium, which is further defined as the expected market return less the risk-free  
14 rate.

15 **Q. DID YOU CONSIDER ANOTHER FORM OF THE CAPM IN YOUR ANALYSIS?**

16 A. Yes. I have also considered the results of an ECAPM analysis. The ECAPM calculates  
17 the product of the beta coefficient and the market risk premium and applies a weight  
18 of 75.00% to that result. The model then applies a 25.00% weight to the market risk  
19 premium without any effect from the beta coefficient. In essence, the ECAPM  
20 addresses the tendency of the “traditional” CAPM to underestimate the cost of equity  
21 for companies with low beta coefficients such as regulated utilities. In that regard, the  
22 ECAPM is not redundant to the use of adjusted betas in the traditional CAPM; rather,  
23 it recognizes the results of academic research indicating that the risk-return  
24 relationship is different (in essence, flatter) than estimated by the CAPM, and that the  
25 CAPM underestimates the “alpha,” or the constant return term.

26 **Q. PLEASE DESCRIBE THE BOND YIELD PLUS RISK PREMIUM APPROACH.**

27 A. In general terms, this approach is based on the fundamental principle that equity  
28 investors bear the residual risk associated with equity ownership and therefore require  
29 a premium over the return they would have earned as bondholders. In other words,  
30 because returns to equity holders have greater risk than returns to bondholders, equity  
31 investors must be compensated to bear that risk. Thus, risk premium approaches  
32 estimate the cost of equity as the sum of the yield on a particular class of bonds and  
33 the equity risk premium. In my analysis, I use actual authorized returns for electric

1 utilities as the historical measure of the cost of equity to determine the risk premium.  
2 When the authorized ROEs for electric utilities serve as the measure of required equity  
3 returns and the yield on the long-term U.S. Treasury bond is defined as the relevant  
4 measure of interest rates, the risk premium is the difference between those two  
5 points.<sup>32</sup>

6 It is important to recognize both academic literature and market evidence indicating  
7 that the equity risk premium is inversely related to the level of interest rates (i.e., as  
8 interest rates increase, the equity risk premium decreases, and vice versa).  
9 Consequently, it is important to develop an analysis that: (1) reflects the inverse  
10 relationship between interest rates and the equity risk premium; and (2) relies on  
11 recent and expected market conditions.

12 **Q. WHAT ARE THE RESULTS OF YOUR COST OF EQUITY ANALYSES?**

13 **A. Figure AEB-6** summarizes the results of my cost of equity analyses.

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<sup>32</sup> See e.g., Berry, S. Keith. "Interest Rate Risk and Utility Risk Premia during 1982-93." *Managerial and Decision Economics*, Vol. 19, No. 2, March 1998 (the author used a similar methodology, including using authorized ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates). See also Harris, Robert S. "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return." *Financial Management*, Spring 1986 at 66.

**Figure AEB-6 – Summary of Results**

<b>Constant Growth DCF</b>			
	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Average	9.02%	10.17%	11.15%
90-Day Average	8.86%	10.01%	10.98%
180-Day Average	8.76%	9.91%	10.88%
Average	8.88%	10.03%	11.00%
Median Results:			
30-Day Average	9.45%	10.12%	11.22%
90-Day Average	9.27%	9.95%	11.14%
180-Day Average	9.18%	9.83%	11.00%
Average	9.30%	9.97%	11.12%
<b>CAPM / ECAPM / Bond Yield Risk Premium</b>			
	Current 30-Day Avg 30-Year Treasury Yield	Near-Term Projected 30-Year Treasury Yield	Longer-Term Projected 30-Year Treasury Yield
CAPM:			
Value Line Beta	11.95%	11.93%	11.88%
Bloomberg Beta	11.15%	11.11%	11.02%
Long-term Avg. Beta	10.76%	10.71%	10.60%
ECAPM:			
Value Line Beta	12.19%	12.17%	12.14%
Bloomberg Beta	11.59%	11.56%	11.49%
Long-term Avg. Beta	11.29%	11.26%	11.17%
Bond Yield Risk Premium:	10.53%	10.45%	10.26%

- 1 **Q. IS IT IMPORTANT TO CONSIDER THE RESULTS OF MULTIPLE MODELS?**
- 2 A. Yes. As discussed in more detail in Appendix A, the cost of equity estimation
- 3 methodologies rely on different assumptions, each of which is affected by market
- 4 conditions. For example, one primary assumption of the DCF model is a constant
- 5 price-to-earnings ratio, and that assumption is heavily influenced by the market price

1 of utility stocks. Since utility stocks are expected to continue to underperform the  
2 broader market over the near term as interest rates remain elevated and yields on  
3 long-term government bonds exceed utility dividend yields, it is important to consider  
4 the results of the DCF model with caution. Therefore, while I have given weight to the  
5 results of the DCF model, my recommendation also gives weight to the results of other  
6 cost of equity estimation models.

7 **Q. HAVE REGULATORY COMMISSIONS ACKNOWLEDGED THAT THE DCF MODEL**  
8 **MIGHT UNDERSTATE THE COST OF EQUITY GIVEN THE CURRENT CAPITAL**  
9 **MARKET CONDITIONS OF HIGH INFLATION AND ELEVATED INTEREST**  
10 **RATES?**

11 A. Yes. For example, in its May 2022 decision establishing the cost of equity for Aqua  
12 Pennsylvania, Inc., the Pennsylvania Public Utility Commission concluded that the  
13 current capital market conditions of high inflation and increased interest rates has  
14 resulted in the DCF model understating the utility cost of equity, and that weight should  
15 be placed on risk premium models, such as the CAPM, in the determination of the  
16 ROE.

17 To help control rising inflation, the Federal Open Market Committee has  
18 signaled that it is ending its policies designed to maintain low interest  
19 rates. Aqua Exc. at 9. Because the DCF model does not directly  
20 account for interest rates, consequently, it is slow to respond to interest  
21 rate changes. However, I&E’s CAPM model uses forecasted yields on  
22 ten-year Treasury bonds, and accordingly, its methodology captures  
23 forward looking changes in interest rates.

24 Therefore, our methodology for determining Aqua’s ROE shall utilize  
25 both I&E’s DCF and CAPM methodologies. As noted above, the  
26 Commission recognizes the importance of informed judgment and  
27 information provided by other ROE models. In the 2012 PPL Order, the  
28 Commission considered PPL’s CAPM and RP methods, tempered by  
29 informed judgment, instead of DCF-only results. We conclude that  
30 methodologies other than the DCF can be used as a check upon the  
31 reasonableness of the DCF derived ROE calculation. Historically, we  
32 have relied primarily upon the DCF methodology in arriving at ROE  
33 determinations and have utilized the results of the CAPM as a check  
34 upon the reasonableness of the DCF derived equity return. As such,  
35 where evidence based on other methods suggests that the DCF-only  
36 results may understate the utility’s ROE, we will consider those other  
37 methods, to some degree, in determining the appropriate range of  
38 reasonableness for our equity return determination. In light of the

1 above, we shall determine an appropriate ROE for Aqua using informed  
2 judgement based on I&E’s DCF and CAPM methodologies.<sup>33</sup>

3 .....  
4 We have previously determined, above, that we shall utilize I&E’s DCF  
5 and CAPM methodologies. I&E’s DCF and CAPM produce a range of  
6 reasonableness for the ROE in this proceeding from 8.90% [DCF] to  
7 9.89% [CAPM]. Based upon our informed judgment, which includes  
8 consideration of a variety of factors, including increasing inflation  
9 leading to increases in interest rates and capital costs since the rate  
10 filing, we determine that a base ROE of 9.75% is reasonable and  
11 appropriate for Aqua.<sup>34</sup>

12 More recently, the Massachusetts Department of Public Utilities (“Department”) also  
13 recently came to a similar conclusion:

14 The Department recently considered the relationship between low  
15 interest rates and utility stock prices over the last several years and  
16 whether a projected increase in long-term interest rates caused the  
17 DCF analysis to understate the cost of equity. D.P.U. 20-120, at 416-  
18 419. The Department found that, although utility stocks had increased  
19 above historic levels in conjunction with low interest rates, the evidence  
20 in that proceeding that long-term interest rates would change was  
21 speculative. D.P.U. 20-120, at 417-419. In this proceeding, the record  
22 is clear that long-term interest rates have increased compared to the  
23 period of time from which the parties derived the dividend yields used  
24 in the DCF analyses (Exh. ES-VVR-Rebuttal-1, at 23-26; Tr. 14, at  
25 1463). We also have considered the Attorney General’s evidence of  
26 investors forecasting that utility stocks will retain their high valuations in  
27 the near term (Tr. 14, at 1449-1452; RR-DPU-48). **Based on the**  
28 **foregoing evidence, the Department finds that there is greater**  
29 **certainty that the DCF results understate the Company’s cost of**  
30 **equity.**<sup>35</sup>

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<sup>33</sup> *PA Public Utility Commission v. Aqua Pennsylvania, et al.*, Pennsylvania Public Utility Commission, Docket Nos. R-2021-3027385 and R-2021-3027386, Opinion and Order, May 12, 2022, pp. 154–155.

<sup>34</sup> *Id.* at 177–178.

<sup>35</sup> *Petition of NSTAR Electric Company, doing business as Eversource Energy, pursuant to G.L. c. 164, § 94 and 220 CMR 5.00, for Approval of a General Increase in Base Distribution Rates for Electric Service and Performance Based Ratemaking Plan*, Massachusetts Department of Public Utilities, D.P.U. 22-22 at 385-386, (Nov. 30, 2022) (emphasis added).

1 **VII. REGULATORY AND BUSINESS RISKS**

2 **Q. TAKEN ALONE, DO THE RESULTS OF THE COST OF EQUITY ESTIMATION**  
3 **MODELS FOR THE PROXY GROUP PROVIDE AN APPROPRIATE ESTIMATE OF**  
4 **THE COST OF EQUITY FOR CEI SOUTH?**

5 A. No. These results provide only a range of the appropriate estimate of the Company's  
6 cost of equity. There are several additional factors that must be taken into  
7 consideration when determining where the Company's cost of equity falls within the  
8 range of results. These factors, which are discussed below, should be considered with  
9 respect to their overall effect on the Company's risk profile.

10 **A. Capital Expenditures**

11 **Q. PLEASE SUMMARIZE THE COMPANY'S CAPITAL EXPENDITURE**  
12 **REQUIREMENTS.**

13 A. As of December 31, 2022, the Company had net electric utility plant of approximately  
14 \$1.6 billion,<sup>36</sup> and the Company currently projects capital expenditures for 2024  
15 through 2027 of approximately \$2.04 billion.<sup>37</sup> Therefore, the Company's projected  
16 capital expenditures represent approximately 127% of its net electric utility plant as of  
17 December 31, 2022.

18 **Q. HOW IS THE COMPANY'S RISK PROFILE AFFECTED BY ITS CAPITAL**  
19 **EXPENDITURE REQUIREMENTS?**

20 A. As with any utility faced with substantial capital expenditure requirements, the  
21 Company's risk profile may be adversely affected in two significant and related ways:  
22 (1) the heightened level of investment increases the risk of under-recovery or delayed  
23 recovery of the invested capital; and (2) an inadequate return would put downward  
24 pressure on key credit metrics.

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<sup>36</sup> Petitioner's Exhibit No. 20, Schedule B-1.1.

<sup>37</sup> CenterPoint Energy 2022 SEC Form 10-K, at 58, calculated as total electric capital investment less investment in Houston Electric for 2024 through 2027.



1 **Q. DO CREDIT RATING AGENCIES RECOGNIZE THE RISKS ASSOCIATED WITH**  
2 **ELEVATED LEVELS OF CAPITAL EXPENDITURES?**

3 A. Yes, they do. From a credit perspective, the additional pressure on cash flows  
4 associated with high levels of capital expenditures exerts corresponding pressure on  
5 credit metrics and, therefore, credit ratings. To that point, S&P explains the importance  
6 of regulatory support for large capital projects:

7 When applicable, a jurisdiction’s willingness to support large capital  
8 projects with cash during construction is an important aspect of our  
9 analysis. This is especially true when the project represents a major  
10 addition to rate base and entails long lead times and technological risks  
11 that make it susceptible to construction delays. Broad support for all  
12 capital spending is the most credit-sustaining. Support for only specific  
13 types of capital spending, such as specific environmental projects or  
14 system integrity plans, is less so, but still favorable for creditors.  
15 Allowance of a cash return on construction work-in-progress or similar  
16 ratemaking methods historically were extraordinary measures for use in  
17 unusual circumstances, but when construction costs are rising, cash flow  
18 support could be crucial to maintain credit quality through the spending  
19 program. Even more favorable are those jurisdictions that present an  
20 opportunity for a higher return on capital projects as an incentive to  
21 investors.<sup>38</sup>

22 Therefore, to the extent that CEI South’s rates do not permit the Company to recover  
23 its capital investments on a timely basis and provide a reasonable opportunity to earn  
24 its authorized return, the Company will face increased recovery risk and thus increased  
25 pressure on its credit metrics.

26 **Q. HOW DO CEI SOUTH’S CAPITAL EXPENDITURE REQUIREMENTS COMPARE**  
27 **TO THOSE OF THE PROXY GROUP COMPANIES?**

28 A. As shown in Petitioner’s Exhibit No. 13, Attachment AEB-2, Schedule 8, I calculated  
29 the ratio of expected capital expenditures to net utility plant for CEI South and each of  
30 the companies in the proxy group by dividing each company’s projected capital  
31 expenditures for the period from 2024 – 2027 by its total net utility plant as of  
32 December 31, 2022. As shown therein, the Company’s ratio of capital expenditures as  
33 a percentage of net utility plant is approximately 3 times the median for the proxy  
34 group.

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<sup>38</sup> S&P Global Ratings, “Assessing U.S. Investor-Owned Utility Regulatory Environments” at 7 (August 10, 2016).

1 **Q. DOES CEI SOUTH HAVE CAPITAL TRACKING MECHANISMS TO RECOVER THE**  
2 **COSTS ASSOCIATED WITH ITS CAPITAL EXPENDITURES PLAN BETWEEN**  
3 **RATE CASES?**

4 A. Yes. The Company has a number of regulatory mechanisms that allow for the recovery  
5 of the costs associated with various capital projects between rate cases:

- 6 • *Transmission, Distribution, and Storage System Improvement Charge*  
7 *(“TDSIC”)*: Provides for the semi-annual recovery of the return of and return on  
8 capital investments and related operating expenses associated with safety,  
9 reliability, system modernization, or economic development. Pursuant to the  
10 TDSIC, 80% of the costs are recovered via a tracking mechanism and the  
11 remaining 20% deferred and recovered in the next base rate proceeding,
- 12 • *Environmental Cost Adjustment (“ECA”)*: Provides for the annual recovery of  
13 the return of and return on capital investments and related operating expenses  
14 associated with federally-mandated compliance investments and certain  
15 environmental investments. Pursuant to the ECA, 80% of the costs are  
16 recovered via a tracking mechanism and the remaining 20% deferred and  
17 recovered in the next base rate proceeding.
- 18 • *Clean Energy Cost Adjustment (“CECA”)*: Provides for the annual recovery of  
19 the return of and return on capital investments related to costs associated with  
20 solar investments.

21 **Q. ARE CAPITAL INVESTMENT RECOVERY MECHANISMS COMMON AMONG**  
22 **UTILITIES?**

23 A. Yes. As shown on Petitioner’s Exhibit No. 13, Attachment AEB-2, Schedule 10,  
24 approximately 68% of the utility operating subsidiaries of the proxy group companies  
25 recover costs through capital investment reconciling mechanisms.

26 **B. Flotation Costs**

27 **Q. WHAT ARE FLOTATION COSTS?**

28 A. Flotation costs are the costs associated with the sale of new issues of common stock.  
29 These costs include out-of-pocket expenditures for preparation, filing, underwriting,  
30 and other issuance costs.

1 **Q. WHY IS IT IMPORTANT TO CONSIDER FLOTATION COSTS IN THE AUTHORIZED**  
2 **ROE?**

3 A. A regulated utility must have the opportunity to earn an ROE that is both competitive  
4 and compensatory to attract and retain new investors. To the extent that a company  
5 is denied the opportunity to recover prudently incurred flotation costs, actual returns  
6 will fall short of expected (or required) returns, thereby diluting equity share value.

7 **Q. ARE FLOTATION COSTS PART OF THE UTILITY’S INVESTED COSTS OR PART**  
8 **OF THE UTILITY’S EXPENSES?**

9 A. Flotation costs are part of the invested costs of the utility, which are properly reflected  
10 on the balance sheet under “paid in capital.” They are not current expenses and,  
11 therefore, are not reflected on the income statement. Rather, like investments in rate  
12 base or the issuance costs of long-term debt, flotation costs are incurred over time. As  
13 a result, the great majority of a utility’s flotation cost is incurred prior to the test year  
14 but remains part of the cost structure that exists during the test year and beyond, and  
15 as such, should be recognized for ratemaking purposes. Therefore, it is irrelevant  
16 whether an issuance occurs during the test year or is planned for the test year because  
17 failure to allow recovery of past flotation costs may deny the Company the opportunity  
18 to earn its required rate of return in the future.

19 **Q. PLEASE PROVIDE AN EXAMPLE OF WHY A FLOTATION COST ADJUSTMENT**  
20 **IS NECESSARY TO COMPENSATE INVESTORS FOR THE CAPITAL THEY HAVE**  
21 **INVESTED.**

22 A. Assume CenterPoint Energy, Inc. issues stock with a value of \$100, and an equity  
23 investor invests \$100 in CenterPoint Energy, Inc. in exchange for that stock. Further,  
24 suppose that after paying the flotation costs associated with the equity issuance, which  
25 include fees paid to underwriters and attorneys, among others, CenterPoint Energy,  
26 Inc. ends up with only \$97 of issuance proceeds, rather than the \$100 the investor  
27 contributed. CenterPoint Energy, Inc. invests that \$97 in plant used to serve its  
28 customers, which becomes part of rate base. Absent a flotation cost adjustment, the  
29 investor will thereafter earn a return on only the \$97 invested in rate base, even though  
30 she contributed \$100. Making a small flotation cost adjustment gives the investor a  
31 reasonable opportunity to earn the authorized return, rather than the lower return that  
32 results when the authorized return is applied to an amount less than what the investor  
33 contributed.

1 **Q. IS THE DATE OF CENTERPOINT ENERGY, INC.'S LAST ISSUANCE OF COMMON**  
2 **EQUITY IMPORTANT IN THE DETERMINATION OF FLOTATION COSTS?**

3 A. No. As shown in Petitioner's Exhibit No. 13, Attachment AEB-2, Schedule 9,  
4 CenterPoint Energy, Inc. closed on equity issuances of approximately \$1.90 billion and  
5 \$326 million (for a total of 94.9 million shares of common stock) in September 2018  
6 and June 2010, respectively. As discussed previously, the vintage of the issuance,  
7 however, is not particularly important because investors suffer a shortfall in every year  
8 that they should have a reasonable opportunity to earn a return on the full amount of  
9 capital that has been contributed.

10 **Q. IS THE NEED TO CONSIDER FLOTATION COSTS ELIMINATED BECAUSE CEI**  
11 **SOUTH IS A WHOLLY OWNED SUBSIDIARY OF CENTERPOINT ENERGY, INC.?**

12 A. No, it is not. Although the Company is a wholly owned subsidiary of CenterPoint  
13 Energy, Inc., it is appropriate to consider flotation costs. Wholly owned subsidiaries  
14 receive equity capital from their parent and provide returns on the capital that roll up  
15 to the parent, which is designated to attract and raise capital based upon the returns  
16 of those subsidiaries. To deny recovery of issuance costs associated with the capital  
17 that is invested in the subsidiaries ultimately penalizes the investors that fund utility  
18 operations and inhibits the utility's ability to obtain new equity capital at a reasonable  
19 cost. This is particularly important in the current circumstance given that the Company  
20 is planning significant capital expenditures in the near term.

21 **Q. IS THE NEED TO CONSIDER FLOTATION COSTS RECOGNIZED BY THE**  
22 **ACADEMIC AND FINANCIAL COMMUNITIES?**

23 A. Yes. The need to reimburse shareholders for the lost returns associated with equity  
24 issuance costs is recognized by the academic and financial communities in the same  
25 spirit that investors are reimbursed for the costs of issuing debt. This treatment is  
26 consistent with the philosophy of a fair rate of return. According to Dr. Shannon Pratt:

27 Flotation costs occur when new issues of stock or debt are sold to the  
28 public. The firm usually incurs several kinds of flotation or transaction  
29 costs, which reduce the actual proceeds received by the firm. Some of  
30 these are direct out-of-pocket outlays, such as fees paid to  
31 underwriters, legal expenses, and prospectus preparation costs.  
32 Because of this reduction in proceeds, the firm's required returns on  
33 these proceeds equate to a higher return to compensate for the  
34 additional costs. Flotation costs can be accounted for either by  
35 amortizing the cost, thus reducing the cash flow to discount, or by

1 incorporating the cost into the cost of capital. Because flotation costs  
2 are not typically applied to operating cash flow, one must incorporate  
3 them into the cost of capital.<sup>39</sup>

4 **Q. HAS THE COMMISSION PROVIDED ANY GUIDANCE ON THE CONSIDERATION**  
5 **OF FLOTATION COSTS?**

6 A. Yes. The Commission has approved the inclusion of flotation costs, including in a 2004  
7 order in which it agreed to an adjustment to the authorized ROE to account for actual  
8 flotation costs incurred by the utility. In that proceeding, the Commission ordered a 15  
9 basis point upward adjustment to the cost of equity.<sup>40</sup> In a subsequent order, the  
10 Commission stated that while adjustments such as flotation costs are often  
11 inappropriate to include in the cost of equity, it reiterated that the “Commission will only  
12 allow flotation cost adjustments when they are based on verifiable actual costs so that  
13 the reasonableness and appropriateness of the costs may be examined.”<sup>41</sup> My flotation  
14 cost analysis relies on the flotation cost percentage based on CenterPoint Energy,  
15 Inc.’s most recent equity issuances, which is appropriate to consider according to  
16 multiple previous Commission orders.

17 **Q. DID YOU ESTIMATE THE FLOTATION COSTS FOR CEI SOUTH?**

18 A. Yes. My flotation cost calculation is based on the costs of issuing equity that were  
19 incurred by CenterPoint Energy, Inc. in its two most recent common equity issuances.  
20 As shown in Petitioner’s Exhibit No. 13, Attachment AEB-2, Schedule 9, based on  
21 the flotation costs of those two issuances, the average impact on the proxy group’s  
22 cost of equity amounts to 13 basis points (i.e., 0.13%).

23 **Q. DO YOUR FINAL COST OF EQUITY MODEL RESULTS INCLUDE AN**  
24 **ADJUSTMENT FOR FLOTATION COST RECOVERY?**

25 A. No, I did not make an explicit adjustment for flotation costs to any of the quantitative  
26 results of my cost of equity models. Rather, the incremental cost associated with stock  
27 issuance supports my recommended ROE.

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<sup>39</sup> Pratt, Shannon P. *Cost of Capital Estimation and Applications*. Second Edition, at 220-21.

<sup>40</sup> *PSI Energy, Inc. Petition for Authority to Increase Its Rates*, Cause No. 42359, Order (IURC May 18, 2004), p. 43.

<sup>41</sup> *Indiana Michigan Power Company Petition for Authority to Increase its Rates*, Cause No. 44075 (IURC Feb. 13, 2023), p. 43.

1           **C.       Regulatory Risk**

2   **Q.       HOW DOES THE REGULATORY ENVIRONMENT AFFECT INVESTORS’ RISK**  
3   **ASSESSMENTS?**

4   A.       The ratemaking process is premised on the principle that, for investors and companies  
5           to commit the capital needed to provide safe and reliable utility services, the subject  
6           utility must have the opportunity to recover invested capital and the market-required  
7           return on such capital. Regulatory commissions recognize that because utility  
8           operations are capital intensive, regulatory decisions should enable the utility to attract  
9           capital at reasonable terms, which balances the long-term interests of investors and  
10          customers. To achieve this balance, the Company must be able to finance its  
11          operations assuming a reasonable opportunity to earn an appropriate return on  
12          invested capital to maintain an acceptable financial profile. In that respect, the  
13          regulatory environment is one of the most important factors considered in both debt  
14          and equity investors’ risk assessments.

15               From the perspective of debt investors, the authorized return should enable the utility  
16               to generate the cash flow needed to meet its near-term financial obligations, make the  
17               capital investments needed to maintain and expand its systems, and maintain the  
18               necessary levels of liquidity to fund unexpected events. This financial liquidity must be  
19               derived not only from internally generated funds, but also by efficient access to capital  
20               markets. Moreover, because fixed income investors have many investment  
21               alternatives, even within a given market sector, the utility’s financial profile must be  
22               adequate on a relative basis to ensure its ability to attract capital under a variety of  
23               economic and financial market conditions.

24               Equity investors, on the other hand, require that the authorized return be adequate to  
25               provide a risk-comparable return on the equity portion of the utility’s capital  
26               investments. Because equity investors are the residual claimants on the utility’s cash  
27               flows (which is to say that the equity return is subordinate to interest payments), they  
28               are particularly concerned with the strength of regulatory support and its effect on  
29               future cash flows.

1 **Q. HOW DO CREDIT RATING AGENCIES CONSIDER REGULATORY RISK IN**  
2 **ESTABLISHING A COMPANY’S CREDIT RATING?**

3 A. Both S&P and Moody’s consider the overall regulatory framework in establishing credit  
4 ratings. Moody’s establishes credit ratings based on four key factors: (1) regulatory  
5 framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4)  
6 financial strength, liquidity, and key financial metrics. Of these criteria, regulatory  
7 framework and the ability to recover costs and earn returns are each given a broad  
8 rating factor of 25.00%. Therefore, Moody’s assigns regulatory risk a 50.00%  
9 weighting in the overall assessment of business and financial risk for regulated  
10 utilities.<sup>42</sup>

11 S&P also identifies the regulatory framework as an important factor in credit ratings for  
12 regulated utilities, stating: “One significant aspect of regulatory risk that influences  
13 credit quality is the regulatory environment in the jurisdictions in which a utility  
14 operates.”<sup>43</sup> S&P identifies four specific factors that it uses to assess the credit  
15 implications of the regulatory jurisdictions of investor-owned regulated utilities: (1)  
16 regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and  
17 (4) regulatory independence and insulation.<sup>44</sup>

18 **Q. HOW DOES THE REGULATORY ENVIRONMENT IN WHICH A UTILITY**  
19 **OPERATES AFFECT ITS ACCESS TO AND COST OF CAPITAL?**

20 A. The regulatory environment can significantly affect both the access to and cost of  
21 capital in several ways. First, the proportion and cost of debt capital available to utility  
22 companies are influenced by the rating agencies’ assessment of the regulatory  
23 environment. As noted by Moody’s, “[f]or rate regulated utilities, which typically operate  
24 as a monopoly, the regulatory environment and how the utility adapts to that  
25 environment are the most important credit considerations.”<sup>45</sup> Moody’s has further  
26 highlighted the relevance of a stable and predictable regulatory environment to a  
27 utility’s credit quality, noting: “[b]roadly speaking, the Regulatory Framework is the  
28 foundation for how all the decisions that affect utilities are made (including the setting

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<sup>42</sup> Moody’s Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017 at 4.

<sup>43</sup> Standard & Poor’s Global Ratings, Ratings Direct, U.S. and Canadian Regulatory Jurisdictions Support Utilities’ Credit Quality—But Some More So Than Others, June 25, 2018 at 2.

<sup>44</sup> *Id.* at 1.

<sup>45</sup> Moody’s Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017 at 6.

1 of rates), as well as the predictability and consistency of decision-making provided by  
2 that foundation.”<sup>46</sup>

3 **Q. HAVE YOU CONDUCTED ANY ANALYSIS OF THE REGULATORY FRAMEWORK**  
4 **IN INDIANA RELATIVE TO THE JURISDICTIONS IN WHICH THE COMPANIES IN**  
5 **YOUR PROXY GROUP OPERATE?**

6 A. Yes. I have evaluated the regulatory framework in Indiana considering two factors that  
7 are important to ensuring CEI South maintains access to capital at reasonable terms.  
8 As I will discuss in more detail below, the two factors are: (1) cost recovery  
9 mechanisms, which allow a utility to recover costs in a timely manner between rate  
10 cases and provide the utility the opportunity to earn its authorized return; and (2) the  
11 comparable return standard because an awarded ROE that is significantly below the  
12 ROEs awarded to other utilities with comparable risks can affect the ability of a utility  
13 to attract capital at reasonable terms.

14 **Q. HAVE YOU REVIEWED THE MOST RECENT CREDIT OPINIONS FOR THE**  
15 **COMPANY?**

16 A. Yes. I reviewed S&P’s Credit Opinion for CEI South as of March 2023. While S&P’s  
17 notes that CEI South operates in a constructive regulatory environment in Indiana, it  
18 also notes that the Company’s generation transition plan will require significant near-  
19 term capital spending which could weaken cash flow metrics particularly if CEI South  
20 is unable to obtain timely cost recovery of the investments.<sup>47</sup> Due in part to the  
21 significant capital plan, S&P currently projects CEI South to have negative  
22 discretionary cash flow and thus require additional funding through either incremental  
23 debt issuances or equity infusions from CenterPoint Energy, Inc.<sup>48</sup>

#### 24 **1. Cost Recovery Mechanisms**

25 **Q. HAVE YOU CONDUCTED ANY ANALYSIS TO COMPARE THE COST RECOVERY**  
26 **MECHANISMS OF THE COMPANY RELATIVE TO MECHANISMS APPROVED IN**

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<sup>46</sup> *Id.*

<sup>47</sup> S&P Global Ratings, “Southern Indiana Gas and Electric Co.,” March 6, 2023, p. 2.

<sup>48</sup> *Id.* at 4.



1           **THE JURISDICTIONS IN WHICH THE COMPANIES IN YOUR PROXY GROUP**  
2           **OPERATE?**

3           A.     Yes. I selected three mechanisms that are important to provide a regulated utility an  
4           opportunity to earn its authorized ROE: (1) the test year convention (i.e., forecast vs.  
5           historical) for ratemaking purposes; (2) the use of revenue decoupling mechanisms or  
6           other clauses that mitigate volumetric risk; and (3) the prevalence of capital cost  
7           recovery between rate cases. The use of a forecasted test year includes in rates the  
8           estimated cost of service over the period that rates will be in effect. This is particularly  
9           important in a higher inflationary environment. When rates are based on historical cost  
10          data, it is often the case that the rates that are implemented do not recognize the  
11          increase in costs over the period that rates are in effect, thereby making it more difficult  
12          to earn the investor-required return. The use of decoupling mitigates the risk of the  
13          recovery of fixed costs through volumetric rates and stabilizes the recovery of the  
14          revenue requirement that was established in the rate proceeding. Finally, having the  
15          ability to recover capital costs between rate cases provides an immediate return on  
16          and of capital that provides greater financial stability and the ability to maintain credit  
17          metrics. This is of particular importance in the current environment, where utilities have  
18          significant capital investment requirements to meet increasing demands on the utility  
19          including the significant demands on CEIS generation.

20  
21          The results of this regulatory risk assessment are shown in Petitioner’s Exhibit No. 13,  
22          **Attachment AEB-2**, Schedule 10 and are summarized below.

- 23          1.       Test Year Convention: CEI South is allowed to use a future test year in Indiana,  
24          which is consistent with the operating companies held by the proxy group  
25          where 37 out of 83 (approximately 45%) provide service in jurisdictions that  
26          use a fully or partially forecast test year.
- 27          2.       Volumetric Risk: CEI South does have partial protection against volumetric risk  
28          in Indiana through the Demand Side Management Adjustment, which allows  
29          the Company to recover the lost margin associated with energy efficiency  
30          programs. This type of mechanism is generally consistent with the operating  
31          companies held by the proxy group where 50 out of 83 (approximately 60%)  
32          have some form of protection against volumetric risk. In addition, CEI South  
33          has some protection against volumetric risk through the use of fixed customer

1 charges on customer rates. The use of fixed charges in rate design is also  
2 common across the industry.

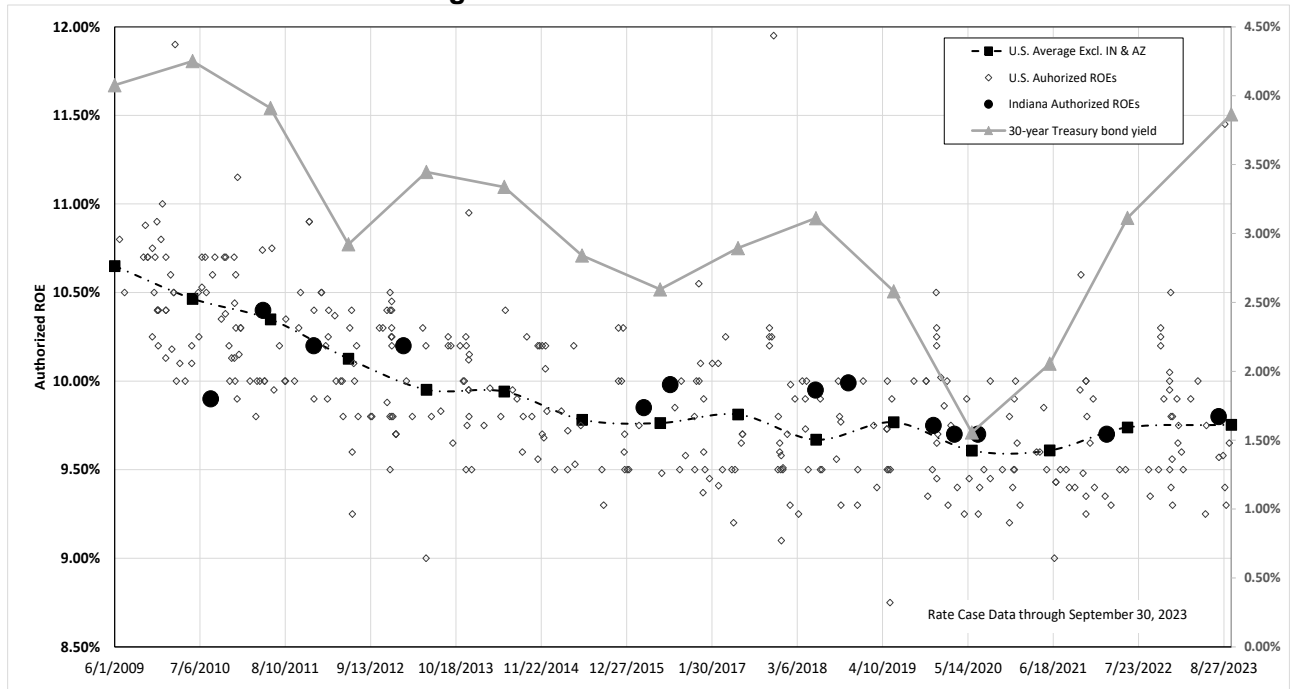
3 3. Capital Cost Recovery: As discussed, CEI South can recover a portion of its  
4 capital investment costs between rate cases through its TDSIC, ECA and  
5 CECA trackers. This is consistent with the operating companies held by the  
6 proxy group where 56 out of 83 (approximately 67%) have some form of capital  
7 cost recovery mechanism in place.

## 8 2. Comparable Return / Authorized ROEs

9 **Q. HOW DO RECENT AUTHORIZED RETURNS IN INDIANA COMPARE TO THE**  
10 **AUTHORIZED RETURNS IN OTHER JURISDICTIONS?**

11 A. The authorized ROEs for electric utilities in Indiana, while partially the result of  
12 settlement agreements approved by the Commission, have historically been above  
13 the average authorized ROEs for vertically-integrated electric utilities across the U.S.  
14 **Figure AEB-7** shows the authorized returns for vertically-integrated electric utilities in  
15 other jurisdictions since June 2009, the returns authorized in Indiana for electric  
16 companies, and the yield on the 30-year Treasury bond. As shown **Figure AEB-7**, the  
17 authorized returns for electric utilities in Indiana have historically been in the mid- to  
18 upper range of the authorized ROEs from other state jurisdictions. The 2023  
19 authorized ROE for Northern Indiana Public Service Company (“NIPSCO”), which was  
20 the most recent authorized ROE in Indiana, was slightly higher than the recent  
21 historical ROEs issued in Indiana, and was at the national average for that time-period.

**Figure AEB-7 – Comparison of Indiana and U.S. Authorized Vertically Integrated Electric Returns<sup>49</sup>**



1 **Q. HOW SHOULD THE COMMISSION CONSIDER RECENTLY AUTHORIZED ROES**  
 2 **IN ITS DETERMINATION OF THE ROE FOR CEI SOUTH?**

3 A. While historical authorized ROEs provide investors with a range of recent returns, it is  
 4 important to recognize the effect of the recent change in market conditions on the  
 5 investor-required return. The Commission should recognize that authorized ROEs are  
 6 of significant concern to equity investors. In addition, as noted in Sections IV and VI,  
 7 interest rates have been increasing recently, even since the Commission issued its  
 8 decision on the NIPSCO case. Further, there is an expectation that interest rates will  
 9 remain elevated due to inflation and the Federal Reserve's normalization of monetary  
 10 policy, which is expected to remain restrictive for some time.

11 **Q. DO CREDIT RATING AGENCIES CONSIDER THE AUTHORIZED ROE IN THE**  
 12 **OVERALL RISK ASSESSMENT OF A UTILITY?**

13 A. Yes, they do. To the extent that the returns in a jurisdiction are lower than the returns  
 14 that have been authorized more broadly, credit rating agencies will consider this in the  
 15 overall risk assessment of the regulatory jurisdiction in which the company operates.  
 16 It is important to consider credit ratings because they affect the overall cost of

<sup>49</sup> S&P Capital IQ Pro.

1 borrowing, and they act as a signal to equity investors about the risk of investing in the  
2 equity of a company. Therefore, lower credit ratings can affect both the cost of debt  
3 and equity. Examples of recent credit rating agency responses include ALLETE, Inc.,  
4 and PNW. Moody’s downgraded ALLETE, Inc. from A3 to Baa1 primarily based on the  
5 less than favorable outcome in Minnesota Power’s 2016 fully litigated rate case in  
6 Minnesota which included what Moody’s noted was a below average authorized ROE  
7 of 9.25%.<sup>50</sup> In addition, FitchRatings recently downgraded and maintained a negative  
8 outlook for APS and its parent, PNW, following the hearings conducted by the Arizona  
9 Corporation Commission (“ACC”) in October 2021 regarding APS’s then current rate  
10 case proceeding.<sup>51</sup> While the ACC had not issued a final order in APS’s rate case at  
11 the time, FitchRatings noted that the developments at the hearing in October indicate  
12 a likely credit negative outcome that will negatively affect the financial metrics of both  
13 APS and PNW. It is also important to note that both Standard & Poor’s and Moody’s  
14 downgraded PNW’s and APS’s credit rating and put the companies on credit watch  
15 negative following the Commission’s November 2021 vote that officially authorized the  
16 8.70% ROE.<sup>52</sup>

17 **Q. HOW SHOULD THE COMMISSION USE THE INFORMATION REGARDING**  
18 **AUTHORIZED ROES IN OTHER JURISDICTIONS IN DETERMINING THE ROE**  
19 **FOR CEI SOUTH?**

20 A. The companies in the proxy group operate in multiple jurisdictions across the U.S.  
21 Since CEI South must compete directly for capital with investments of similar risk, it is  
22 appropriate to review the authorized ROEs in other jurisdictions. The comparison is  
23 important because investors are considering the authorized returns across the U.S.  
24 and are likely to invest equity in those utilities with the highest returns. However, when  
25 reviewing this data, it is important to recognize that the authorized ROEs are based  
26 on the market conditions at the time of the rate proceeding. Therefore, while it is  
27 reasonable to review this data, it is important to consider differences in market  
28 conditions and the investor required return at the time that the ROE was authorized.

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<sup>50</sup> Moody’s Investors Service, “Credit Opinion: ALLETE, Inc. Update following downgrade,” at 3 (April 3, 2019).

<sup>51</sup> FitchRatings, “Fitch Downgrades Pinnacle West Capital & Arizona Public Service to 'BBB+'; Outlooks Remain Negative,” October 12, 2021.

<sup>52</sup> See S&P Capital IQ and Moody’s Investors Service, “Rating Actions: Moody’s downgrades Pinnacle West to Baa1 and Arizona Public Service to A3; outlook negative,” (Nov. 17, 2021).

1 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE PERCEIVED RISKS**  
2 **RELATED TO THE INDIANA REGULATORY ENVIRONMENT?**

3 A. As discussed throughout this section of my testimony, both Moody’s and S&P have  
4 identified the supportiveness of the regulatory environment as an important  
5 consideration in developing their overall credit ratings for regulated utilities.  
6 Considering the regulatory adjustment mechanisms, many of the companies in the  
7 proxy group have cost recovery mechanisms that are similar to those implemented by  
8 CEI South (through forecasted test years, cost recovery trackers, and revenue  
9 stabilization mechanisms) in Indiana. For that reason, I conclude that the regulatory  
10 risks for CEI South are generally comparable to the proxy group.

11 **D. Small Size Risk**

12 **Q. IS THERE A RISK TO A FIRM ASSOCIATED WITH SMALL SIZE?**

13 A. Yes. Both the financial and academic communities have concluded that the cost of  
14 equity for small firms is subject to a “size effect.” While empirical evidence of the size  
15 effect often is based on studies of industries other than regulated utilities, utility  
16 analysts also have noted the risk associated with small market capitalizations.  
17 Specifically, an analyst for Ibbotson Associates noted:

18 For small utilities, investors face additional obstacles, such as a smaller  
19 customer base, limited financial resources, and a lack of diversification  
20 across customers, energy sources, and geography. These obstacles  
21 imply a higher investor return.<sup>53</sup>

22 **Q. HOW DOES THE SMALLER SIZE OF A UTILITY AFFECT ITS BUSINESS RISK?**

23 A. In general, smaller companies are less able to withstand adverse events that affect  
24 their revenues and expenses. The impact of weather variability, the loss of large  
25 customers to bypass opportunities, or the destruction of demand as a result of general  
26 macroeconomic conditions or fuel price volatility will have a proportionately greater  
27 impact on the earnings and cash flow volatility of smaller utilities. Similarly, capital  
28 expenditures for non-revenue producing investments, such as system maintenance  
29 and replacements, will put proportionately greater pressure on customer costs,

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<sup>53</sup> Annin, Michael. “Equity and the Small-Stock Effect.” Public Utilities Fortnightly, October 15, 1995.

1 potentially leading to customer attrition or demand reduction. Taken together, these  
2 risks affect the return required by investors for smaller companies.

3 **Q. HOW DOES CEI SOUTH'S UTILITY OPERATIONS IN INDIANA COMPARE IN SIZE**  
4 **TO THE PROXY GROUP COMPANIES?**

5 A. The Company's utility operations are substantially smaller than the median for the  
6 proxy group companies in terms of market capitalization. While CEI South is not  
7 publicly traded on a stand-alone basis, as shown on Petitioner's Exhibit No. 13,  
8 **Attachment AEB-2**, Schedule 11, I have estimated the implied market capitalization  
9 for the Company (i.e., the market capitalization if the Company were a stand-alone  
10 publicly traded entity) relative to the actual market capitalization for the proxy group  
11 companies.

12 Specifically, to estimate the size of the Company's implied market capitalization  
13 relative to the proxy group, I first calculated the equity component of the Company's  
14 capital structure by multiplying the Company's rate base for the Test Year of \$2,820  
15 million<sup>54</sup> by the Company's projected common equity ratio in this proceeding of 55%.  
16 I then applied the median market-to-book ratio for the proxy group of 1.58 to the  
17 Company's implied common equity balance to estimate an implied market  
18 capitalization, which is approximately \$2,444 million, or approximately 19.12% of the  
19 median market capitalization for the proxy group.

20 **Q. HOW DID YOU ESTIMATE THE SIZE PREMIUM FOR CEI SOUTH?**

21 A. Given this relative size information, it is possible to estimate the impact of size on the  
22 cost of equity for the Company using *Kroll* Cost of Capital Navigator data that  
23 estimates the stock risk premia based on the size of a company's market  
24 capitalization.<sup>55</sup> As shown on Petitioner's Exhibit No. 13, Attachment AEB-2,  
25 Schedule 12, the median market capitalization of the proxy group is approximately  
26 \$12.78 billion, which corresponds to the second decile of *Kroll's* market capitalization  
27 data.<sup>56</sup> Based on *Kroll's* analysis, that decile corresponds to a size premium of 0.45%  
28 (i.e., 45 basis points). In comparison, the Company's implied market capitalization of  
29 approximately \$2,444 million falls within the sixth decile, which corresponds to a size

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<sup>54</sup> Petitioner's Exhibit No. 20, Schedule A-1.

<sup>55</sup> *Kroll* Cost of Capital Navigator – Size Premium; annual data as of January 31, 2023.

<sup>56</sup> *Id.*

1 premium of 1.16% (i.e., 116 basis points). The difference between the size premium  
2 for the Company and the size premium for the proxy group is 71 basis points (i.e.,  
3 1.16% minus 0.45%).

4 **Q. WERE UTILITY COMPANIES INCLUDED IN THE SMALL SIZE RISK PREMIUM**  
5 **STUDY CONDUCTED BY KROLL?**

6 A. Yes. As shown in Exhibit 7.2 of the *Kroll* (formerly *Duff & Phelps*) 2019 Valuation  
7 Handbook, OGE Energy Corp. had the largest market capitalization of the companies  
8 contained in the fourth decile, which indicates that Kroll has included utility companies  
9 in its size risk premium study.<sup>57</sup>

10 **Q. IS THE SIZE PREMIUM APPLICABLE TO COMPANIES IN REGULATED**  
11 **INDUSTRIES SUCH AS UTILITIES?**

12 A. Yes. For example, Zepp (2003) provided the results of two studies that showed  
13 evidence of the required risk premium for small water utilities. The first study, which  
14 was conducted by the Staff of the California Public Utilities Commission, computed  
15 proxies for beta risk using accounting data from 1981 through 1991 for 58 water utilities  
16 and concluded that smaller water utilities had greater risk and required higher returns  
17 on equity than larger water utilities.<sup>58</sup> The second study examined the differences in  
18 required returns over the period of 1987 through 1997 for two large and two small  
19 water utilities in California. As Zepp (2003) showed, the required return for the two  
20 small water utilities calculated using the DCF model was on average 99 basis points  
21 higher than the two larger water utilities.<sup>59</sup>

22 Additionally, Chrétien and Coggins (2011) studied the CAPM and its ability to estimate  
23 the risk premium for the utility industry, and in particular subgroups of utilities.<sup>60</sup> The  
24 article considered the CAPM, the Fama-French three-factor model, and a model  
25 similar to the ECAPM, which as previously discussed, I have also considered in  
26 estimating the cost of equity for the Company. In the study, the Fama-French three-  
27 factor model explicitly included an adjustment to the CAPM for risk associated with  
28 size. As Chrétien and Coggins (2011) show, the beta coefficient on the size variable

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<sup>57</sup> *Kroll*. Valuation Handbook: Guide to Cost of Capital. 2019, Exhibit 7.2.

<sup>58</sup> Zepp, Thomas M. "Utility Stocks and the Size Effect—Revisited." *The Quarterly Review of Economics and Finance*, Vol. 43, No. 3, 2003 at 578–582.

<sup>59</sup> *Id.*

<sup>60</sup> Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." *Energy Studies Review*, Vol. 18, No. 2, 2011.

1 for the U.S. utility group was positive and statistically significant indicating that small  
2 size risk was relevant for regulated utilities.<sup>61</sup>

3 **Q. HAVE REGULATORS IN OTHER JURISDICTIONS MADE A SPECIFIC RISK**  
4 **ADJUSTMENT TO THE COST OF EQUITY RESULTS BASED ON A COMPANY’S**  
5 **SMALL SIZE?**

6 A. Yes. For example, in Order No. 15, the Regulatory Commission of Alaska (“RCA”)  
7 concluded that Alaska Electric Light and Power Company (“AEL&P”) was riskier than  
8 the proxy group companies due to small size as well as other business risks. The RCA  
9 did “not believe that adopting the upper end of the range of ROE analyses in this case,  
10 without an explicit adjustment, would adequately compensate AEL&P for its greater  
11 risk.”<sup>62</sup> Thus, the RCA awarded AEL&P an ROE of 12.875%, which was 108 basis  
12 points above the highest cost of equity estimate from any model presented in the  
13 case.<sup>63</sup> Similarly, the RCA has also noted that small size, as well as other business  
14 risks such as structural regulatory lag, weather risk, alternative rate mechanisms, gas  
15 supply risk, geographic isolation and economic conditions, increased the risk of  
16 ENSTAR Natural Gas Company.<sup>64</sup> Ultimately, the RCA concluded that:

17 Although we agree that the risk factors identified by ENSTAR increase  
18 its risk, we do not attempt to quantify the amount of that increase.  
19 Rather, we take the factors into consideration when evaluating the  
20 remainder of the record and the recommendations presented by the  
21 parties. After applying our reasoned judgment to the record, we find  
22 that 11.875% represents a fair ROE for ENSTAR.<sup>65</sup>

23 Additionally, the Minnesota Public Utilities Commission (“Minnesota PUC”) authorized  
24 an ROE for Otter Tail Power Company (“Otter Tail”) above the mean DCF results as  
25 a result of multiple factors, including Otter Tail’s small size. The Minnesota PUC stated:

26 The record in this case establishes a compelling basis for selecting an  
27 ROE above the mean average within the DCF range, given Otter Tail’s  
28 unique characteristics and circumstances relative to other utilities in the  
29 proxy group. These factors include the company’s relatively smaller

---

<sup>61</sup> *Id.*

<sup>62</sup> Regulatory Commission of Alaska, Docket No. U-10-29, Order No. 15, September 2, 2011, p. 37.

<sup>63</sup> *Id.* at 32 and 37.

<sup>64</sup> Regulatory Commission of Alaska, Docket No. U-16-066, Order No. 19, September 22, 2017, p. 50-52.

<sup>65</sup> *Id.*



1 size, geographically diffuse customer base, and the scope of the  
2 Company’s planned infrastructure investments.<sup>66</sup>

3 Finally, in Opinion Nos. 569 and 569-A, the Federal Energy Regulatory Commission  
4 (“FERC”) adopted a size premium adjustment in its CAPM estimates for electric  
5 utilities. In those decisions, the FERC noted that “the size adjustment was necessary  
6 to correct for the CAPM’s inability to fully account for the impact of firm size when  
7 determining the cost of equity.”<sup>67</sup>

8 **Q. HOW HAVE YOU CONSIDERED THE SMALLER SIZE OF CEI SOUTH IN YOUR  
9 RECOMMENDATION OF THE COMPANY’S ROE IN THIS PROCEEDING?**

10 A. While I have estimated the effect of CEI South’s small size on the cost of equity, I am  
11 not proposing a specific adjustment for this risk factor. Rather, I believe it is important  
12 to consider the small size of the Company’s utility operations in the determination of  
13 where, within the range of analytical results, CEI South’s required cost of equity falls.  
14 All else equal, the additional risk associated with the Company’s small size supports  
15 an ROE toward the upper end of the range of results from the cost of equity estimation  
16 models.

17 **E. Customer Concentration**

18 **Q. PLEASE SUMMARIZE CEI SOUTH’S CUSTOMER CONCENTRATION RISK.**

19 A. As noted above, CEI South serves approximately 150,000 customers in southwestern  
20 Indiana near Evansville. The Company’s service area is in southwestern Indiana,  
21 where most of CEI South’s industrial customers are in the manufacturing industry,  
22 which represents a large portion of the economy and supports the Company’s  
23 commercial and residential customers. Approximately 42% of CEI South’s total  
24 company utility electric sales in 2022 were derived from industrial customers.  
25 Moreover, as also shown in **Figure AEB-8Error! Reference source not found.**, CEI

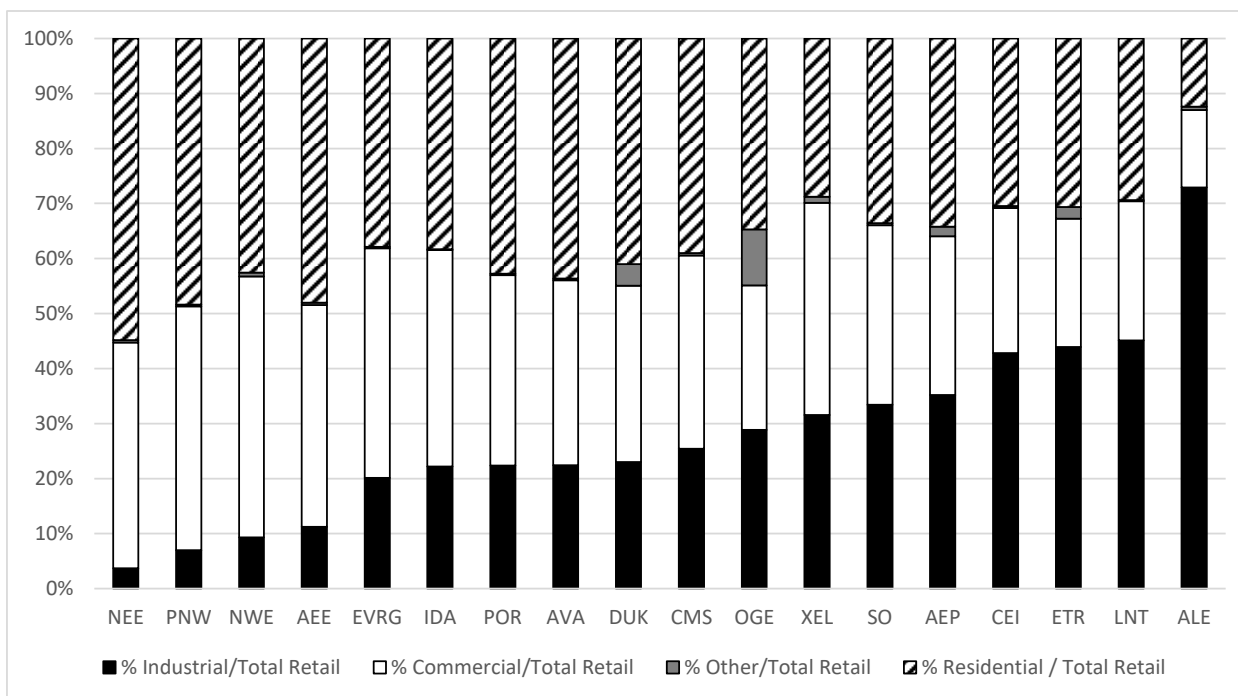
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<sup>66</sup> Minnesota Public Utilities Commission, Docket No. E017/GR-15-1033, Order, August 16, 2016, p. 55.

<sup>67</sup> *Ass’n. of Businesses Advocating Tariff Equity, et. al., v. Midcontinent Indep. Sys. Operator, Inc., et. al.*, 171 FERC ¶ 61,154 (2020) at ¶ 75. The U.S. Court of Appeals recently vacated FERC Order No. 569 decisions that related to its risk premium model and remanded the case to FERC to reopen the proceedings. However, in its decision, the Court did not reject FERC’s inclusion of the size premium to estimate the CAPM. (See United States Court of Appeals Case No. 16-1325, Decision No. 16-1325, August 9, 2022, p. 20).

1 South’s commercial and industrial sales as a percentage of total retail electric sales  
 2 was 69.20%, which was higher than all but three of the proxy group companies.

**Figure AEB-8 – Customer Concentration<sup>68</sup>**



3 **Q. HOW DOES CUSTOMER CONCENTRATION AND THE COMPANY’S SERVICE**  
 4 **TERRITORY AFFECT BUSINESS RISK?**

5 A. An extremely high concentration of industrial customers results in higher business risk.  
 6 Since the customers are large, they can represent a significant portion of a company’s  
 7 sales, which could be lost if a customer goes out of business. Moreover, the loss of  
 8 large industrial customers would have an effect on the local economy, which would  
 9 ultimately also affect the sales to residential and commercial customers. As noted by  
 10 Dhaliwal, Judd, Serfling, and Shaikh (2015):

11 Depending on a major customer for a large portion of sales can be  
 12 risky for a supplier for two primary reasons. First, a supplier faces  
 13 the risk of losing substantial future sales if a major customer  
 14 becomes financially distressed or declares bankruptcy, switches to  
 15 a different supplier, or decides to develop products internally.  
 16 Consistent with this notion, Hertz et al. (2008) and Kolay et al.  
 17 (2015) document negative supplier abnormal stock returns to the  
 18 announcement that a major customer declares bankruptcy. Further,  
 19 a customer’s weak financial condition or actions could signal

<sup>68</sup> S&P Capital IQ Pro - Other sales includes: Total Public Street and Highway Lighting, Other Sales to Public Authorities, Sales to Railroad and Railways, and Interdepartmental Sales.

1 inherent problems about the supplier's viability to its remaining  
2 customers and lead to compounding losses in sales. Second, a  
3 supplier faces the risk of losing anticipated cash flows from being  
4 unable to collect outstanding receivables if the customer goes  
5 bankrupt. This assertion is consistent with the finding that suppliers  
6 offering customers more trade credit experience larger negative  
7 abnormal stock returns around the announcement of a customer  
8 filing for Chapter 11 bankruptcy (Jorion and Zhang, 2009; Kolay et  
9 al., 2015).<sup>69</sup>

10 Therefore, a company that has a high degree of customer concentration will be  
11 inherently riskier than a company that derived income from a larger customer base.  
12 Furthermore, as Dhaliwal, Judd, Serfling, and Shaik (2015) detail in the study, the  
13 increased risk associated with a more concentrated customer base will have the effect  
14 of increasing a company's cost of equity.<sup>70</sup>

15 **Q. PLEASE DESCRIBE HOW CHANGES IN ECONOMIC CONDITIONS AND THE**  
16 **INTERDEPENDENT NATURE OF CEI SOUTH'S SERVICE TERRITORY CAN**  
17 **AFFECT ITS BUSINESS RISK?**

18 A. While CEI South does not depend on any one major customer, CEI South has a high  
19 concentration of industrial customers. Approximately 84% of CEI South's industrial  
20 customer segment are manufacturing businesses, which are responsive to economic  
21 conditions and competition.<sup>71</sup>

22 **Q. WHAT IS YOUR CONCLUSION REGARDING THE COMPANY'S CUSTOMER**  
23 **CONCENTRATION AND ITS EFFECT ON THE COST OF EQUITY FOR CEI**  
24 **SOUTH?**

25 A. CEI South is heavily reliant on sales to industrial customers, and this concentration is  
26 higher than all but three of the proxy group companies. A high degree of customer  
27 concentration increases CEI South's risk related to customer migration, changes in  
28 economic conditions and competition. This risk is greater in CEI South's service  
29 territory because the residential and commercial customers rely on the success of the  
30 manufacturing industry for sales and employment. Increased customer and economic  
31 diversity decreases the effect that any one customer or industry can have on a

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<sup>69</sup> Dhaliwal, Dan S., J. Scott Judd, Matthew A. Serfling, and Sarah Shaikh. "Customer Concentration Risk and the Cost of Equity Capital." *Journal of Accounting and Economics*. March 23, 2015 at 1-2.

<sup>70</sup> *Id.* at 4.

<sup>71</sup> Company provided data.

1 company’s sales. Thus, CEI South’s service territory, where industrial customers  
2 represent a large portion of electric sales and commercial and residential customers  
3 rely economically on the success of the one industry segment, implies that CEI South  
4 has an above average risk profile when compared to the companies in the proxy group.

5 **VIII. CAPITAL STRUCTURE**

6 **Q. IS THE CAPITAL STRUCTURE OF THE COMPANY AN IMPORTANT**  
7 **CONSIDERATION IN THE DETERMINATION OF THE APPROPRIATE ROE?**

8 A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such  
9 as CEI South. All else equal, a higher debt ratio increases the risk to equity investors.  
10 For debt holders, higher debt ratios result in a greater portion of the available cash  
11 flow being required to meet debt service, thereby increasing the risk associated with  
12 the payments on debt. The result of increased risk is a higher interest rate. The  
13 incremental risk of a higher debt ratio is more significant for common equity  
14 shareholders, whose claim on the cash flow of the Company is secondary to debt  
15 holders. Therefore, the greater the debt service requirement, the less cash flow  
16 available for common equity holders. To the extent the authorized equity ratio is  
17 reduced, it is necessary to increase the authorized ROE to compensate investors for  
18 the greater financial risk associated with a lower equity ratio.

19 **Q. WHAT IS CEI SOUTH’S PROJECTED CAPITAL STRUCTURE?**

20 A. The Company is proposing a capital structure composed of 55% equity and 45% long-  
21 term debt.<sup>72</sup>

22 **Q. DID YOU CONDUCT ANY ANALYSIS TO DETERMINE IF THIS REQUESTED**  
23 **EQUITY RATIO WAS REASONABLE?**

24 A. Yes. I compared the Company’s projected capital structure relative to the actual capital  
25 structures of the utility operating subsidiaries of the companies in the proxy group.  
26 Since the ROE is set based on the return that is derived from the risk-comparable  
27 proxy group, it is reasonable to look to the average capital structure for the proxy group  
28 to benchmark the equity ratios for the Company.

---

<sup>72</sup> The referenced capital structure is based on investor-supplied capital and does not include cost-free sources of funds.

1 **Q. PLEASE DISCUSS YOUR ANALYSIS OF THE CAPITAL STRUCTURES OF THE**  
2 **PROXY GROUP COMPANIES.**

3 A. I calculated the average proportion of common equity, long-term debt, and preferred  
4 equity for the most recent eight quarters (Q3/2021 – Q2/2023) for each of the utility  
5 operating subsidiaries of the proxy group companies. As shown on Petitioner’s Exhibit  
6 No. 13, Attachment AEB-2, Schedule 12, the average common equity ratio for the  
7 operating subsidiaries of the proxy group companies ranged from 45.30% to 60.41%,  
8 with an average of 52.06%. Given that CEI South’s projected equity ratio of 55% is  
9 well within the range of equity ratios for the utility operating subsidiaries of the proxy  
10 group companies, I consider its projected equity ratio to be reasonable.

11 **Q. ARE THERE OTHER FACTORS TO BE CONSIDERED IN SETTING THE**  
12 **COMPANY’S CAPITAL STRUCTURE?**

13 A. Yes, there are other factors that should be considered in setting the Company’s capital  
14 structure, specifically the challenges that the credit rating agencies have highlighted  
15 as placing pressure on the outlook for utilities and the imputed debt that results from  
16 the Company’s purchased power agreements (“PPAs”).

17 Regarding the challenges for the industry overall, while Moody’s recently revised its  
18 outlook for the utility sector from “negative” to “stable,” Moody’s continues to note that  
19 high interest rates and increased capital spending will place pressure on credit metrics,  
20 noting that constructive regulatory outcomes that promote timely cost recovery are a  
21 key factor in supporting utility credit quality.<sup>73</sup>

22 FitchRatings also highlights similar factors identified by Moody’s as challenging  
23 utilities’ outlook for 2023, stating that the sector faces mounting cost pressures due to  
24 “elevated commodity prices, inflationary headwinds and rising interest costs,” and that  
25 some offsets in managing these headwinds include “higher authorized ROEs and the  
26 use of tools such as securitization of under-recovered fuel balances.”<sup>74</sup>

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<sup>73</sup> Moody’s Investors Service, Outlook. “Outlook turns stable on low natural gas prices and credit-supportive regulation.” September 7, 2023.

<sup>74</sup> FitchRatings. “North American Utilities, Power & Gas Outlook 2023.” December 7, 2022 at 1-2.

1 Likewise, while S&P also recently revised its outlook for the industry from negative to  
2 stable, S&P continues to see significant risks over the near term for the industry as a  
3 result of inflation and increased levels of capital spending. Specifically, S&P noted:

4           Despite the improvement in economic data, we expect inflation, rising  
5 interest rates, higher capital spending, and the strategic decision by  
6 many companies to operate with only minimal financial cushion from  
7 their downgrade thresholds to continue to pressure the industry's credit  
8 quality. Throughout 2022 and so far in 2023, the Federal Reserve has  
9 consistently raised interest rates to reduce the pace of inflation. While  
10 these actions appear to have had a positive effect on slowing inflation,  
11 there's still been a modest weakening in the industry's financial  
12 measures because of inflation and rising interest rates. An environment  
13 of continuously rising costs tends to weaken the industry's financial  
14 measures because of the timing difference between when the higher  
15 costs are incurred and when they are ultimately recovered from  
16 ratepayers.<sup>75</sup>

17 The credit ratings agencies' continued concerns over the negative effects of inflation,  
18 higher interest rates, and increased capital expenditures underscore the importance  
19 of maintaining adequate cash flow metrics for CEI South in the context of this  
20 proceeding.

21 **Q. HOW DO THE RATING AGENCIES ADDRESS PPAS?**

22 A. S&P notes in their rating methodology that they may view long-term PPAs as debt-like  
23 financial obligations that represent substitutes for debt-financed capital investments in  
24 generation. S&P may adjust the company's debt obligations by considering a portion  
25 of the contractual payment for the lease liabilities that resides with ratepayers. If no  
26 such obligation exists, then the lease liability may be added to debt at the present  
27 value of the PPA capacity payments.<sup>76</sup>

28 Moody's approximates the debt equivalent for PPAs by considering several factors,  
29 including the portion of a PPA that will be recovered in rates, the annual obligation  
30 resulting from the PPA, the net present value of the PPA payments, debt look-through  
31 or consolidation, which considers the debt incurred by the power producer that may

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<sup>75</sup> S&P Global Ratings. "The Outlook for North American Regulated Utilities Turns Stable," May 18, 2023, p. 8.

<sup>76</sup> S&P Corporate Methodology: Ratios and Adjustments.

1 be allocated to the utility through the PPA, and mark-to-market analysis to determine  
2 if the PPA is out of the money.<sup>77</sup>

3 **Q. WHAT IS THE RISK TO CEI SOUTH’S CREDIT METRICS AS A RESULT OF PPAS?**

4 A. Entering into long-term PPAs creates a long-term liability that the rating agencies  
5 evaluate and may consider to be consistent with debt liabilities. Increasing the amount  
6 of imputed debt resulting from PPAs will decrease the overall financial flexibility of the  
7 Company, similar to increasing leverage and can weaken credit metrics and ultimately  
8 the Company’s credit ratings. This will increase costs to customers.

9 **IX. COST OF DEBT**

10 **Q. WHAT COST OF DEBT HAS THE COMPANY REQUESTED IN THIS**  
11 **PROCEEDING?**

12 A. As shown in Petitioner’s Exhibit No. 20, Schedule D-1, the Company’s requested cost  
13 of debt is 5.12%.

14 **Q. HAVE YOU EVALUATED THE REASONABLENESS OF THE COMPANY’S COST**  
15 **OF DEBT?**

16 A. Yes. As shown in Petitioner’s Exhibit No. 13, Attachment AEB-2, Schedule 13, I have  
17 evaluated the reasonableness of the Company’s cost of debt, excluding amortization  
18 of issuance costs, by reviewing the yield on equivalent debt at the time of issuance for  
19 each of the Company’s existing debt issuances.<sup>78</sup> At the time of each debt issuance, I  
20 have compared the debt cost of each of the Company’s issuances to the Moody’s A  
21 and Baa-rated utility bond index and calculated the difference between the interest  
22 rates on the issuances and the yields on these indexes. As shown in **Attachment**  
23 **AEB-2**, Schedule 13, this analysis demonstrates that the yields on the Company’s  
24 existing long-term debt issuances have generally been within the range established  
25 by the yields on the Moody’s utility bond indices at the time of issuance.<sup>79</sup>

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<sup>77</sup> Moody’s “Rating Methodology for Regulated Electric and Gas Utilities.”

<sup>78</sup> The cost of debt was evaluated against the Moody’s utility benchmark indices. Because issuance costs are not included in the indices, the cost of debt considered was excluding the amortization of the issuance costs.

<sup>79</sup> The Moody’s utility bond yields were calculated using a 30-day average as of the issued date of the debt instrument.

1 **X. CONCLUSIONS AND RECOMMENDATIONS**

2 **Q. WHAT IS YOUR CONCLUSION REGARDING A FAIR ROE FOR CEI SOUTH?**

3 A. Based on the quantitative and qualitative analyses presented in my direct testimony  
4 and summarized previously in **Figure AEB-6**, and the business and financial risks of  
5 the Company as compared to the proxy group, and the current and prospective capital  
6 market conditions, I recommend an ROE of 10.60% for the Company. As discussed  
7 in the testimony of Petitioner’s Witness Leger, however, taking into consideration the  
8 affordability for customers of the overall revenue requirement, the Company is  
9 requesting an ROE of 10.40%.

10 **Q. WHAT IS YOUR CONCLUSION WITH RESPECT TO THE COMPANY’S**  
11 **PROJECTED CAPITAL STRUCTURE AND COST OF DEBT?**

12 A. My conclusion is that CEI South’s proposal to establish a capital structure consisting  
13 of 55% common equity and 45% long-term debt<sup>80</sup> is reasonable when compared to  
14 the capital structures of the utility operating subsidiaries of the proxy group companies  
15 and taking in consideration the effect of inflation and increased capital expenditures  
16 on the cash flows, and therefore should be adopted. The Company’s cost of debt for  
17 each issuance has generally been within the range established by the yield on the  
18 Moody’s A and Moody’s Baa rated utility bond indexes at the time of issuance and is  
19 therefore reasonable.

20 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

21 A. Yes, it does.

---

<sup>80</sup> This capital structure considers only investor-supplied capital and does not include any cost-free capital sources.



**APPENDIX A**1           **A.           Constant Growth DCF Model**2           **Q.           PLEASE DESCRIBE THE DCF APPROACH.**

3           A.           The DCF approach is based on the theory that a stock’s current price represents the  
4           present value of all expected future cash flows. In its most general form, the DCF  
5           model is expressed as follows:

$$6 \qquad P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \qquad [1]$$

7           Where  $P_0$  represents the current stock price,  $D_1...D_\infty$  are all expected future  
8           dividends, and  $k$  is the discount rate, or required ROE. Equation [1] is a standard  
9           present value calculation that can be simplified and rearranged into the following form:

$$10 \qquad k = \frac{D_0(1+g)}{P_0} + g \qquad [2]$$

11           Equation [2] is often referred to as the constant growth DCF model in which the first  
12           term is the expected dividend yield and the second term is the expected long-term  
13           growth rate.

14           **Q.           WHAT ASSUMPTIONS ARE REQUIRED FOR THE CONSTANT GROWTH DCF  
15           MODEL?**

16           A.           The constant growth DCF model requires the following four assumptions: (1) a  
17           constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3)  
18           a constant price-to-earnings ratio; and (4) a discount rate greater than the expected  
19           growth rate. To the extent that any of these assumptions are violated, considered  
20           judgment and/or specific adjustments should be applied to the results.

21           **Q.           WHAT MARKET DATA DO YOU USE TO CALCULATE THE DIVIDEND YIELD IN  
22           YOUR CONSTANT GROWTH DCF MODEL?**

23           A.           The dividend yield in my constant growth DCF model is based on the proxy group  
24           companies’ current annual dividend and average closing stock prices over the 30-,  
25           90-, and 180-trading days ended September 30, 2023.

1 **Q. WHY DO YOU USE 30-, 90-, AND 180-DAY AVERAGING PERIODS?**

2 A. I use an average of recent trading days to calculate the term  $P_0$  in the DCF model to  
3 reflect current market data while also ensuring that the result of the model is not  
4 skewed by anomalous events that may affect stock prices on any given trading day.

5 **Q. DID YOU MAKE ANY ADJUSTMENTS TO THE DIVIDEND YIELD TO ACCOUNT**  
6 **FOR PERIODIC GROWTH IN DIVIDENDS?**

7 A. Yes. Because utility companies tend to increase their quarterly dividends at different  
8 times throughout the year, it is reasonable to assume that dividend increases will be  
9 evenly distributed over calendar quarters. Given that assumption, it is reasonable to  
10 apply one-half of the expected annual dividend growth rate for purposes of calculating  
11 the expected dividend yield component of the DCF model. This adjustment ensures  
12 that the expected first-year dividend yield is, on average, representative of the coming  
13 twelve-month period, and does not overstate the aggregated dividends to be paid  
14 during that time.

15 **Q. WHY IS IT IMPORTANT TO SELECT APPROPRIATE MEASURES OF LONG-**  
16 **TERM GROWTH IN APPLYING THE DCF MODEL?**

17 A. In its constant growth form, the DCF model (i.e., Equation [2]) assumes a single growth  
18 estimate in perpetuity. To reduce the long-term growth rate to a single measure, one  
19 must assume that the payout ratio remains constant and that earnings per share,  
20 dividends per share and book value per share all grow at the same constant rate. Over  
21 the long run, however, dividend growth can only be sustained by earnings growth.  
22 Therefore, it is important to incorporate a variety of sources of long-term earnings  
23 growth rates into the constant growth DCF model.

24 **Q. WHICH SOURCES OF LONG-TERM EARNINGS GROWTH RATES DID YOU USE?**

25 A. My constant growth DCF model incorporates three sources of long-term earnings per  
26 share (“EPS”) growth rates: (1) *Zacks Investment Research* (“Zacks”); (2) Yahoo!  
27 Finance; and (3) *Value Line*.

28 **Q. WHY ARE EPS GROWTH RATES THE APPROPRIATE GROWTH RATES TO BE**  
29 **RELIED ON IN THE DCF MODEL?**

30 A. Earnings are the fundamental driver of a company’s ability to pay dividends; therefore,  
31 projected EPS growth is the appropriate measure of a company’s long-term growth. In

1 contrast, changes in a company’s dividend payments are based on management  
 2 decisions related to cash management and other factors. For example, a company may  
 3 decide to retain earnings rather than pay out a portion of those earnings to  
 4 shareholders through dividends. Therefore, dividend growth rates are less likely than  
 5 earnings growth rates to reflect accurately investor perceptions of a company’s growth  
 6 prospects.

7 **Q. HOW DID YOU CALCULATE THE RANGE OF RESULTS FOR THE CONSTANT**  
 8 **GROWTH DCF MODEL?**

9 A. I calculated the low-end result for the constant growth DCF model using the minimum  
 10 growth rate of the three sources (i.e., the lowest of the *Zacks*, Yahoo Finance, and  
 11 *Value Line* projected earnings growth rates) for each of the proxy group companies. I  
 12 used a similar approach to calculate a high-end result, using the maximum growth rate  
 13 of the three sources for each proxy group company. Lastly, I also calculated results  
 14 using the average growth rate from all three sources for each proxy group company.

15 **Q. WHAT ARE THE RESULTS OF YOUR DCF ANALYSES?**

16 A. **Figure AEB-9** summarizes the results of my DCF analyses.<sup>81</sup> As shown, the  
 17 mean/median DCF results using the average growth rates range from 9.83% to  
 18 10.17%, and the mean/median results using the maximum growth rates range from  
 19 10.88% to 11.22%. While I also summarize the mean DCF results using the minimum  
 20 growth rates, given the expected underperformance of utility stocks and thus the  
 21 likelihood that the DCF model is understating the cost of equity, I do not believe it is  
 22 appropriate to consider these DCF results at this time.

23 **Figure AEB-9 – Discounted Cash Flow Results**

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Average	9.02%	10.17%	11.15%
90-Day Average	8.86%	10.01%	10.98%
180-Day Average	8.76%	9.91%	10.88%
Average	8.88%	10.03%	11.00%
Median Results:			
30-Day Average	9.45%	10.12%	11.22%

<sup>81</sup> The DCF results are also shown on Petitioner’s Exhibit No. 13, Attachment AEB-2, Schedule 3.

90-Day Average	9.27%	9.95%	11.14%
180-Day Average	9.18%	9.83%	11.00%
Average	9.30%	9.97%	11.12%

1           **B.       CAPM and ECAPM Analysis**

2           **Q.       PLEASE BRIEFLY DESCRIBE THE CAPM.**

3           A.       The CAPM is a risk premium approach that estimates the cost of equity for a given  
4           security as a function of a risk-free return plus a risk premium to compensate investors  
5           for the non-diversifiable or “systematic” risk of that security. Systematic risk is the risk  
6           inherent in the entire market or market segment—which cannot be diversified away  
7           using a portfolio of assets. Unsystematic risk is the risk of a specific company that can,  
8           theoretically, be mitigated through portfolio diversification.

9           The CAPM is defined by four components, each of which must theoretically be a  
10          forward-looking estimate:

$$11 \qquad K_e = r_f + \beta(r_m - r_f) \qquad [3]$$

12          Where:

13                 $K_e$  = the required market ROE;

14                 $\beta$  = beta coefficient of an individual security;

15                 $r_f$  = the risk-free rate of return; and

16                 $r_m$  = the required return on the market.

17          In this specification, the term  $(r_m - r_f)$  represents the market risk premium. According  
18          to the theory underlying the CAPM, because unsystematic risk can be diversified  
19          away, investors should only be concerned with systematic or non-diversifiable risk.  
20          Non-diversifiable risk is measured by beta, which is defined as:

$$21 \qquad \beta = \frac{\text{Covariance}(r_e, r_m)}{\text{Variance}(r_m)} \quad [4]$$

22          The variance of the market return (i.e., Variance  $(r_m)$ ) is a measure of the uncertainty  
23          of the general market, and the Covariance between the return on a specific security  
24          and the general market (i.e., Covariance  $(r_e, r_m)$ ) reflects the extent to which the return

1 on that security will respond to a given change in the general market return. Thus, beta  
2 represents the risk of the security relative to the general market.

3 **Q. WHAT RISK-FREE RATE DO YOU USE IN YOUR CAPM ANALYSIS?**

4 A. I rely on three sources for my estimate of the risk-free rate: (1) the current 30-day  
5 average yield on 30-year U.S. Treasury bonds, which is 4.42%;<sup>82</sup> (2) the average  
6 projected 30-year U.S. Treasury bond yield for the first quarter of 2024 through the  
7 first quarter of 2025, which is 4.16%;<sup>83</sup> and (3) the average projected 30-year U.S.  
8 Treasury bond yield for 2025 through 2029, which is 3.80%.<sup>84</sup>

9 **Q. WHAT BETA COEFFICIENTS DID YOU USE IN YOUR CAPM ANALYSES?**

10 A. As shown on Petitioner’s Exhibit No. 13, Attachment AEB-2, Schedule 4, I use the  
11 beta coefficients for the proxy group companies as reported by Bloomberg and *Value*  
12 *Line*. The beta coefficients reported by Bloomberg are calculated using ten years of  
13 weekly returns relative to the S&P 500 Index. The *Value Line* beta coefficients are  
14 calculated based on five years of weekly returns relative to the New York Stock  
15 Exchange Composite Index. Additionally, as shown in **Attachment AEB-2**, Schedule  
16 4, I also consider an additional CAPM analysis that relies on the long-term average  
17 utility beta coefficient for the companies in my proxy group, which is calculated as an  
18 average of the *Value Line* beta coefficients for the companies in my proxy group from  
19 2013 through 2022.

20 **Q. HOW DO YOU ESTIMATE THE MARKET RISK PREMIUM IN THE CAPM?**

21 A. I estimate the market risk premium as the difference between the implied expected  
22 equity market return and the risk-free rate. As shown in Petitioner’s Exhibit No. 13,  
23 **Attachment AEB-2**, Schedule 6, the expected market return is calculated using the  
24 constant growth DCF model discussed previously as applied to the companies in the  
25 S&P 500 Index. Based on an estimated market capitalization-weighted dividend yield  
26 of 1.79% and a weighted long-term growth rate of 11.01%, the estimated required  
27 market return for the S&P 500 Index as of September 30, 2023 is 12.90%. Based on  
28 the three risk-free rates considered, the market risk premium ranges from 8.48% to  
29 9.10% as shown in Petitioner’s Exhibit No. 13, Attachment AEB-2, Schedule 4.

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<sup>82</sup> Bloomberg Professional as of September 30, 2023.

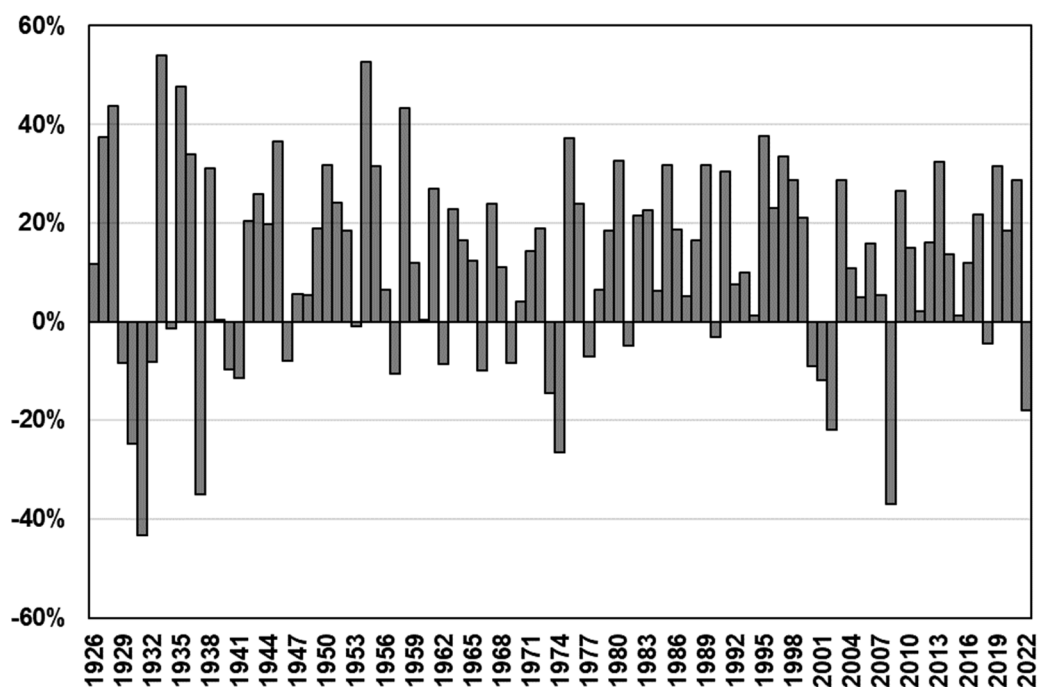
<sup>83</sup> *Blue Chip Financial Forecasts*, Vol. 42, No. 10, October 1, 2023 at 2.

<sup>84</sup> *Blue Chip Financial Forecasts*, Vol. 42, No. 6, June 1, 2023 at 14.

1 **Q. HOW DOES THE CURRENT EXPECTED MARKET RETURN COMPARE TO**  
 2 **OBSERVED HISTORICAL MARKET RETURNS?**

3 A. As shown in **Figure** , given the range of annual equity returns that have been observed  
 4 over the past century, a current expected market return of 12.90% is not unreasonable.  
 5 In 50 out of the past 97 years (or approximately 52% of observations), the realized  
 6 equity market return was at least 12.90% or greater.

**Figure AEB-10 – Realized U.S. Equity Market Returns (1926-2022)<sup>85</sup>**



7 **Q. DID YOU CONSIDER ANOTHER FORM OF THE CAPM IN YOUR ANALYSIS?**

8 A. Yes. I have also considered the results of an ECAPM in estimating the cost of equity  
 9 for the Company.<sup>86</sup> The ECAPM calculates the product of the adjusted beta coefficient  
 10 and the market risk premium and applies a weight of 75.00% to that result. The model  
 11 then applies a 25.00% weight to the market risk premium without any effect from the  
 12 beta coefficient. The results of the two calculations are summed, along with the risk-  
 13 free rate, to produce the ECAPM result, as noted in Equation [5] below:

$$14 \quad k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

<sup>85</sup> Depicts total annual returns on large company stocks, as reported in the 2023 *Kroll* SBBI Yearbook.

<sup>86</sup> See, e.g., Morin, Roger A. *New Regulatory Finance*. Public Utilities Reports, Inc., 2006 at 189.

1 Where:

2  $k_e$  = the required market ROE

3  $\beta$  = Adjusted beta coefficient of an individual security

4  $r_f$  = the risk-free rate of return

5  $r_m$  = the required return on the market as a whole

6 The ECAPM addresses the tendency of the “traditional” CAPM to underestimate the  
7 cost of equity for companies with low beta coefficients such as regulated utilities. In  
8 that regard, the ECAPM is not redundant to the use of adjusted betas in the traditional  
9 CAPM, but rather it recognizes the results of academic research indicating that the  
10 risk-return relationship is different (in essence, flatter) than estimated by the CAPM,  
11 and that the CAPM underestimates the “alpha,” or the constant return term.<sup>87</sup>

12 Consistent with my CAPM, my application of the ECAPM uses the same three yields  
13 on the 30-year Treasury bonds as the risk-free rate, forward-looking market risk  
14 premium estimates, and beta coefficients.

15 **Q. WHAT ARE THE RESULTS OF YOUR CAPM AND ECAPM ANALYSES?**

16 A. As shown in **Figure AEB-11** (see also Petitioner’s Exhibit No. 13, Attachment AEB-  
17 **2, Schedule 4**), my traditional CAPM analysis produces a range of returns from 10.60%  
18 to 11.95%, and the ECAPM analysis results range from 11.17% to 12.19%.

19 **Figure AEB-11 – CAPM and ECAPM Results**

	Current 30-Day Avg 30-Year Treasury Yield	Near-Term Projected 30-Year Treasury Yield	Longer-Term Projected 30-Year Treasury Yield
<b>CAPM:</b>			
Value Line Beta	11.95%	11.92%	11.88%
Bloomberg Beta	11.15%	11.10%	11.02%
Long-term Avg. Beta	10.76%	10.69%	10.60%
<b>ECAPM:</b>			
Value Line Beta	12.19%	12.17%	12.14%
Bloomberg Beta	11.59%	11.55%	11.49%
Long-term Avg. Beta	11.29%	11.24%	11.17%

<sup>87</sup> *Id.* at 191.

1           **C.           Bond Yield Plus Risk Premium Analysis**

2           **Q.           PLEASE DESCRIBE THE BYRP ANALYSIS.**

3           A.           In general terms, this approach is based on the fundamental principle that equity  
4           investors bear the residual risk associated with equity ownership and therefore require  
5           a premium over the return they would have earned as bondholders. In other words,  
6           because returns to equity holders have greater risk than returns to bondholders, and  
7           require a higher return for that incremental risk. Thus, risk premium approaches  
8           estimate the cost of equity as the sum of the equity risk premium and the yield on a  
9           particular class of bonds. In my analysis, I use actual authorized returns for electric  
10          utilities as the historical measure of the cost of equity to determine the risk premium.

11          **Q.           WHAT IS THE FUNDAMENTAL RELATIONSHIP BETWEEN THE EQUITY RISK  
12          PREMIUM AND INTEREST RATES?**

13          A.           It is important to recognize both academic literature and market evidence indicating  
14          that the equity risk premium (as used in this approach) is inversely related to the level  
15          of interest rates (i.e., as interest rates increase, the equity risk premium decreases,  
16          and vice versa). Consequently, it is important to develop an analysis that: (1) reflects  
17          the inverse relationship between interest rates and the equity risk premium; and (2)  
18          relies on recent and expected market conditions. The analysis provided in Petitioner’s  
19          Exhibit No. 13, Attachment AEB-2, Schedule 7, establishes that relationship using a  
20          regression of the risk premium as a function of Treasury bond yields. When the  
21          authorized ROEs for electric utilities serve as the measure of required equity returns  
22          and the yield on the long-term Treasury bond is defined as the relevant measure of  
23          interest rates, the risk premium is the difference between those two points.<sup>88</sup>

24          **Q.           IS THE BYRP ANALYSIS RELEVANT TO INVESTORS?**

25          A.           Yes. Investors are aware of ROE awards in other jurisdictions, and they consider those  
26          awards as a benchmark for a reasonable level of equity returns for utilities of  
27          comparable risk operating in other jurisdictions. Because my BYRP analysis is based

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<sup>88</sup> See e.g., Berry, S. Keith. “Interest Rate Risk and Utility Risk Premia during 1982-93.” *Managerial and Decision Economics*, Vol. 19, No. 2, March 1998 (the author used a similar methodology, including using authorized ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates). See also Harris, Robert S. “Using Analysts’ Growth Forecasts to Estimate Shareholder Required Rates of Return.” *Financial Management*, Spring 1986 at 66.



1 on authorized ROEs for utility companies relative to corresponding Treasury yields, it  
2 provides relevant information to assess the return expectations of investors in the  
3 current interest rate environment.

4 **Q. WHAT DID YOUR BYRP ANALYSIS REVEAL?**

5 A. As shown in **Figure** , from 1992 through September 2023, there was a strong negative  
6 relationship between risk premia and interest rates. To estimate that relationship, I  
7 conducted a regression analysis using the following equation:

8 
$$RP = a + b(T) \quad [6]$$

9 Where:

10  $RP$  = Risk Premium (difference between allowed ROEs and the yield on 30-  
11 year Treasury bonds)

12  $a$  = intercept term

13  $b$  = slope term

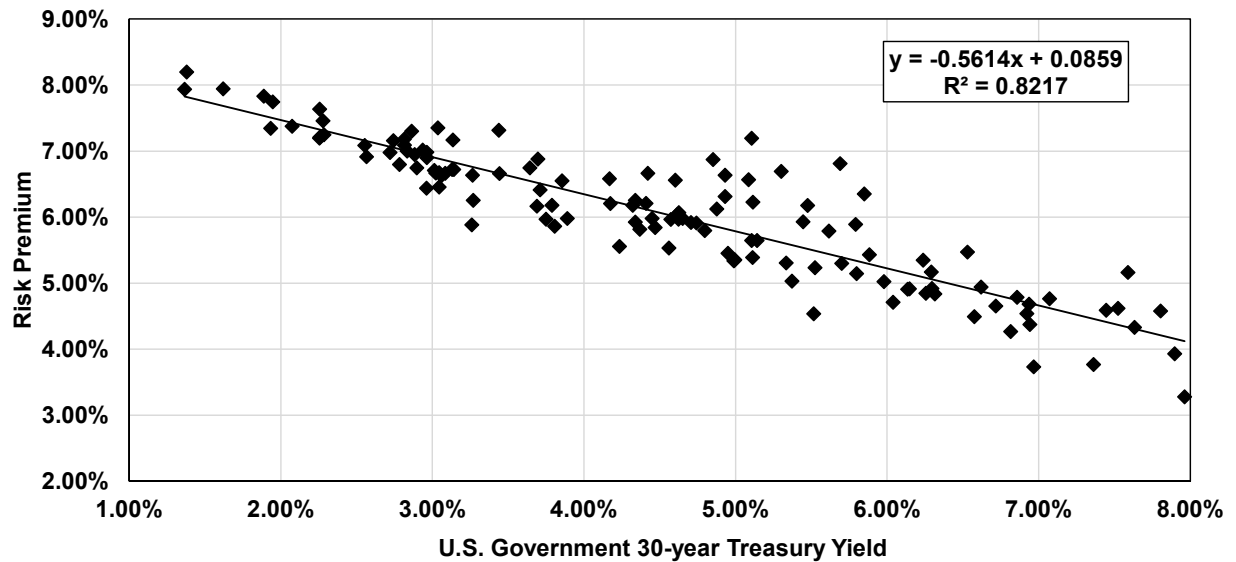
14  $T$  = 30-year Treasury bond yield

15 Data regarding allowed ROEs were derived from all vertically integrated electric utility  
16 rate cases from 1992 through September 2023 as reported by S&P Capital IQ Pro.<sup>89</sup>  
17 This equation's coefficients were statistically significant at the 99.00% level.

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<sup>89</sup> This analysis was screened to eliminate limited issue rider cases and cases that were silent with respect to the authorized ROE.

Figure AEB-12 – Risk Premium Regression Analysis



1

2 As shown on Petitioner's Exhibit No. 13, Attachment AEB-2, Schedule 7, based on  
 3 the current 30-day average of the 30-year Treasury bond yield (i.e., 4.42%), the risk  
 4 premium would be 6.11%, resulting in an estimated cost of equity of 10.53%. Based  
 5 on the consensus estimate of the near-term (i.e., Q1/2024 – Q1/2025) projected 30-  
 6 year Treasury bond yield (i.e., 4.16%), the risk premium would be 6.26%, resulting in  
 7 an estimated cost of equity of 10.42%. Based on a consensus estimate of the longer-  
 8 term (i.e., 2025 – 2029) projection of the 30-year Treasury bond yield (i.e., 3.80%), the  
 9 risk premium would be 6.46%, resulting in an estimated cost of equity of 10.26%.

10 **Q. HOW DID THE RESULTS OF THE BYRP ANALYSIS INFORM YOUR**  
 11 **RECOMMENDED ROE FOR CEI SOUTH?**

12 A. I have considered the results of the Bond Yield Risk Premium analysis in my  
 13 recommended ROE for CEI South. As noted, investors consider the authorized ROE  
 14 of a company when assessing the risk of that company as compared to utilities of  
 15 comparable risk operating in other jurisdictions.

**VERIFICATION**

I affirm under penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

SOUTHERN INDIANA GAS AND ELECTRIC  
COMPANY D/B/A CENTERPOINT ENERGY  
INDIANA SOUTH



Ann E. Bulkley  
Principal, The Brattle Group

11/28/23

Date



## Ann E. Bulkley

### PRINCIPAL

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Boston

508.981.0866

[Ann.Bulkley@brattle.com](mailto:Ann.Bulkley@brattle.com)

With more than 25 years of experience in the energy industry, Ms. Bulkley specializes in regulatory economics for the electric and natural gas and water utility sectors, including valuation of regulated and unregulated utility assets, cost of capital, and capital structure issues.

Ms. Bulkley has extensive state and federal regulatory experience, and she has provided expert testimony on the cost of capital in nearly 100 regulatory proceedings before 32 state regulatory commissions and the Federal Energy Regulatory Commission (FERC).

In addition to her regulatory experience, Ms. Bulkley has provided valuation and appraisal services for a variety of purposes, including the sale or acquisition of utility assets, regulated ratemaking, ad valorem tax disputes, and other litigation purposes. In addition, she has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring, and regulatory and litigation support.

Ms. Bulkley is a Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

Prior to joining Brattle, Ms. Bulkley was a Senior Vice President at an economic consultancy and held senior positions at several other consulting firms.

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#### AREAS OF EXPERTISE

- Regulatory Economics, Finance & Rates
- Regulatory Investigations & Enforcement
- Tax Controversy & Transfer Pricing
- Electricity Litigation & Regulatory Disputes
- M&A Litigation



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## EDUCATION

- **Boston University**  
MA in Economics
- **Simmons College**  
BA in Economics and Finance

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## PROFESSIONAL EXPERIENCE

- **The Brattle Group (2022–Present)**  
Principal
- **Concentric Energy Advisors, Inc. (2002–2021)**  
Senior Vice President  
Vice President  
Assistant Vice President  
Project Manager
- **Navigant Consulting, Inc. (1997–2002)**  
Project Manager
- **Reed Consulting Group (1995-1997)**  
Consultant- Project Manager
- **Cahners Publishing Company (1995)**  
Economist

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## SELECTED CONSULTING EXPERIENCE & EXPERT TESTIMONY

### REGULATORY ANALYSIS AND RATEMAKING

Have provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking, with specific services including:

- Cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies
- Development of merchant function exit strategies



- Analysis and program development to address residual energy supply and/or provider of last resort obligations
- Stranded costs assessment and recovery  
Performance-based ratemaking analysis and design
- Many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation)

#### **COST OF CAPITAL**

Have provided expert testimony on the cost of capital and capital structure in nearly 100 regulatory proceedings before state and federal regulatory commissions in the United States.

#### **RATEMAKING**

Have assisted several clients with analysis to support investor-owned and municipal utility clients in the preparation of rate cases. Sample engagements include:

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.
- Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Along with analyzing and evaluating rate application, attended hearings and conducted investigation of rate application for regulatory staff and prepared, supported, and defended recommendations for revenue requirements and rates for the company. Additionally, developed rates for gas utility for transportation program and ancillary services.

#### **VALUATION**

Have provided valuation services to utility clients, unregulated generators, and private equity clients for a variety of purposes, including ratemaking, fair value, ad valorem tax, litigation and damages, and acquisition. Appraisal practices are consistent with the national standards established by the Uniform Standards of Professional Appraisal Practice.

Representative projects/clients have included:

- Prepared appraisals of electric utility transmission and distribution assets for ad valorem tax purposes.
- Prepared appraisals of hydroelectric generating facilities for ad valorem tax purposes.
- Conducted appraisals of fossil fuel generating facilities for ad valorem tax purposes.
- Conducted appraisals of generating assets for the purposes of unwinding sale-leaseback agreements.
- For a confidential utility client, prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.



- Conducted a strategic review of the acquisition of nuclear generation assets. Review included the evaluation of the operating costs of the facilities and the long-term liabilities associated with the assets including the decommissioning of the assets.
- Prepared a valuation of a portfolio of generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis, and a risk analysis.
- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract.
- Prepared market valuations of several purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, and a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approach. Prepared an assessment of the credit issues and value at risk for the selling utility.
- Prepared appraisal of a portfolio of generating facilities for a large electric utility to be used for financing purposes.
- Conducted a valuation of regulated utility assets for the fair value rate base estimate used in electric rate proceedings in Indiana.
- Prepared an appraisal of a fleet of fossil generating assets for a large electric utility to establish the value of assets transferred from utility property.
- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Prepared feasibility reports analyzing the expected net benefits resulting from municipal ownership of investor-owned utility operations.
- Prepared independent analyses of proposal for the proposed government condemnation of the investor-owned utilities in Maine and the formation of a public power district.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

#### **STRATEGIC AND FINANCIAL ADVISORY SERVICES**

Have assisted several clients across North America with analytically-based strategic planning, due diligence, and financial advisory services.

Representative projects include:





- Preparation of feasibility studies for bond issuances for municipal and district steam clients.
- Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.
- Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed and evaluated potential alliance candidates based on company-established criteria for several LDCs and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support of several merger cases and participated in the regulatory process to obtain approval for these mergers.
- Assisted clients in several buy-side due diligence efforts, providing regulatory insight and developing valuation recommendations for acquisitions of both electric and gas properties.





## BULKLEY TESTIMONY LISTING

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
<b>Arizona Corporation Commission</b>				
UNS Electric	11/22	UNS Electric	Docket No. E-04204A-15-0251	Return on Equity
Tucson Electric Power Company	6/22	Tucson Electric Power Company	Docket No. G-01933A-22-0107	Return on Equity
Southwest Gas Corporation	12/21	Southwest Gas Corporation	Docket No. G-01551A-21-0368	Return on Equity
Arizona Public Service Company	10/19	Arizona Public Service Company	Docket No. E-01345A-19-0236	Return on Equity
Tucson Electric Power Company	04/19	Tucson Electric Power Company	Docket No. E-01933A-19-0028	Return on Equity
Tucson Electric Power Company	11/15	Tucson Electric Power Company	Docket No. E-01933A-15-0322	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity
<b>Arkansas Public Service Commission</b>				
Oklahoma Gas and Electric Co	10/21	Oklahoma Gas and Electric Co	Docket No. D-18-046-FR	Return on Equity
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
<b>California Public Utilities Commission</b>				
PacifiCorp, d/b/a Pacific Power	5/22	PacifiCorp, d/b/a Pacific Power	Docket No. A-22-05-006	Return on Equity
San Jose Water Company	05/21	San Jose Water Company	A2105004	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
<b>Colorado Public Utilities Commission</b>				
Public Service Company of Colorado	11/22	Public Service Company of Colorado	Docket No. 22AL-0530E	Return on Equity
Public Service Company of Colorado	01/22	Public Service Company of Colorado	Docket No. 22AL-0046G	Return on Equity
Public Service Company of Colorado	07/21	Public Service Company of Colorado	21AL-0317E	Return on Equity
Public Service Company of Colorado	02/20	Public Service Company of Colorado	20AL-0049G	Return on Equity
Public Service Company of Colorado	05/19	Public Service Company of Colorado	19AL-0268E	Return on Equity
Public Service Company of Colorado	01/19	Public Service Company of Colorado	19AL-0063ST	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-0299G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity
<b>Connecticut Public Utilities Regulatory Authority</b>				
United Illuminating	09/22	United Illuminating	Docket No. 22-08-08	Return on Equity
United Illuminating	05/21	United Illuminating	Docket No. 17-12-03RE11	Return on Equity
Connecticut Water Company	01/21	Connecticut Water Company	Docket No. 20-12-30	Return on Equity
Connecticut Natural Gas Corporation	06/18	Connecticut Natural Gas Corporation	Docket No. 18-05-16	Return on Equity
Yankee Gas Services Co. d/b/a Eversource Energy	06/18	Yankee Gas Services Co. d/b/a Eversource Energy	Docket No. 18-05-10	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
The Southern Connecticut Gas Company	06/17	The Southern Connecticut Gas Company	Docket No. 17-05-42	Return on Equity
The United Illuminating Company	07/16	The United Illuminating Company	Docket No. 16-06-04	Return on Equity
<b>Federal Energy Regulatory Commission</b>				
Sea Robin Pipeline	12/22	Sea Robin Pipeline	Docket No. RP22-___	Return on Equity
Northern Natural Gas Company	07/22	Northern Natural Gas Company	Docket No. RP22-___	Return on Equity
Transwestern Pipeline Company, LLC	07/22	Transwestern Pipeline Company, LLC	Docket No. RP22-___	Return on Equity
Florida Gas Transmission	02/21	Florida Gas Transmission	Docket No. RP21-441	Return on Equity
TransCanyon	01/21	TransCanyon	Docket No. ER21-1065	Return on Equity
Duke Energy	12/20	Duke Energy	Docket No. EL21-9-000	Return on Equity
Wisconsin Electric Power Company	08/20	Wisconsin Electric Power Company	Docket No. EL20-57-000	Return on Equity
Panhandle Eastern Pipe Line Company, LP	10/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-78-000 RP19-78-001	Return on Equity
Panhandle Eastern Pipe Line Company, LP	08/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-1523	Return on Equity
Sea Robin Pipeline Company LLC	11/18	Sea Robin Pipeline Company LLC	Docket# RP19-352-000	Return on Equity
Tallgrass Interstate Gas Transmission	10/15	Tallgrass Interstate Gas Transmission	RP16-137	Return on Equity
<b>Idaho Public Utilities Commission</b>				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Intermountain Gas Co	12/22	Intermountain Gas Co	C-INT-G-22-07	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	05/21	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-21-07	Return on Equity
<b>Illinois Commerce Commission</b>				
Peoples Gas Light & Coke Company	01/23	Peoples Gas Light & Coke Company	D-23-0069	Return on Equity
North Shore Gas Company	01/23	North Shore Gas Company	D-23-0068	Return on Equity
Illinois American Water	02/22	Illinois American Water	Docket No. 22-0210	Return on Equity
North Shore Gas Company	02/21	North Shore Gas Company	No. 20-0810	Return on Equity
<b>Indiana Utility Regulatory Commission</b>				
Indiana American Water Company	03/23	Indiana and Michigan American Water Company	IURC Cause No. 45870	Return on Equity
Indiana Michigan Power Co.	07/21	Indiana Michigan Power Co.	IURC Cause No. 45576	Return on Equity
Indiana Gas Company Inc.	12/20	Indiana Gas Company Inc.	IURC Cause No. 45468	Return on Equity
Southern Indiana Gas and Electric Company	10/20	Southern Indiana Gas and Electric Company	IURC Cause No. 45447	Return on Equity
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity
Indianapolis Power and Light Company	12/17	Indianapolis Power and Light Company	Cause No. 45029	Fair Value



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Northern Indiana Public Service Company	09/17	Northern Indiana Public Service Company	Cause No. 44988	Fair Value
Indianapolis Power and Light Company	12/16	Indianapolis Power and Light Company	Cause No.44893	Fair Value
Northern Indiana Public Service Company	10/15	Northern Indiana Public Service Company	Cause No. 44688	Fair Value
Indianapolis Power and Light Company	09/15	Indianapolis Power and Light Company	Cause No. 44576 Cause No. 44602	Fair Value
Kokomo Gas and Fuel Company	09/10	Kokomo Gas and Fuel Company	Cause No. 43942	Fair Value
Northern Indiana Fuel and Light Company, Inc.	09/10	Northern Indiana Fuel and Light Company, Inc.	Cause No. 43943	Fair Value
<b>Iowa Department of Commerce Utilities Board</b>				
MidAmerican Energy Company	06/23	MidAmerican Energy Company	Docket No. RPU-2023-___	Return on Equity
MidAmerican Energy Company	01/22	MidAmerican Energy Company	Docket No. RPU-2022-0001	Return on Equity
Iowa-American Water Company	08/20	Iowa-American Water Company	Docket No. RPU-2020-0001	Return on Equity
<b>Kansas Corporation Commission</b>				
Evergy Kansas	04/23	Evergy Kansas	<b>Docket No. 23-____-____-RTS</b>	Return on Equity
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
<b>Kentucky Public Service Commission</b>				
Kentucky American Water Company	06/23	Kentucky American Water Company	Docket No. 2023-____	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity
<b>Maine Public Utilities Commission</b>				
Central Maine Power	08/22	Central Maine Power	Docket No. 2022-00152	Return on Equity
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-194	Return on Equity
<b>Maryland Public Service Commission</b>				
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity
<b>Massachusetts Appellate Tax Board</b>				
Hopkinton LNG Corporation	03/20	Hopkinton LNG Corporation	Docket No.	Valuation of LNG Facility
FirstLight Hydro Generating Company	06/17	FirstLight Hydro Generating Company	Docket No. F-325471 Docket No. F-325472 Docket No. F-325473 Docket No. F-325474	Valuation of Electric Generation Assets
<b>Massachusetts Department of Public Utilities</b>				
National Grid USA	11/20	Boston Gas Company	DPU 20-120	Return on Equity
Berkshire Gas Company	05/18	Berkshire Gas Company	DPU 18-40	Return on Equity
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
<b>Michigan Public Service Commission</b>				
Indiana Michigan Power Co.	09/23	Indiana Michigan Power Co.	Case No. U-21461	Return on Equity
Michigan Gas Utilities Corporation	03/23	Michigan Gas Utilities Corporation	Case No. U-21366	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Michigan Gas Utilities Corporation	03/21	Michigan Gas Utilities Corporation	Case No. U-20718	Return on Equity
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
<b>Michigan Tax Tribunal</b>				
New Covert Generating Co., LLC.	03/18	The Township of New Covert Michigan	MTT Docket No. 000248TT and 16-001888-TT	Valuation of Electric Generation Assets
Covert Township	07/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets
<b>Minnesota Public Utilities Commission</b>				
ALLETE, Inc. d/b/a Minnesota Power	11/23	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-23-155	Return on Equity
CenterPoint Energy Resources	11/23	CenterPoint Energy Resources	D-G-008/GR-23-173	Return on Equity
Minnesota Energy Resources Corporation	11/22	Minnesota Energy Resources Corporation	Docket No. G011/GR-22-504	Return on Equity
CenterPoint Energy Resources	11/21	CenterPoint Energy Resources	D-G-008/GR-21-435	Return on Equity
ALLETE, Inc. d/b/a Minnesota Power	11/21	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-21-630	Return on Equity
Otter Tail Power Company	11/20	Otter Tail Power Company	E017/GR-20-719	Return on Equity
ALLETE, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	10/19	CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	G-008/GR-19-524	Return on Equity
Great Plains Natural Gas Co.	09/19	Great Plains Natural Gas Co.	Docket No. G004/GR-19-511	Return on Equity
Minnesota Energy Resources Corporation	10/17	Minnesota Energy Resources Corporation	Docket No. G011/GR-17-563	Return on Equity
<b>Missouri Public Service Commission</b>				
Ameren Missouri	08/22	Ameren Missouri	File No. ER-2022-0337	Return on Equity
Missouri American Water Company	07/22	Missouri American Water Company	Case No. WR-2022-0303 Case No. SR-2022-0304	Return on Equity
Evergy Missouri West	1/22	Evergy Missouri West	File No. ER-2022-0130	Return on Equity
Evergy Missouri Metro	1/22	Evergy Missouri Metro	File No. ER-2022-0129	Return on Equity
Ameren Missouri	03/21	Ameren Missouri	Docket No. ER-2021-0240 Docket No. GR-2021-0241	Return on Equity
Missouri American Water Company	06/20	Missouri American Water Company	Case No. WR-2020-0344 Case No. SR-2020-0345	Return on Equity
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity





SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
<b>Montana Public Service Commission</b>				
Montana-Dakota Utilities Co.	11/22	Montana-Dakota Utilities Co.	D2022.11.099	Return on Equity
Montana-Dakota Utilities Co.	06/20	Montana-Dakota Utilities Co.	D2020.06.076	Return on Equity
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
<b>New Hampshire - Board of Tax and Land Appeals</b>				
Liberty Utilities (EnergyNorth Natural Gas)	07/23	Liberty Utilities (EnergyNorth Natural Gas)	Docket No. DG 23-067	Return on Equity
Liberty Utilities (Granite State Electric)	05/23	Liberty Utilities (Granite State Electric)	Docket No. DE 23-039	Return on Equity
Public Service Company of New Hampshire d/b/a Eversource Energy	11/19 12/19	Public Service Company of New Hampshire d/b/a Eversource Energy	Master Docket No. 28873-14-15-16-17PT	Valuation of Utility Property and Generating Assets
<b>New Hampshire Public Utilities Commission</b>				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity
<b>New Hampshire-Merrimack County Superior Court</b>				
Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	04/18	Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	220-2012-CV-1100	Valuation of Utility Property
<b>New Hampshire-Rockingham Superior Court</b>				
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
<b>New Jersey Board of Public Utilities</b>				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
New Jersey American Water Company, Inc.	01/22	New Jersey American Water Company, Inc.	WR22010019	Return on Equity
Public Service Electric and Gas Company	10/20	Public Service Electric and Gas Company	EO18101115	Return on Equity
New Jersey American Water Company, Inc.	12/19	New Jersey American Water Company, Inc.	WR19121516	Return on Equity
Public Service Electric and Gas Company	04/19	Public Service Electric and Gas Company	EO18060629 GO18060630	Return on Equity
Public Service Electric and Gas Company	02/18	Public Service Electric and Gas Company	GR17070776	Return on Equity
Public Service Electric and Gas Company	01/18	Public Service Electric and Gas Company	ER18010029 GR18010030	Return on Equity
<b>New Mexico Public Regulation Commission</b>				
Southwestern Public Service Company	07/19	Southwestern Public Service Company	19-00170-UT	Return on Equity
Southwestern Public Service Company	10/17	Southwestern Public Service Company	Case No. 17-00255-UT	Return on Equity
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Case No. 16-00269-UT	Return on Equity
Southwestern Public Service Company	10/15	Southwestern Public Service Company	Case No. 15-00296-UT	Return on Equity
Southwestern Public Service Company	06/15	Southwestern Public Service Company	Case No. 15-00139-UT	Return on Equity
<b>New York State Department of Public Service</b>				
Liberty Utilities (New York Water)	5/23	Liberty Utilities (New York Water)	Case 23-W-0235	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
New York State Electric and Gas Company  Rochester Gas and Electric	05/22	New York State Electric and Gas Company  Rochester Gas and Electric	22-E-0317 22-G-0318 22-E-0319 22-G-0320	Return on Equity
Corning Natural Gas Corporation	07/21	Corning Natural Gas Corporation	Case No. 21-G-0394	Return on Equity
Central Hudson Gas and Electric Corporation	08/20	Central Hudson Gas and Electric Corporation	Electric 20-E-0428 Gas 20-G-0429	Return on Equity
Niagara Mohawk Power Corporation	07/20	National Grid USA	Case No. 20-E-0380 20-G-0381	Return on Equity
Corning Natural Gas Corporation	02/20	Corning Natural Gas Corporation	Case No. 20-G-0101	Return on Equity
New York State Electric and Gas Company  Rochester Gas and Electric	05/19	New York State Electric and Gas Company  Rochester Gas and Electric	19-E-0378 19-G-0379 19-E-0380 19-G-0381	Return on Equity
Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	04/19	Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	19-G-0309 19-G-0310	Return on Equity
Central Hudson Gas and Electric Corporation	07/17	Central Hudson Gas and Electric Corporation	Electric 17-E-0459 Gas 17-G-0460	Return on Equity
Niagara Mohawk Power Corporation	04/17	National Grid USA	Case No. 17-E-0238 17-G-0239	Return on Equity
Corning Natural Gas Corporation	06/16	Corning Natural Gas Corporation	Case No. 16-G-0369	Return on Equity
National Fuel Gas Company	04/16	National Fuel Gas Company	Case No. 16-G-0257	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
KeySpan Energy Delivery	01/16	KeySpan Energy Delivery	Case No. 15-G-0058 Case No. 15-G-0059	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/15	New York State Electric and Gas Company Rochester Gas and Electric	Case No. 15-E-0283 Case No. 15-G-0284 Case No. 15-E-0285 Case No. 15-G-0286	Return on Equity
<b>North Dakota Public Service Commission</b>				
Montana-Dakota Utilities Co.	05/22	Montana-Dakota Utilities Co.	C-PU-22-194	Return on Equity
Montana-Dakota Utilities Co.	08/20	Montana-Dakota Utilities Co.	C-PU-20-379	Return on Equity
Northern States Power Company	12/12	Northern States Power Company	C-PU-12-813	Return on Equity
Northern States Power Company	12/10	Northern States Power Company	C-PU-10-657	Return on Equity
<b>Oklahoma Corporation Commission</b>				
Oklahoma Gas & Electric	12/21	Oklahoma Gas & Electric	Cause No. PUD 202100164	Return on Equity
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
<b>Oregon Public Service Commission</b>				
PacifiCorp d/b/a Pacific Power & Light	03/22	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-399	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity
<b>Pennsylvania Public Utility Commission</b>				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
American Water Works Company Inc.	11/23	Pennsylvania-American Water Company	Docket No. R-2023-3043189 (water) Docket No. R-2023-3043190 (wastewater)	Return on Equity
American Water Works Company Inc.	04/22	Pennsylvania-American Water Company	Docket No. R-2020-3031672 (water) Docket No. R-2020-3031673 (wastewater)	Return on Equity
American Water Works Company Inc.	04/20	Pennsylvania-American Water Company	Docket No. R-2020-3019369 (water) Docket No. R-2020-3019371 (wastewater)	Return on Equity
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017-2595853	Return on Equity
<b>South Dakota Public Utilities Commission</b>				
MidAmerican Energy Company	05/22	MidAmerican Energy Company	D-NG22-005	Return on Equity
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
<b>Texas Public Utility Commission</b>				
Entergy Texas, Inc.	07/22	Entergy Texas, Inc.	D-53719	Return on Equity
Southwestern Public Service Commission	08/19	Southwestern Public Service Commission	Docket No. D-49831	Return on Equity
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
<b>Texas Railroad Commission</b>				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
CenterPoint Energy Entex and CenterPoint Energy Texas Gas	10/23	CenterPoint Energy Entex and CenterPoint Energy Texas Gas	2023 Texas Division Rate Case Case No. OS-23-00015513	Return on Equity
<b>Utah Public Service Commission</b>				
PacifiCorp d/b/a Rocky Mountain Power	05/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20-035-04	Return on Equity
<b>Virginia State Corporation Commission</b>				
Virginia American Water Company, Inc.	11/23	Virginia American Water Company, Inc.	Docket No. PUR-2023-00194	Return on Equity
Virginia American Water Company, Inc.	11/21	Virginia American Water Company, Inc.	Docket No. PUR-2021-00255	Return on Equity
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
<b>Washington Utilities Transportation Commission</b>				
PacifiCorp d/b/a Pacific Power & Light	03/23	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-230172	Return on Equity
Cascade Natural Gas Corporation	06/20	Cascade Natural Gas Corporation	Docket No. UG-200568	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	12/19	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-191024	Return on Equity
Cascade Natural Gas Corporation	04/19	Cascade Natural Gas Corporation	Docket No. UG-190210	Return on Equity
<b>West Virginia Public Service Commission</b>				
West Virginia American Water Company	05/23	West Virginia American Water Company	Case No. 23-0383-W-42T	Return on Equity
West Virginia American Water Company	04/21	West Virginia American Water Company	Case No. 21-02369-W-42T	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
West Virginia American Water Company	04/18	West Virginia American Water Company	Case No. 18-0573-W-42T Case No. 18-0576-S-42T	Return on Equity
<b>Wisconsin Public Service Commission</b>				
Wisconsin Power and Light	05/23	Wisconsin Power and Light	Docket No. 6680-UR-124	Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	04/22	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-110	Return on Equity
Wisconsin Public Service Corp.	04/22	Wisconsin Public Service Corp.	6690-UR-127	Return on Equity
Alliant Energy		Alliant Energy		Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	03/19	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-109	Return on Equity
Wisconsin Public Service Corp.	03/19	Wisconsin Public Service Corp.	6690-UR-126	Return on Equity
<b>Wyoming Public Service Commission</b>				
PacifiCorp d/b/a Rocky Mountain Power	02/23	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-633-ER-23	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	03/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-578-ER-20	Return on Equity
Montana-Dakota Utilities Co.	05/19	Montana-Dakota Utilities Co.	30013-351-GR-19	Return on Equity

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**CERTIFICATIONS/ACCREDITATIONS**

Certified General Appraiser, licensed in the Commonwealth of Massachusetts

**Attachment AEB-2 Provided in Native Excel Format**