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Petitioner's Exhibit No. 12
Cause No. 45447
Vectren South
Page 1 of 87

SOUTHERN INDIANA GAS AND ELECTRIC COMPANY
d/b/a VECTREN ENERGY DELIVERY OF INDIANA, INC.

A CENTERPOINT ENERGY COMPANY
(VECTREN SOUTH)

IURC CAUSE NO. 45447

DIRECT TESTIMONY
OF
ANN E. BULKLEY

ON

ECONOMICS AND FINANCE

SPONSORING PETITIONER'S EXHIBIT NO. 12,
ATTACHMENTS AEB-1 AND AEB-2

Glossary of Acronyms

ADIT	Accumulated Deferred Income Taxes
AEL&P	Alaska Electric Light and Power Company
ALJ	Administrative Law Judge
CAPM	Capital Asset Pricing Model
CARES	Coronavirus Aid, Relief, and Economic Security
CBOE	Chicago Board Options Exchange
CenterPoint Company	CenterPoint Energy, Inc. Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc.
Concentric	Concentric Energy Advisors, Inc.
CSIA	Compliance and System Improvement Adjustment
DCF	Discounted Cash Flow
ECAP	Empirical Capital Asset Pricing Model
FFO	Funds from Operations
FOMC	Federal Reserve Open Market Committee
IURC or Commission	Indiana Utility Regulatory Commission
Michigan PSC	Michigan Public Service Commission
Minnesota PUC	Minnesota Public Utilities Commission
NJ Board	New Jersey Board of Public Utilities
NJR	New Jersey Resources Corporation
Oregon PUC	Oregon Public Utilities Commission
Otter Tail	Otter Tail Power Company
Petitioner	Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc.
PMCCF	Primary Market Corporate Credit Facility
RCA	Regulatory Commission of Alaska
ROE	Return on Equity, used interchangeably with 'cost of equity'
SMCCF	Secondary Market Corporate Credit Facility
TALF	Term Asset-Backed Securities Loan Facility
TCJA	Tax Cut and Jobs Act of 2017
TDSIC	Transmission and Distribution System Infrastructure Charge
Utah PSC	Utah Public Service Commission
Vectren	Vectren Corporation
Vectren North	Indiana Gas Company, Inc. d/b/a Vectren Energy Delivery of Indiana, Inc.
Vectren Ohio	Vectren Energy Delivery of Ohio, Inc.
Vectren South	Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc.
VIX	Volatility Index
Wyoming PSC	Wyoming Public Service Commission

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DIRECT TESTIMONY OF ANN E. BULKLEY

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Ann E. Bulkley. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

Q. What is your position with Concentric Energy Advisors, Inc. (“Concentric”)?

A. I am employed by Concentric as a Senior Vice President.

Q. On whose behalf are you submitting this Prepared Direct Testimony?

A. I am submitting this Prepared Direct Testimony before the Indiana Utility Regulatory Commission (“Commission”) on behalf of Southern Indiana Gas and Electric Company (“Vectren South” or the “Company”). My testimony addresses the regulated natural gas operations of Vectren South within Indiana.

Q. Please describe your education and experience.

A. I hold a Bachelor’s degree in Economics and Finance from Simmons College and a Master’s degree in Economics from Boston University, with more than 20 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes.

1 I have included my resume and a summary of testimony that I have filed in other
2 proceedings as Petitioner's Exhibit No. 12, Attachment AEB-1.

3

4 **Q. Please describe Concentric's activities in energy and utility engagements.**

5 A. Concentric provides financial and economic advisory services to many and various
6 energy and utility clients across North America. Our regulatory, economic, and market
7 analysis services include utility ratemaking and regulatory advisory services; energy
8 market assessments; market entry and exit analysis; corporate and business unit
9 strategy development; demand forecasting; resource planning; and energy contract
10 negotiations. Our financial advisory activities include buy- and sell-side merger,
11 acquisition, and divestiture assignments; due diligence and valuation assignments;
12 project and corporate finance services; and transaction support services. In addition,
13 we provide litigation support services on a wide range of financial and economic issues
14 on behalf of clients throughout North America.

15

16 **Q. Have you testified before any regulatory authorities?**

17 A. Yes. A list of proceedings in which I have provided testimony is provided in Petitioner's
18 Exhibit No. 12, Attachment AEB-1.

19

20

1 **II. PURPOSE AND OVERVIEW OF PREPARED DIRECT TESTIMONY**

2

3 **Q. Please describe the purpose of your Prepared Direct Testimony.**

4 A. The purpose of my Prepared Direct Testimony is to present evidence and provide a
5 recommendation regarding the appropriate Return on Equity ("ROE")¹ for Vectren
6 South's natural gas operations in Indiana to be used for ratemaking purposes. I also
7 address the appropriateness of the Company's projected capital structure. My
8 analyses and recommendations are supported by the data presented in Petitioner's
9 Exhibit No. 12, Attachment AEB-2, Schedules 1 through 11, which were prepared by
10 me or under my direction.

11

12 **Q. Please provide a brief overview of the analyses that led to your ROE**
13 **recommendation.**

14 A. As discussed in more detail in Section VI, I applied the Constant Growth form of the
15 Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), the
16 Empirical Capital Asset Pricing Model ("ECAPM"), and the Expected Earnings
17 analysis. My recommendation also takes into consideration: (1) the Company's small
18 size; (2) flotation costs; (3) the Company's capital expenditure requirements; and (4)
19 the regulatory environment in which the Company operates. Finally, I considered the
20 Company's projected capital structure as compared to the capital structures of the

¹ Throughout my Prepared Direct Testimony, I interchangeably use the terms "ROE" and "cost of equity".

1 proxy companies.² While I did not make any specific adjustments to my ROE
2 estimates for any of these factors, I did take them into consideration in aggregate when
3 determining where the Company's ROE falls within the range of analytical results.
4

5 **Q. How is the remainder of your Prepared Direct Testimony organized?**

6 A. Section II provides a summary of my analyses and conclusions. Section III reviews
7 the regulatory guidelines pertinent to the development of the cost of capital. Section
8 IV discusses current and projected capital market conditions and the effect of those
9 conditions on Vectren South's cost of equity in Indiana. Section V explains my
10 selection of a proxy group of natural gas utilities. Section VI describes my analyses
11 and the analytical basis for the recommendation of the appropriate ROE for Vectren
12 South. Section VII provides a discussion of specific regulatory, business, and financial
13 risks that have a direct bearing on the ROE to be authorized for the Company in this
14 case. Section VIII assesses the Company's projected capital structure as compared
15 to the proxy group. Section IX presents my conclusions and recommendations for the
16 market cost of equity.
17
18

² The selection and purpose of developing a group of comparable companies will be discussed in detail in Section V of my Prepared Direct Testimony.

1 **III. SUMMARY OF ANALYSIS AND CONCLUSIONS**

2

3 **Q. Please summarize the key factors considered in your analyses and upon which**
4 **you base your recommended ROE.**

5 A. In developing my recommended ROE for Vectren South, I considered the following:

- 6 • The *Hope* and *Bluefield* decisions³ that established the standards for determining
7 a fair and reasonable allowed ROE, including consistency of the allowed return
8 with the returns of other businesses having similar risk, adequacy of the return to
9 provide access to capital and support credit quality, and the requirement that the
10 result lead to just and reasonable rates.
- 11 • The effect of current and projected capital market conditions on investors' return
12 requirements.
- 13 • The results of several analytical approaches that provide estimates of the
14 Company's cost of equity.
- 15 • The Company's regulatory, business, and financial risks relative to the proxy group
16 of comparable companies, and the implications of those risks.

17

18 **Q. Please explain how you considered those factors.**

19 A. I relied on several analytical approaches to estimate Vectren South's cost of equity
20 based on a proxy group of publicly traded companies. As shown in Figure 1, those
21 ROE estimation models produce a wide range of results. My conclusion about where
22 within that range of results Vectren South's ROE falls is based on the Company's
23 business and financial risk relative to the proxy group. Although the companies in my
24 proxy groups are generally comparable to Vectren South, each company is unique,
25 and no two companies have the exact same business and financial risk profiles.

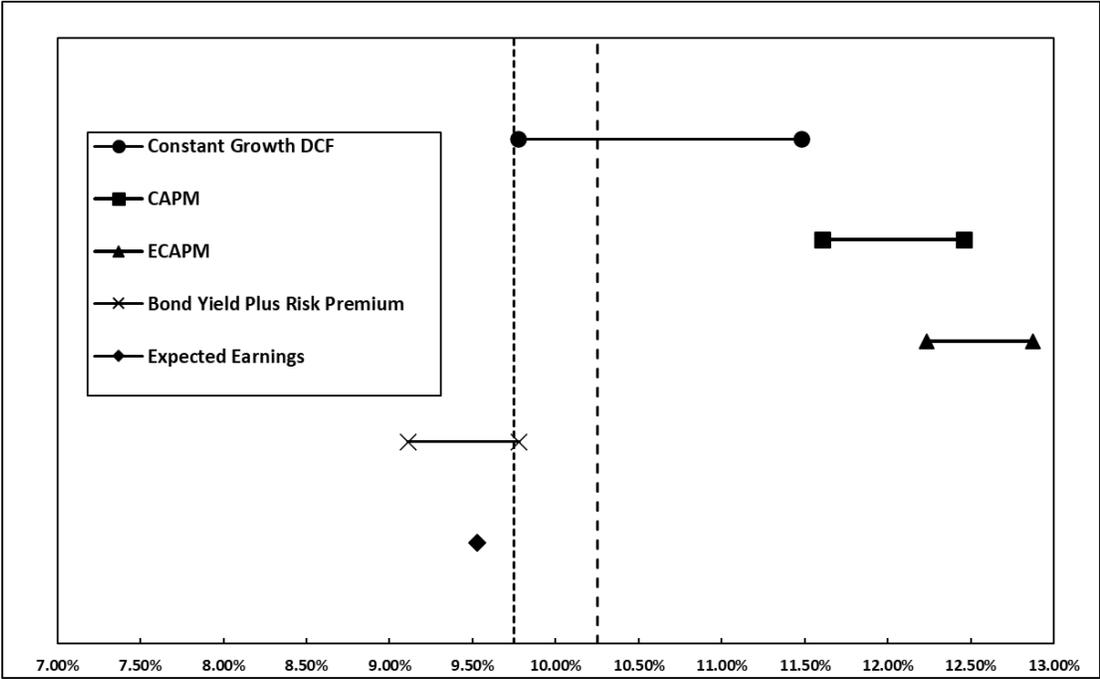
³ Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944); Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia, 262 U.S. 679 (1923).

1 Accordingly, I selected proxy groups with similar, but not the same risk profiles; and I
2 adjusted the results of my analysis either upwards or downwards within the reasonable
3 range of results to account for any residual differences in risk.

4
5 **Q. Please summarize the results of the ROE estimation models that you considered**
6 **to establish the range of ROEs for Vectren South.**

7 A. Figure 1 summarizes the range of results produced by the Constant Growth DCF,
8 CAPM, ECAPM, Bond Yield Plus Risk Premium analysis, and Expected Earnings
9 analyses for the Natural Gas Utility Proxy Group.

10 **Figure 1: Summary of Natural Gas Utility Proxy Group Cost of Equity Analytical Results**
11 ^{4, 5}

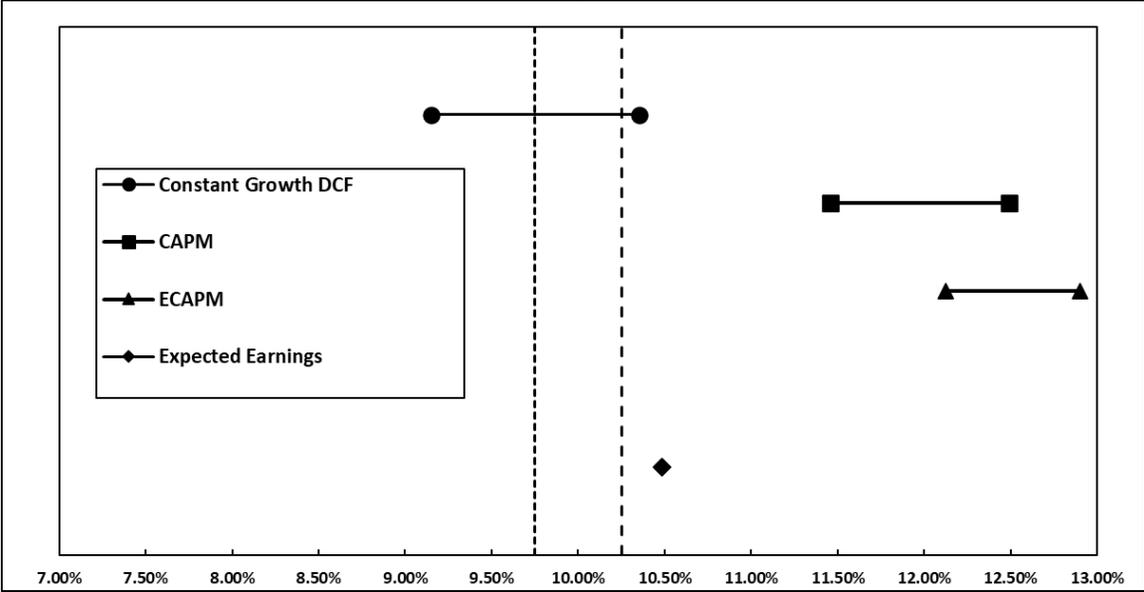


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⁴ The analytical results reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.
⁵ Results displayed are for the proxy group. For results based on the proxy group plus New Jersey Resources Corporation ("NJR"), see Petitioner's Exhibit No. 12, AttachmentAEB-2, Schedule 1 Gas Proxy.

1 Figure 2 summarizes the range of results produced by the Constant Growth DCF,
2 CAPM, ECAPM, and Expected Earnings analyses for the Alternative Proxy Group.
3 The Alternative Proxy Group, which is discussed in greater detail in Section V of my
4 testimony, includes natural gas distribution companies and combination gas and
5 electric utilities.

6 **Figure 2: Summary of Alternative Proxy Group Cost of Equity Analytical results^{6, 7}**



7
8
9 As shown in Figure 1 and Figure 2 (and in Petitioner's Exhibit No. 12, Attachment AEB-
10 2, Schedule 1 Natural Gas Utility Proxy and Schedule 1 Alternative Proxy Group), the
11 range of results produced by the ROE estimation models is wide. While it is common
12 to consider multiple models to estimate the cost of equity, it is particularly important

⁶ The analytical results reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

⁷ Results displayed are for the proxy group. For results based on the proxy group plus NJR, see Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 1 Alt Proxy.

1 when the range of results is wide in order to appropriately consider the factors that
2 have resulted in the diverging range of results.

3

4 Based on current market conditions, my ROE recommendation considers the results
5 of the DCF model, forward-looking CAPM and ECAPM analyses, Risk Premium
6 analysis (Natural Gas Utility Proxy Group only), and an Expected Earnings analysis. I
7 also consider company-specific risk factors and current and prospective capital market
8 conditions.

9

10 **Q. What is your recommended ROE for Vectren South?**

11 A. Considering the analytical results presented in Figure 1 and Figure 2, as well as the
12 level of regulatory, business, and financial risk faced by Vectren South's natural gas
13 operations in Indiana, relative to the proxy group, my recommendation considers the
14 range of results for the proxy group companies, the relative risk of Vectren South's
15 natural gas operations in Indiana as compared to the proxy groups, and current capital
16 market conditions. Within that range, a return of 10.15 percent is reasonable.

17

18 **Q. Please summarize the analysis you conducted in determining that Vectren
19 South's projected capital structure is reasonable and appropriate.**

20 A. Based on the analysis presented in Section VIII of my testimony, I conclude that
21 Vectren South's projected 55.49 percent common equity is reasonable.⁸ To determine
22 if Vectren South's projected capital structure was reasonable, I reviewed the capital

⁸ Excludes 14.42% cost free capital and 0.52% in other capital from total capital.

1 structures of the utility subsidiaries of the proxy companies. As shown in Petitioner's
2 Exhibit No. 12, Attachment AEB-2, Schedule 11, the results of that analysis
3 demonstrate that the equity ratios for the Natural Gas Utility Proxy Group⁹ range from
4 50.03 percent to 66.58 percent, with an average of 58.88 percent. The Alternative
5 Proxy Group indicates a range from 47.59 percent to 66.58 percent, with an average
6 of 54.97 percent.¹⁰ Comparing the projected equity ratio to the proxy group
7 demonstrates that the Company's projected equity ratio is within the range of equity
8 ratios for the utility operating subsidiaries of the proxy group companies. Further, the
9 Company's projected equity ratio is reasonable considering that federal tax reform
10 legislation has had a negative effect on the cash flows and credit metrics of regulated
11 utilities.

12
13

14 **IV. REGULATORY GUIDELINES**

15

16 **Q. Please describe the guiding principles to be used in establishing the cost of**
17 **capital for a regulated utility.**

18 A. The United States Supreme Court's precedent-setting *Hope* and *Bluefield* cases
19 established the standards for determining the fairness or reasonableness of a utility's
20 allowed ROE. Among the standards established by the Court in those cases are: (1)
21 consistency with other businesses having similar or comparable risks; (2) adequacy of

⁹ Natural Gas Utility Proxy includes six companies and excludes New Jersey Resources Corporation.

¹⁰ Alternative Proxy Group includes 16 companies.

1 the return to support credit quality and access to capital; and (3) the principle that the
2 result reached, as opposed to the methodology employed, is the controlling factor in
3 arriving at just and reasonable rates.¹¹

4

5 **Q. Why is it important for a utility to be allowed the opportunity to earn an ROE that**
6 **is adequate to attract capital at reasonable terms?**

7 A. An ROE that is adequate to attract capital at reasonable terms enables the Company
8 to continue to provide safe, reliable natural gas service while maintaining its financial
9 integrity. To the extent the Company is provided the opportunity to earn its market-
10 based cost of capital, neither customers nor shareholders are disadvantaged.

11

12 **Q. Is a utility's ability to attract capital also affected by the ROEs that are authorized**
13 **for other utilities?**

14 A. Yes. Utilities compete directly for capital with other investments of similar risk, which
15 include other natural gas and electric utilities. Therefore, the ROE awarded to a utility
16 sends an important signal to investors regarding whether there is regulatory support
17 for financial integrity, dividends, growth, and fair compensation for business and
18 financial risk. The cost of capital represents an opportunity cost to investors. If higher
19 returns are available for other investments of comparable risk, investors have an
20 incentive to direct their capital to those investments. Thus, an authorized ROE
21 significantly below authorized ROEs for other natural gas and electric utilities can
22 inhibit the utility's ability to attract capital for investment in Indiana.

¹¹ *Hope*, 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923).

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Q. What are your conclusions regarding regulatory guidelines?

8

A. The ratemaking process is premised on the principle that a utility must have the opportunity to recover the return of, and the market-required return on, its invested capital. Because utility operations are capital-intensive, regulatory decisions should enable the utility to attract capital at reasonable terms under a variety of economic and financial market conditions; doing so balances the long-term interests of the utility and its ratepayers.

14

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The financial community carefully monitors the current and expected financial condition of utility companies and the regulatory framework in which they operate. In that respect, the regulatory framework is one of the most important factors in both debt and equity investors' assessments of risk. The Commission's order in this proceeding, therefore, should establish rates that provide the Company with the opportunity to earn an ROE that is: (1) adequate to attract capital at reasonable terms under a variety of economic and financial market conditions; (2) sufficient to ensure good financial management and firm integrity; and (3) commensurate with returns on investments in enterprises with similar risk. To the extent Vectren South is authorized the opportunity

1 to earn its market-based cost of capital, the proper balance is achieved between
2 customers' and shareholders' interests.

3

4

5 **V. CAPITAL MARKET CONDITIONS**

6

7 **Q. Why is it important to analyze capital market conditions?**

8 A. The ROE estimation models rely on market data that are either specific to the proxy
9 group, in the case of the DCF model, or the expectations of market risk, in the case of
10 the CAPM. The results of ROE estimation models can be affected by prevailing market
11 conditions at the time the analysis is performed. While the ROE that is established in
12 a rate proceeding is intended to be forward-looking, the practitioner uses current and
13 projected market data, specifically stock prices, dividends, growth rates, and interest
14 rates in the ROE estimation models to estimate the required return for the subject
15 company.

16

17 As discussed in the remainder of this section, current market conditions affect the
18 results of ROE estimation models. As a result, it is important to consider the effect of
19 these conditions on the ROE estimation models when determining the appropriate
20 range and recommended ROE to be determined for a future period. If investors do
21 not expect current market conditions to be sustained in the future, it is possible that
22 the ROE estimation models will not provide an accurate estimate of investors' required
23 return during that rate period. Therefore, it is very important to consider projected
24 market data to estimate the return for that forward-looking period.

1

2 **Q. What factors affect the cost of equity for regulated utilities in the current and**
3 **prospective capital markets?**

4 A. The cost of equity for regulated utility companies is affected by several factors in the
5 current and prospective capital markets, including: (1) the current market volatility has
6 created a short-term aberration in the market, which must be carefully considered
7 when selecting the inputs for the ROE estimation models; (2) utility stock valuations,
8 which are inversely related to dividend yields, are currently unsustainably high, given
9 investors' demand for defensive sectors during the short-term market dislocation; and
10 (3) recent Federal tax reform. In this section, I discuss each of these factors and how
11 it affects the models used to estimate the cost of equity for regulated utilities.

12

13 A. Current Market Conditions

14

15 **Q. Please summarize current market conditions.**

16 A. In 2020, market conditions have been extremely volatile. In January and early
17 February 2020, major market indices were generally increasing, many reaching new
18 threshold levels. By mid-February, as the global health pandemic became more
19 apparent, market conditions became increasingly volatile. In mid-February utility stock
20 prices reached an all-time high, followed by a significant decline in the overall market
21 and utility stocks. Market conditions in March 2020 were more volatile than the last
22 half of February. More recently, in September, volatility has again begun to escalate.
23 In its September meeting the Federal Reserve Open Market Committee ("FOMC")

1 recognized that uncertainty related to the course of the pandemic and the effects on
2 the economy remained “extremely elevated”, with the path dependent on the course
3 of the virus.¹²
4

5 **Q. Have you reviewed any other indicators that measure volatility in the financial**
6 **markets?**

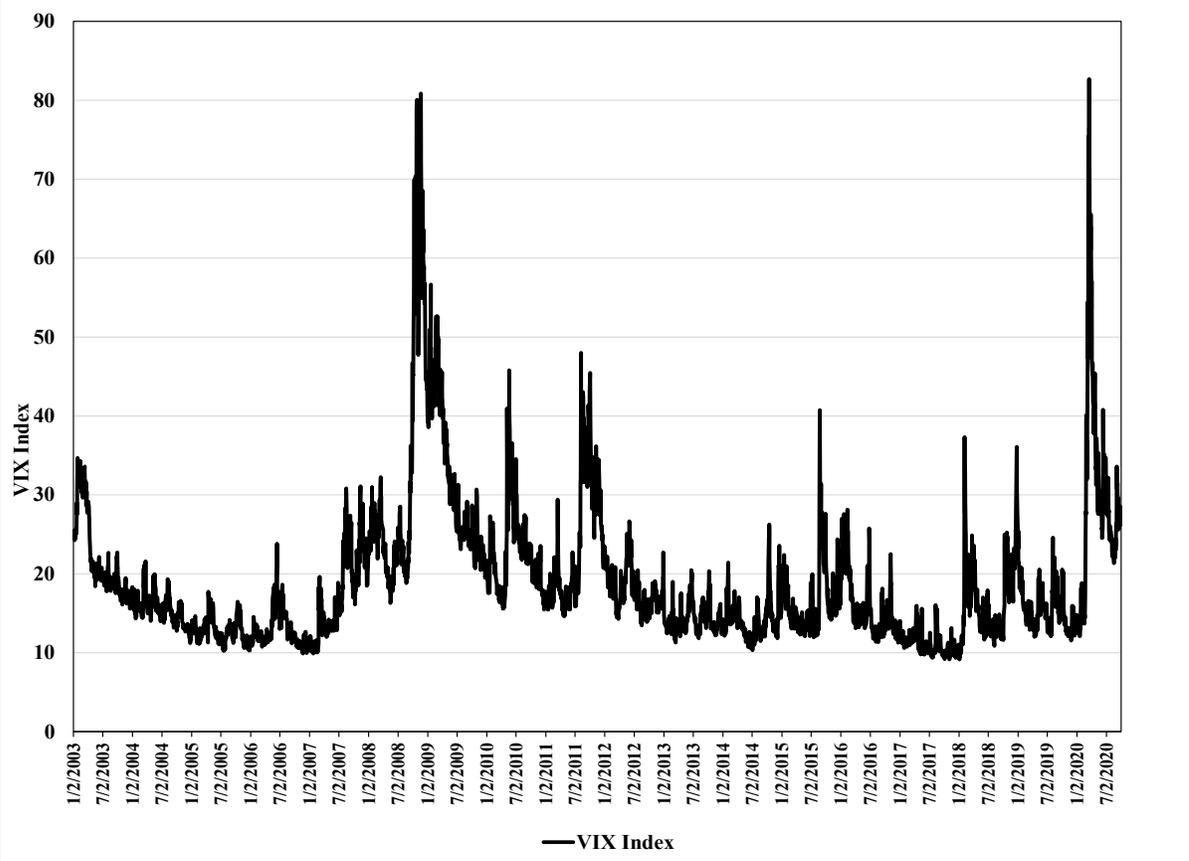
7 A. Yes, I reviewed a measure of volatility in financial markets, the Chicago Board Options
8 Exchange (“CBOE”) Volatility Index (“VIX”). The VIX measures investors’ expectation
9 of volatility in the S&P 500 over the next 30 days. As shown in Figure 3, the VIX has
10 recently reached levels not seen since the Great Recession of 2008/09. For example,
11 the VIX was 82.69 on March 16, 2020. The VIX has not reached 80.00 since November
12 of 2008; however, it is important to note that the highest level reached during the Great
13 Recession of 2008/09 was 80.86. These indicators show that COVID-19 has caused
14 an increase in the level of uncertainty and volatility in the market, even greater than
15 during the Great Recession of 2008/09.
16

17 Furthermore, as shown in Figure 3, while the VIX has declined between April and July,
18 this measure of volatility still remains well above levels seen prior to COVID-19 in
19 January and February 2020. It is important to view the declines in the VIX in the
20 context of the unprecedented response by the Federal Reserve and Congress. As
21 discussed in more detail below, the Federal Reserve’s corporate bond buying

¹² FOMC, Minutes of the Federal Open Market Committee, September 15-16, 2020, at 10.

1 programs are providing liquidity to bond markets and therefore reducing some of the
2 uncertainty that was driving the volatility seen in March. However, there is still much
3 uncertainty regarding the near-term effect of COVID-19 on the economy and the
4 financial markets, which is why the VIX is still above its long-term average.

5 **Figure 3: CBOE VIX– January 2003 to September 2020¹³**



6

¹³ Source: Bloomberg Professional.

1

2 **Q. Have rating agencies commented on the effects of current market conditions on**
3 **regulated utilities?**

4 A. Yes. Standard & Poor's downgraded the outlook on the entire North American utilities
5 sector indicating that 25 percent of the industry was previously on a negative outlook
6 or CreditWatch with negative implications and that S&P expected that COVID-19
7 would create incremental pressure and that a recession would lead to an increasing
8 number of downgrades and negative outlooks.¹⁴ In May, S&P also noted that many
9 utilities already faced ratings pressure due to several factors including the adverse
10 effects of tax reform of 2019 and historically high capital spending. S&P noted that,
11 as a result of these types of factors, there is an unusually high number of negative
12 outlooks for utilities.¹⁵ Furthermore, in October, S&P noted that the average interest
13 coverage ratio at U.S. companies classified as investment grade had declined in the
14 second quarter of 2020. S&P noted that the energy sector had performed badly when
15 considering interest coverage ratios and that utilities in particular had a very low
16 interest coverage ratio.¹⁶

17

¹⁴ Standard & Poor's Ratings Direct, COVID-19: The Outlook for North American Regulated Utilities Turns Negative, April 2, 2020.

¹⁵ Standard & Poor's Ratings Direct: North American Regulated Utilities Face Tough Financial Policy Tradeoffs To Avoid Ratings Pressure Amid The COVID-19 Pandemic, May 11, 2020, p. 3.

¹⁶ S&P Global Market Intelligence, "US companies less able to service debt even with borrowing costs at record low", October 6, 2020.

1 **Q. What steps have the Fed and Congress taken to stabilize financial markets and**
2 **support the economy?**

3 A. In response to the effects of COVID-19, the Federal Reserve met on March 15, 2020
4 and acknowledged that the spread of COVID-19 posed increased risks to economic
5 activity in the U.S. In response, the Federal Reserve reduced the federal funds rate
6 by 100 basis points, resulting in a target range of 0.00 percent to 0.25 percent.¹⁷ This
7 was the second unscheduled meeting in March 2020, with the first occurring on March
8 3rd, when the Federal Reserve reduced the federal funds rate by 50 basis points. In
9 addition to the reduction in the federal funds rate, the Federal Reserve also announced
10 plans to increase its holdings of both Treasury and mortgage-backed securities.¹⁸ On
11 March 23, 2020, the Federal Reserve began expansive programs to support credit to
12 large employers: the Primary Market Corporate Credit Facility ("PMCCF") to provide
13 liquidity for new issuances of corporate bonds, and the Secondary Market Corporate
14 Credit Facility ("SMCCF") to provide liquidity for outstanding corporate debt issuances.
15 These programs initially targeted investment grade corporations, but in April 2020
16 were expanded to include corporations that were rated investment grade as of March
17 22, 2020. The PMCCF and SMCCF programs were initially funded at \$75 billion, but
18 the combined size of these programs, including the addition of below investment grade
19 corporate debt is proposed to be up to \$750 billion.¹⁹ Further, the Federal Reserve

¹⁷ FOMC, Federal Reserve Board Press Release, March 15, 2020, at 1.

¹⁸ *Id.*, at 2.

¹⁹ FOMC Term Sheet, Primary and Secondary Corporate Credit Facilities, April 9, 2020.

1 supported the flow of credit to consumers and businesses through the Term Asset-
2 Backed Securities Loan Facility ("TALF").²⁰

3

4 In addition to the Federal Reserve, the U.S. Congress also passed fiscal stimulus
5 programs. On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security
6 ("CARES") Act was signed into law. The CARES Act is a large fiscal stimulus package
7 aimed at mitigating the economic effects of the coronavirus. While these expansive
8 programs have provided for greater price stability, as shown in Figure 3, the VIX
9 remains well above long-term historical normal levels.

10

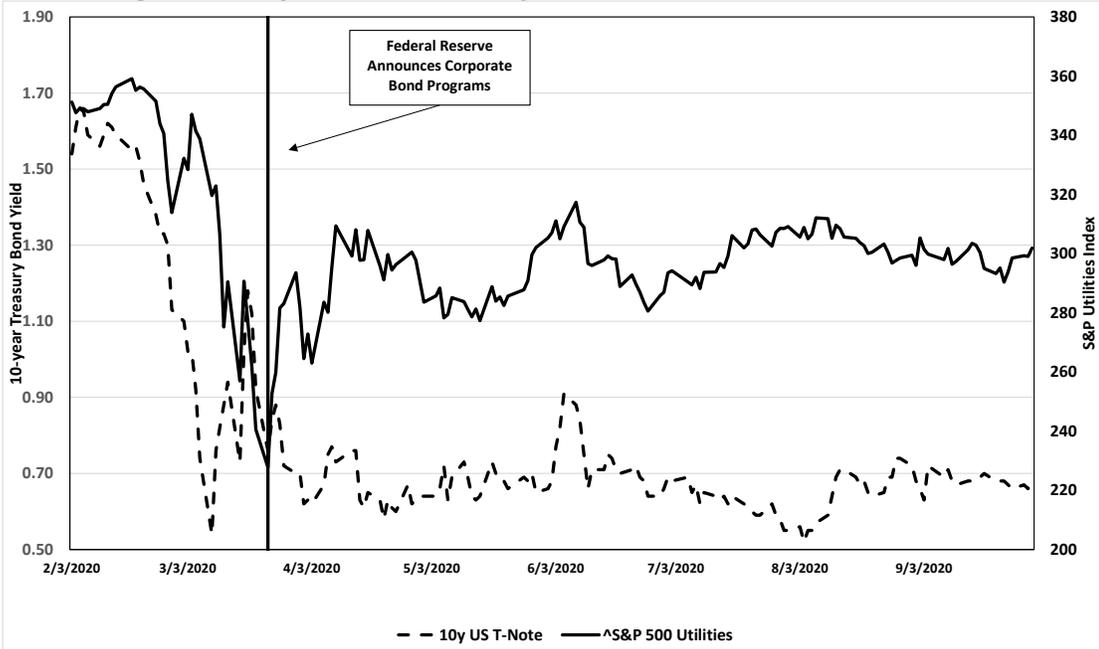
11 **Q. How has the market responded to the unprecedented intervention by the Federal**
12 **Reserve?**

13 A. The uncertainty surrounding the spread of COVID-19 resulted in a flight-to-quality as
14 investors purchased safer assets such as U.S. Treasuries due to increased fears of a
15 recession. This has been increasingly evident over the past few months as investors
16 responded to news of the number of COVID-19 cases outside of China and the
17 economic effects of the policies enacted to contain COVID-19. However, as discussed
18 above, in late March, the Federal Reserve began expansive programs with the
19 purpose of maintaining access to capital markets for corporate borrowers. These
20 unprecedented programs resulted in lower borrowing costs for corporate firms and
21 thus continued access to the capital needed to offset the economic effects of COVID-

²⁰ Federal Reserve Board Press Release, "Federal Reserve announces extensive new measures to support the economy", March 23, 2020.

1 19. As a result, interest rates have remained low and stability has been restored in
2 the corporate bond market. For investors, this led to allocating more funds to equities.
3 As shown in Figure 4, while the yield on the 10-year Treasury Bond has remained
4 relatively stable and in the range of 0.52 percent to 0.88 percent between March 23,
5 2020 and May 31, 2020, the S&P Utilities Index increased drastically following the
6 Federal Reserve's announcement on March 23, 2020. Therefore, the policies of the
7 Federal Reserve while resulting in stability in the bond markets has resulted in inflated
8 equity prices as investors search for returns given the current low interest rate
9 environment.

Figure 4: 10-year U.S. Treasury Bond Yield and S&P Utilities Index



1

2 **Q. What are your conclusions regarding the recent market volatility and its effect**
3 **on the cost of equity for Vectren South?**

4 A. Given the uncertainty and volatility that has characterized capital markets in 2020, it is
5 reasonable that equity investors would now require a higher return on equity to
6 compensate them for the additional risk associated with owning common stock under
7 these market conditions. Therefore, ROE estimation models that rely on recent market
8 data must be interpreted with caution to ensure the data is reflective of market
9 conditions over the near term. For example, the Constant Growth DCF model relies
10 on the average share prices for the proxy companies, which have been extremely
11 volatile in the last several months and likely currently influenced by the policies of the
12 Federal Reserve, and are not likely representative of what should be expected during
13 the period that Vectren South's rates will be in effect. This highlights two key factors
14 that must be considered when determining the ROE for Vectren South: (1) current and
15 prospective market conditions should be considered when determining where within
16 the range of results Vectren South's ROE should be set, and (2) where possible, it is
17 necessary to consider projected market data in each of the models which reflect
18 economists' expectations for the market conditions that will prevail during the period
19 that Vectren South's rates will be in effect.

20

1 B. The Effect of Market Conditions on Valuations

2

3 **Q. Please provide a brief summary of the recent monetary policy actions of the**
4 **Federal Reserve.**

5 A. Extraordinary and persistent federal intervention in capital markets artificially lowered
6 government bond yields after the Great Recession of 2008/09, as the FOMC used
7 monetary policy (both reductions in short-term interest rates and purchases of
8 Treasury bonds and mortgage-backed securities) to stimulate the U.S. economy. As
9 a result of very low or zero returns on short-term government bonds, yield-seeking
10 investors were forced into higher risk instruments, bidding up prices and reducing
11 yields on those investments. As investors moved along the risk spectrum in search of
12 yields meeting their return requirements, demand increased for dividend-paying
13 equities, such as utility stocks. As a result, valuations of utilities were at historically
14 high levels just prior to the spread of COVID-19 to the U.S.

15

16 **Q. Have equity analysts commented on the valuations of utility stocks?**

17 A. Yes. Several equity analysts have recognized that utility stock valuations are very high
18 relative to historical levels even after the decline in share prices that occurred as a
19 result of the economic effects of COVID-19. In a recent electric utilities industry report,

20 Value Line noted the following:

21 Utilities are usually seen as a safe haven when the markets are in
22 turmoil. Most of these stocks have declined far less than the broader
23 market averages, but have been much more volatile than their high
24 Price Stability Indexes suggest. Even a Safety rank of 1 (Highest) does
25 not necessarily mean that a sharp decline cannot occur. Additionally,
26 there has been a wide variance in the performance of these equities.

1 The stock of Xcel Energy has advanced modestly in price this year, but
2 the stock of Edison International has fallen more than 20% in price. The
3 average dividend yield of stocks in this industry has risen to 3.55% after
4 having fallen below 3% before the market tumbled in late February.
5 Because the broader market has declined far more than the Electric
6 Utility Industry, the median yield of dividend-paying stocks in The Value
7 Line Investment Survey is not considerably lower than the median of
8 the equities in this group.²¹

9 While the reference above is to the electric utilities segment, the stock price behavior
10 is consistent with what has been experienced by natural gas utilities. This is further
11 supported in Fidelity's 2020 Q3 sector scorecard, wherein Fidelity expects that utilities
12 will underperform relative to the broader market, notes the sector's high valuations,
13 and thus classifies the utility sector as underweight.²² Similarly, Charles Schwab,
14 which downgraded the utility sector to underperform, noted that:

15 However, amid the drop in stocks in February and March, the
16 historically low-equity-beta Utilities sector simply didn't play its
17 traditional relative safe-haven role. The sharp drop in interest rates
18 would normally be expected to provide relative support to this sector,
19 which relies on high levels of debt and tends to pay relatively high
20 dividends—often an attraction for investors when yields on fixed
21 income investments are low. However, there were unique
22 circumstances that outweighed these historical relationships.

23 For one thing, because some investors had already been reaching for
24 yield before the crisis began, the high-dividend-paying Utilities sector
25 had been bid up to record-high valuation levels. Even
26 underperformance year-to-date hasn't fully reversed those relatively
27 high valuations, so we're not confident the sector will return to its
28 defensive roots if markets sell off again.

29 Additionally, with improving prospects for economic growth, longer-
30 term yields may nudge higher, which further reduces the sector's
31 attractiveness. The earnings outlook has remained stable (when not
32 including a major divestiture in the sector), but the relative

²¹ Value Line Investment Survey, Electric Utility (West) Industry, April 24, 2020, at 2214.

²² Chisholm, Denise. "Q3 2020 Sector Scorecard: Technology leads Fidelity's latest sector scorecard," Fidelity, July 27, 2020.

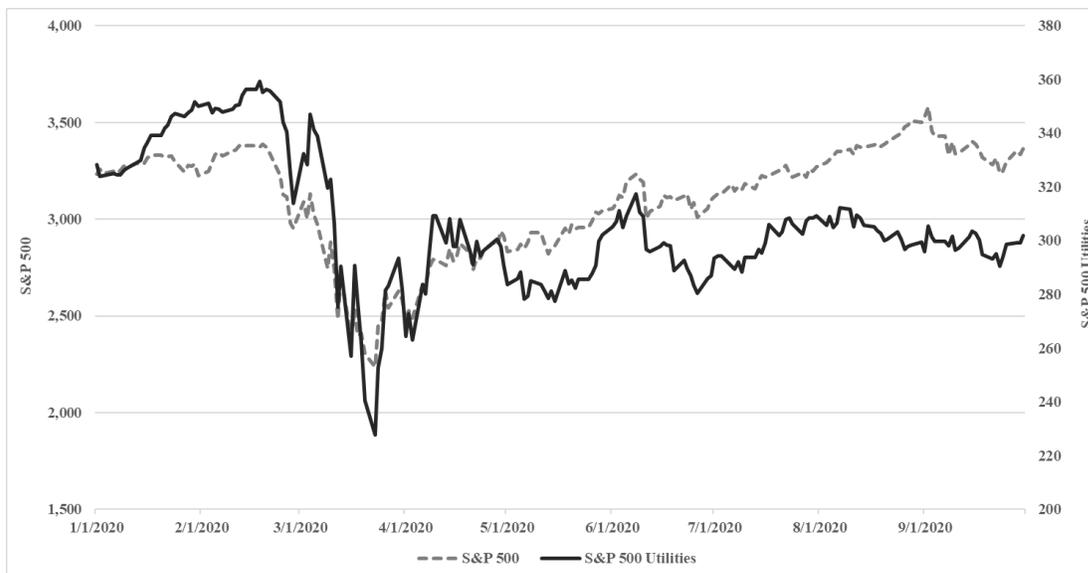
1 fundamentals score took a step back recently as other beaten down
2 sectors have seen some recovery in earnings expectations. And the
3 sector's short-term relative performance has lagged, despite a recent
4 increase in volatility and drop in rates amid a rise in COVID-19 cases.
5 Bottom line, we are maintaining an underperform rating on Utilities.²³

6

7 **Q. How have utility stocks performed as compared to the broader market?**

8 A. As shown in Figure 5, the S&P utilities index has underperformed the broader market
9 since March 2020. If economic conditions improve and interest rates increase, bonds
10 become a substitute for utility stocks, which results in an increase in dividend yields.
11 This change in market conditions, which is expected over the long term, implies that
12 the ROE calculated using historical market data in the DCF model may understate the
13 forward-looking cost of equity.

14 **Figure 5: Comparison of the S&P500 to the S&P Utilities Index**



15

²³ Charles Schwab, Utilities Sector Rating: Underperform, September 10, 2020.

1 **Q. What is the effect of high valuations of utility stocks on the DCF model?**

2 A. High valuations have the effect of depressing the dividend yields, which results in
3 overall lower estimates of the cost of equity resulting from the DCF model. Currently,
4 the relatively high valuations and relatively low dividend yields imply that the ROE
5 calculated using historical market data in the DCF model may understate the forward-
6 looking cost of equity.

7

8 C. Effect of Tax Reform on the ROE and Capital Structure

9

10 **Q. Are there other factors that should be considered in determining the cost of**
11 **equity for Vectren South?**

12 A. Yes. The effect of the Tax Cuts and Jobs Act of 2017 ("TCJA") should also be
13 considered in the determination of the cost of equity. It is also relevant to setting the
14 equity ratio in the capital structure, which I address in Section VIII of my testimony.
15 The credit rating agencies have commented on the effect of the TCJA on regulated
16 utilities. In summary, the TCJA has reduced utility revenues due to the lower federal
17 income taxes, the end of bonus depreciation, and the requirement to return excess
18 Accumulated Deferred Income Taxes ("ADIT"). This change in revenue reduces
19 Funds From Operations ("FFO") metrics across the sector, and absent regulatory
20 mitigation strategies, has led to weaker credit metrics and negative ratings actions for
21 some utilities.²⁴

²⁴ FitchRatings, Special Report, What Investors Want to Know, "Tax Reform Impact on the U.S. Utilities, Power & Gas Sector," January 24, 2018.

1

2 **Q. Have credit or equity analysts commented on the effect of the TCJA on utilities?**

3 A. Yes. Each of the credit rating agencies has indicated that the TCJA is having an
4 overall negative credit impact on regulated operating companies of utilities and their
5 holding companies due to the reduction in cash flow that results from the change in
6 the federal tax rate and the loss of bonus depreciation.^{25,26}

7

8 **Q. How has Moody's responded to the increased risk for utilities resulting from the**
9 **TCJA?**

10 A. Moody's downgraded the outlook for the entire regulated utility industry from Stable to
11 Negative for the first time ever, citing ongoing concerns about the negative effect of
12 the TCJA on cash flows of regulated utilities. Since mid-2018, Moody's has
13 downgraded the credit ratings of several utilities based in part on the effects of tax
14 reform on financial metrics. As shown in Figure 6, the downgrades have continued in
15 recent months.

16

Figure 6: Credit Rating Downgrades Resulting from TCJA

²⁵ Standard & Poor's Ratings, "Industry Top Trends 2019, North America Regulated Utilities", November 8, 2018.

²⁶ FitchRatings, Special Report, What Investors Want to Know, "Tax Reform Impact on the U.S. Utilities, Power & Gas Sector", January 24, 2018.

Utility	Rating Agency	Credit Rating before TCJA	Credit Rating after TCJA	Downgrade Date
Electric Transmission Texas	Moody's	Baa1	Baa2	3/24/2020
New Jersey Natural Gas Company	Moody's	Aa3	A1	3/18/2020
Consolidated Edison Company of New York	Moody's	A3	Baa1	3/17/2020
Consolidated Edison, Inc.	Moody's	Baa1	Baa2	3/17/2020
Washington Gas Light Company	Moody's	A2	A3	1/30/2020
Public Service Co. of North Carolina, Inc.	Moody's	A3	Baa1	1/30/2020
Wisconsin Power and Light Company	Moody's	A2	A3	12/11/2019
Wisconsin Gas LLC	Moody's	A2	A3	11/20/2019
Vectren Utility Holdings	Moody's	A2	A3	10/25/2019
Southern Indiana Gas & Electric Company	Moody's	A2	A3	10/25/2019
Indiana Gas Company	Moody's	A2	A3	10/25/2019
El Paso Electric Company	Moody's	Baa1	Baa2	9/17/2019
Questar Gas Company	Moody's	A2	A3	8/15/2019
DTE Gas Company	Moody's	A2	A3	7/22/2019
South Jersey Gas Company	Moody's	A2	A3	7/17/2019
Central Hudson Gas & Electric	Moody's	A2	A3	7/12/2019
Oklahoma Gas & Electric Company	Moody's	A2	A3	5/31/2019
American Water Works	Moody's	A3	Baa1	4/1/2019
Niagara Mohawk Power Corporation	Moody's	A2	A3	3/29/2019
KeySpan Gas East Corporation (KEDLI)	Moody's	A2	A3	3/29/2019
Xcel Energy	Moody's	A3	Baa1	3/28/2019
ALLETE, Inc.	Moody's	A3	Baa1	3/26/2019
Brooklyn Union Gas Company (KEDNY)	Moody's	A2	A3	2/22/2019
Avista Corp.	Moody's	Baa1	Baa2	12/30/2018
Consolidated Edison Company of New York	Moody's	A2	A3	10/30/2018
Consolidated Edison, Inc.	Moody's	A3	Baa1	10/30/2018
Orange and Rockland Utilities	Moody's	A3	Baa1	10/30/2018
Southwestern Public Service Company	Moody's	Baa1	Baa2	10/19/2018
Dominion Energy Gas Holdings	Moody's	A2	A3	9/20/2018
Piedmont Natural Gas Company, Inc.	Moody's	A2	A3	8/1/2018
WEC Energy Group, Inc.	Moody's	A3	Baa1	7/12/2018
Wisconsin Energy Capital	Moody's	A3	Baa1	7/12/2018
Integrus Holdings Inc.	Moody's	A3	Baa1	7/12/2018

Utility	Rating Agency	Credit Rating before TCJA	Credit Rating after TCJA	Downgrade Date
OGE Energy Corp.	Moody's	A3	Baa1	7/5/2018
Oklahoma Gas & Electric Company	Moody's	A1	A2	7/5/2018

1

2 **Q. Have other utility commissions recognized that the TCJA has had an adverse**
3 **impact on utility cash flows?**

4 A. Yes. The Oregon Public Utilities Commission ("Oregon PUC")²⁷, the Wyoming Public
5 Service Commission ("Wyoming PSC")²⁸ and the Utah Public Service Commission
6 ("Utah PSC")²⁹ have acknowledged the negative effect of the TCJA on the cash flow
7 of utilities.

8

9 **Q. Have state regulatory commissions considered market events and the utility's**
10 **ability to attract capital in determining the equity return?**

11 A. Yes. In a rate case for Consumers Energy Company in Michigan, Case No. U-18322,
12 the Michigan Public Service Commission ("Michigan PSC") Staff recommended a 9.80
13 percent ROE based on the results of the DCF, CAPM and Risk Premium approaches,

²⁷ See In the Matter of Avista Corporation, dba Avista Utilities, Application for Authorization to Issue 3,500,000 Shares of Common Stock, Docket UF 4308, Order No. 19-067 (Feb. 23, 2019); In the Matter of Avista Corporation, dba Avista Utilities, Application for Authorization to Issue and Sell \$600,000,000 of Debt Securities, UF 4313, Order No. 19-249 (July 30, 2019); In the Matter of Portland General Electric Company, Request for Authority to Extend the Maturity of an Existing \$500 Million Revolving Credit Agreement, Docket UF 4272(3), Order No. 19-025 (Jan. 23, 2019).

²⁸ In the Matter of Questar Gas Company dba Dominion Energy Wyoming's Application for Approval of Amended Stipulation Previously Approved in Docket No. 30010-150-GA-16, Docket No. 30010-180-GA-18 (Record No. 15138) (Aug. 20, 2019).

²⁹ Report and Order, Docket No. 19-057-02, Dominion Energy Utah, February 25, 2020, at 6.

1 which was supported by the Administrative Law Judge (“ALJ”).³⁰ However, in its Order
2 issued on March 29, 2018, the Michigan PSC partly disagreed with the ALJ and Staff
3 regarding expected market conditions and authorized a 10.00 percent ROE for
4 Consumers Energy Company. The Michigan PSC noted that:

5 [i]n setting the ROE at 10.00%, the Commission believes there is an
6 opportunity for the company to earn a fair return during this period of
7 atypical market conditions. This decision also reinforces the
8 Commission’s belief that customers do not benefit from a lower ROE if
9 it means the utility has difficulty accessing capital at attractive terms
10 and in a timely manner. The fact that other utilities have been able to
11 access capital despite lower ROEs, as argued by many intervenors, is
12 also a relevant consideration. It is also important to consider how
13 extreme market reactions to singular events, as have occurred in the
14 recent past, may impact how easily capital will be able to be accessed
15 during the future test period should an unforeseen market shock occur.
16 The Commission will continue to monitor a variety of market factors in
17 future rate cases to gauge whether volatility and uncertainty continue
18 to be prevalent issues that merit more consideration in setting the
19 ROE.³¹

20 The Michigan PSC references “singular events” and the overall effect the events could
21 have on the ability of a utility to access capital. Consistent with the Michigan PSC’s
22 views, it is important to consider a) that the TCJA has had a negative effect on the
23 cash flows of utilities and b) the effects of the increased volatility associated with the
24 uncertainty surrounding the economic effects of COVID-19.

25

26 **Q. What conclusions do you draw from your analysis of capital market conditions?**

27 A. The important conclusions regarding capital market conditions are:

- 28 • The assumptions used in the ROE estimation models have been affected by
29 recent, historically atypical market conditions. Therefore, it is important to allow

³⁰ Michigan Public Service Commission Order, Cause No. U-18322, Consumers Energy Company, March 29, 2018, at 37.

³¹ *Id.*, at 43.

1 the results of multiple ROE estimation models to inform the decision on the
2 appropriate ROE for Vectren South in this proceeding.

- 3 • Recent market conditions reflect short-term exogenous shocks that are not
4 expected to persist over the long-term. As a result, the recent atypical market
5 conditions do not reflect the market conditions that are expected to be present
6 during the period the rates for Vectren South will be in effect.

- 7 • As a result of the recent market volatility, it is critical to consider the results of a
8 variety of ROE estimation models, and to consider the results of the models using
9 forward-looking assumptions to estimate the cost of equity that will be in effect over
10 the proposed rate period.

- 11 • Credit rating agencies have demonstrated concern about the cash flow metrics of
12 utilities, related to the negative effects of both current market conditions and the
13 TCJA, which increases investor risk expectations for utilities. Therefore, it is
14 increasingly important to consider a rate of return and capital structure that support
15 the Company's cash flow metrics to enable Vectren South the ability to attract
16 capital at reasonable terms during the period that rates will be in effect.

17

18

19 **VI. PROXY GROUP SELECTION**

20

21 **Q. Why have you used a group of proxy companies to estimate the cost of equity**
22 **for Vectren South?**

23 A. In this proceeding, we focus on estimating the cost of equity for a natural gas utility
24 company that is not itself publicly traded. Because the cost of equity is a market-based
25 concept and because Vectren South's operations do not make up the entirety of a
26 publicly traded entity, it is necessary to establish a group of companies that is both
27 publicly traded and comparable to Vectren South in certain fundamental business and
28 financial respects to serve as its "proxy" in the ROE estimation process.

29

1 Even if Vectren South was a publicly-traded entity, it is possible that transitory events
2 could bias its market value over a given period. A significant benefit of using a proxy
3 group is that it moderates the effects of unusual events that may be associated with
4 any one company. The proxy companies used in my analyses all possess a set of
5 operating and risk characteristics that are substantially comparable to the Company,
6 and thus provide a reasonable basis to derive and estimate the appropriate ROE for
7 Vectren South.

8

9 **Q. Please provide a brief profile of Vectren South.**

10 A. Southern Indiana Gas and Electric Company is a wholly owned subsidiary of Vectren
11 Corporation, a subsidiary of CenterPoint Energy. The Company provides regulated
12 retail natural gas and/or electric service near Evansville in southwestern Indiana. The
13 Company's natural gas distribution operations in Indiana serve approximately 113,000
14 residential, commercial, and industrial customers.³² As of December 31, 2019, the
15 Company's net utility natural gas plant in Indiana was approximately \$352.1 million.³³
16 In addition, the Company had total natural gas revenues in Indiana in 2019 of
17 approximately \$100.2 million, made up of 64 percent residential, 23 percent
18 commercial, 13 percent large industrial.³⁴ For the Company's parent entity,
19 CenterPoint Energy, Vectren South accounted for 2.4 percent of its total natural gas

³² Southern Indiana Gas and Electric Company, 2019 Federal Energy Regulatory Commission ("FERC") Form 1 Annual Report, Page 123.1.

³³ Data provided by Southern Indiana Gas and Electric Company ("Vectren South").

³⁴ *Ibid.*

1 distribution operating sales revenue in 2019 (after the Company was acquired by
2 CenterPoint Energy in February 2019).³⁵ Vectren South's current credit ratings are:

3 **Figure 7: Vectren South Credit Ratings**

Credit Rating Agency	Rating	Outlook
Standard & Poor's ³⁶	BBB+	Negative
Moody's Investors Service ³⁷	A3	Stable

4
5

6 **Q. How did you select the companies included in your proxy group?**

7 A. I began with the group of 10 companies that Value Line classifies as Natural Gas
8 Distribution Utilities and applied the following screening criteria to select companies
9 that:

- 10 • pay consistent quarterly cash dividends, because companies that do not cannot
11 be analyzed using the Constant Growth DCF model;
- 12 • have investment grade long-term issuer ratings from S&P and/or Moody's;
- 13 • have positive long-term earnings growth forecasts from at least two utility industry
14 equity analysts;

³⁵ Vectren South.

³⁶ S&P Global Market Intelligence, accessed October 13, 2020.

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³⁷ Moody's. Issuer Comment, May 8, 2020.

- 1 • derive more than 70.00 percent of their total operating income from regulated
2 operations;
- 3 • derive more than 60.00 percent of regulated operating income from gas distribution
4 operations; and
- 5 • were not parties to a merger or transformative transaction during the analytical
6 periods relied on.

7

8 **Q. What is the composition of your Natural Gas Utility Proxy Group?**

9 A. The screening criteria discussed above are shown in Petitioner's Exhibit No. 12,
10 Attachment AEB-2, Schedule 2 and resulted in a proxy group consisting of the
11 companies shown in Figure 8 below.

12

Figure 8: Natural Gas Utility Proxy Group

Company	Ticker
Atmos Energy Corporation	ATO
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
South Jersey Industries, Inc.	SJI
Southwest Gas Corporation	SWX
Spire, Inc.	SR

13

14

15 **Q. Did you include New Jersey Resources Corporation ("NJR") in your proxy**
16 **group?**

17 A. No. NJR does not currently meet the screening criterion of deriving more than 70.00
18 percent of its total operating income from regulated operations over the three-year
19 period 2017 to 2019. However, I have presented my ROE results both including and
20 excluding NJR.

1

2 **Q. Why do you rely on a proxy group of natural gas utilities, rather than natural gas**
3 **and electric utilities?**

4 A. The rates that are being set in this proceeding are for Vectren South's natural gas
5 distribution utility operations on a stand-alone basis. Therefore, the use of a proxy
6 group of natural gas distribution utilities are the most risk-appropriate companies to be
7 relied upon in the peer group. I also recognize that in the Company's last basic rate
8 case, the Commission suggested examining integrated companies in the proxy
9 group.³⁸ Therefore, while I continue to believe that it is appropriate to establish the
10 return on the natural gas operations of Vectren South on a stand-alone basis, which
11 reflect risks specific to natural gas utilities that affect Vectren South's natural gas
12 distribution utility operations, I have also considered a proxy group that includes
13 combination gas and electric utilities.

14

15 **Q. How did you select the combination utilities to include in your alternative proxy**
16 **group?**

17 A. I began with the Natural Gas Utility Proxy Group companies, and added to that group,
18 combination gas and electric utilities from the group of domestic U.S. utilities that Value
19 Line classifies as Electric Utilities. In order to select those companies, I relied on the
20 simultaneous application of the following screening criteria to select a group of
21 combination gas and electric utility companies that:

22 • Are covered by at least two utility industry analysts;

³⁸ Cause No. 43112, Indiana Utility Regulatory Commission. Order Approved August 1, 2007, at 29.

- 1 • Have positive long-term earnings growth forecasts from at least two sources;
- 2 • Pay quarterly cash dividends that have not been reduced in the last three years
- 3 because companies that do not pay dividends cannot be analyzed using the DCF
- 4 model;
- 5 • Have investment grade long-term issuer ratings from S&P and/or Moody's;
- 6 • Own regulated generation assets that are in rate base;
- 7 • Derive more than 70 percent of total operating income from regulated utility
- 8 operations;
- 9 • Derive more than 50 percent of regulated operating income from electric utility
- 10 operations;
- 11 • Derive more than 10 percent of regulated operating income from gas distribution
- 12 operations; and
- 13 • Are not engaged in mergers or other transformative transactions during the
- 14 analytical period (180 days).

15

16 **Q. What is the composition of your Alternative Proxy Group?**

17 A. My Alternative Proxy Group includes the companies in the natural gas utility proxy

18 group and adds companies that are combination gas and electric utilities that meet the

19 screening criteria identified above. Figure 9 below identifies the companies included

20 in the Alternative Proxy Group.

1

Figure 9: Alternative Proxy Group

Company	Ticker
Atmos Energy Corporation	ATO
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
South Jersey Industries, Inc.	SJI
Southwest Gas Corporation	SWX
Spire, Inc.	SR
Ameren Corporation	AEE
Avista Corporation	AVA
CMS Energy	CMS
Dominion Resources, Inc.	D
DTE Energy	DTE
NorthWestern Corporation	NWE
Sempra Energy	SRE
Southern Company	SO
WEC Energy Group	WEC
Xcel Energy	XEL

2

3

4 **VII. COST OF EQUITY ESTIMATION**

5

6 **Q. Please briefly discuss the ROE in the context of the regulated rate of return**
7 **(“ROR”).**

8 A. The ROE is the cost rate applied to the equity capital in the ROR. The ROR for a
9 regulated utility is the weighted average cost of capital, in which the cost rates of the
10 individual sources of capital are weighted by their respective book values. While the

1 costs of debt and preferred stock can be directly observed, the cost of equity is market-
2 based and, therefore, must be estimated based on observable market data.

3

4 **Q. How is the required ROE determined?**

5 A. The required ROE is estimated by using one or more analytical techniques that rely
6 on market-based data to quantify investor expectations regarding equity returns,
7 adjusted for certain incremental costs and risks. Informed judgment is then applied to
8 determine where the company's cost of equity falls within the range of results. The
9 key consideration in determining the cost of equity is to ensure that the methodologies
10 employed reasonably reflect investors' views of the financial markets in general, as
11 well as the subject company (in the context of the proxy group), in particular.

12

13 **Q. What methods did you use to determine Vectren South's ROE?**

14 A. I considered the results of the Constant Growth DCF model, the CAPM, the ECAPM,
15 a Bond Yield Plus Risk Premium analysis (for the Natural Gas Utility Proxy Group
16 only)³⁹, and an Expected Earnings analysis. As discussed in more detail below, a
17 reasonable ROE estimate appropriately considers alternative methodologies and the
18 reasonableness of their individual and collective results.

19

³⁹ The Natural Gas Utility Proxy Group is my primary proxy group. Therefore, I have considered the Bond Yield Risk Premium analysis for this proxy group only.

1 A. Importance of Multiple Analytical Approaches

2

3 **Q. Why is it important to use more than one analytical approach?**

4 A. Because the cost of equity is not directly observable, it must be estimated based on
5 both quantitative and qualitative information. When faced with the task of estimating
6 the cost of equity, analysts and investors are inclined to gather and evaluate as much
7 relevant data as reasonably can be analyzed. Several models have been developed
8 to estimate the cost of equity, and I use multiple approaches to estimate the cost of
9 equity. As a practical matter, however, all the models available for estimating the cost
10 of equity are subject to limiting assumptions or other methodological
11 constraints. Consequently, many well-regarded finance texts recommend using
12 multiple approaches when estimating the cost of equity. For example, Copeland,
13 Koller, and Murrin⁴⁰ suggest using the CAPM and Arbitrage Pricing Theory model,
14 while Brigham and Gapenski⁴¹ recommend the CAPM, DCF, and Bond Yield Plus Risk
15 Premium approaches.

16

17 **Q. Do current market conditions increase the importance of using more than one**
18 **analytical approach?**

19 A. Yes. Low interest rates and the effects of the investor "flight to quality" can be seen in
20 high utility share valuations, relative to historical levels and relative to the broader

⁴⁰ Tom Copeland, Tim Koller and Jack Murrin, Valuation: Measuring and Managing the Value of Companies, 3rd Ed. (New York: McKinsey & Company, Inc., 2000), at 214.

⁴¹ Eugene Brigham, Louis Gapenski, Financial Management: Theory and Practice, 7th Ed. (Orlando: Dryden Press, 1994), at 341.

1 market. Higher utility stock valuations produce lower dividend yields and result in
2 lower cost of equity estimates from a DCF analysis. Low interest rates also affect the
3 CAPM in two ways: (1) the risk-free rate is lower, and (2) because the market risk
4 premium is a function of interest rates (i.e., it is the return on the broad stock market
5 less the risk-free interest rate), the risk premium should move higher when interest
6 rates are lower. Therefore, it is important to use multiple analytical approaches to
7 moderate the impact that the current low interest rate environment is having on the
8 ROE estimates for the proxy group and, where possible, consider using projected
9 market data in the models to estimate the return for the forward-looking period.

10

11 **Q. What are your conclusions about the results of the DCF and CAPM models?**

12 A. Recent market data that is used as the basis for the assumptions for both models have
13 been affected by market conditions. As a result, relying exclusively on historical
14 assumptions in these models, without considering whether these assumptions are
15 consistent with investors' future expectations, will underestimate the cost of equity that
16 investors would require over the period that the rates in this case are to be in effect.
17 In this instance, relying on the historically low dividend yields that are not expected to
18 continue over the period that the new rates will be in effect will underestimate the ROE
19 for Vectren South.

20

21 Furthermore, as discussed in Section IV above, Treasury bond yields have
22 experienced unprecedented volatility in recent months due to the economic effects of
23 COVID-19 and the subsequent intervention into the Treasury bond market by the

1 Federal Reserve. Therefore, the use of current averages of Treasury bond yields as
2 the estimate of the risk-free rate in the CAPM is not appropriate since recent market
3 conditions are not expected to continue over the long-term. Instead, analysts should
4 rely on projected yields of Treasury Bonds in the CAPM. The projected Treasury Bond
5 yields results in CAPM estimates that are more reflective of the market conditions that
6 investors expect during the period that the Company's rates will be in effect.

7

8 B. Constant Growth DCF Model

9

10 Q. **Please describe the DCF approach.**

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

14
$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

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

18
$$k = \frac{D_0(1+g)}{P_0} + g \quad [2]$$

19 Equation [2] is often referred to as the Constant Growth DCF model in which the first
20 term is the expected dividend yield and the second term is the expected long-term
21 growth rate.

22

1 **Q. What assumptions are required for the Constant Growth DCF model?**

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

7

8 **Q. What market data did you use to calculate the dividend yield in your Constant**
9 **Growth DCF model?**

10 A. The dividend yield in my Constant Growth DCF model is based on the proxy
11 companies' current annualized dividend and average closing stock prices over the 30-
12 , 90-, and 180-trading days ended September 30, 2020.

13

14 **Q. Why did you use 30-, 90-, and 180-day averaging periods?**

15 A. In my Constant Growth DCF model, I use an average of recent trading days to
16 calculate the term P_0 in the DCF model to ensure that the ROE is not skewed by
17 anomalous events that may affect stock prices on any given trading day. The
18 averaging period should also be reasonably representative of expected capital market
19 conditions over the long-term. However, the averaging periods that I use rely on
20 historical data that are not consistent with the forward-looking market expectations.
21 Therefore, the results of my Constant Growth DCF model using historical data may
22 underestimate the forward-looking cost of equity. As a result, I place more weight on
23 the mean to mean-high results produced by my Constant Growth DCF model.

1

2 **Q. Did you make any adjustments to the dividend yield to account for periodic**
3 **growth in dividends?**

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

12

13 **Q. Why is it important to select appropriate measures of long-term growth in**
14 **applying the DCF model?**

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

1

2 **Q. Which sources of long-term earnings growth rates did you use?**

3 A. My Constant Growth DCF model incorporates three sources of long-term earnings
4 growth rates: (1) Zacks Investment Research; (2) Thomson First Call (provided by
5 Yahoo!Finance); and (3) Value Line Investment Survey.

6 C. Discounted Cash Flow Model Results

7

8 **Q. How did you calculate the range of results for the Constant Growth DCF Models?**

9 A. I calculated the low result for my DCF model using the minimum growth rate (*i.e.*, the
10 lowest of the Value Line, First Call, and Zacks earnings growth rates) for each of the
11 proxy group companies. Thus, the low result reflects the minimum DCF result for the
12 proxy group. I used a similar approach to calculate the high results, using the highest
13 growth rate for each proxy group company. The mean results were calculated using
14 the average growth rates from all sources.

15

16 **Q. Have you excluded any of the DCF results for individual companies in your
17 proxy group?**

18 A. Yes, I have. It is appropriate to exclude Constant Growth DCF results below a
19 specified threshold at which equity investors would consider such returns to provide
20 an insufficient return increment above long-term debt costs. The average credit rating

1 for the companies in my proxy group is A-.⁴² The average yield on Moody's A-rated
2 utility bonds for the 30 trading days ending September 30, 2020, was 2.91 percent.⁴³
3 As shown in Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 3, I have
4 eliminated Constant Growth DCF results lower than 7.00% because such returns
5 would provide equity investors a risk premium only 409 basis points above A-rated
6 utility bonds.

7

8 **Q. What were the results of your Constant Growth DCF analyses?**

9 A. Figure 10 summarizes the results of my DCF analyses. As shown in Figure 10, the
10 mean DCF results for the Natural Gas Utility Proxy Group range from 9.92 percent to
11 10.55 percent, and between 9.36 percent and 9.58 percent for the Alternative Proxy
12 Group.

⁴² The average credit rating is calculated by assigning a numerical scale of 1 to 22 to the range of S&P and Moody's rating tiers. For the proxy group excluding NJR, the average is 16.2, and for the proxy group plus NJR, the average is 16.6. In both cases, this corresponds to a rating of between A- and A on the S&P scale.

⁴³ Source: Bloomberg Professional.

1

Figure 10: Constant Growth Discounted Cash Flow Results⁴⁴

	Mean Low	Mean	Mean High
Natural Gas Utility Proxy Group			
30-Day Average	9.76%	10.55%	11.81%
90-Day Average	9.90%	10.19%	11.45%
180-Day Average	9.65%	9.92%	11.18%
Alternative Proxy Group			
30-Day Average	9.18%	9.58%	10.54%
90-Day Average	9.20%	9.43%	10.35%
180-Day Average	9.08%	9.36%	10.17%

2

3 **Q. What are your conclusions about the results of the DCF models?**

4 A. As discussed previously, one primary assumption of the DCF models is a constant P/E
5 ratio. That assumption is heavily influenced by the market price of utility stocks. To
6 the extent that utility valuations are high and may not be sustainable, it is important to
7 consider the results of the DCF models with caution. As discussed in Section IV
8 above, while dividend yields have increased slightly due to the declines in utility share
9 prices as a result of the economic effects of COVID-19, they are still low historically.
10 This demonstrates that the results of the current DCF models are significantly below
11 more normal market conditions. Therefore, while I have given weight to the results of

⁴⁴ See Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 1. For the Natural Gas Utility Proxy plus NJR, the mean ranges from 9.75 percent to 10.38 percent, and the mean high ranges from 11.02 percent to 11.66 percent.

1 the Constant Growth DCF model, my recommendation also gives weight to the results
2 of other ROE estimation models.

3

4 D. CAPM Analysis

5

6 **Q. Please briefly describe the CAPM.**

7 A. The CAPM (Equation [3]) is a risk premium approach that estimates the cost of equity
8 for a given security as a function of a risk-free return plus a risk premium to
9 compensate investors for the non-diversifiable or "systematic" risk of that security.
10 This second component is the product of the market risk premium and the Beta
11 coefficient, which measures the relative riskiness of the security being evaluated.

12

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

15

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

16

Where:

17

K_e = the required market ROE;

18

β = Beta coefficient of an individual security;

19

r_f = the risk-free rate of return; and

20

r_m = the required return on the market.

21

22 In this specification, the term $(r_m - r_f)$ represents the market risk premium. According
23 to the theory underlying the CAPM, because unsystematic risk can be diversified

1 away, investors should only be concerned with systematic or non-diversifiable risk.

2 Non-diversifiable risk is measured by Beta, which is defined in Equation [4]:

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

3 The variance of the market return (i.e., Variance (r_m)) is a measure of the uncertainty
4 of the general market, and the covariance between the return on a specific security
5 and the general market (i.e., Covariance (r_e, r_m)) reflects the extent to which the return
6 on that security will respond to a given change in the general market return. Thus,
7 Beta represents the risk of the security relative to the general market.

8

9 **Q. What risk-free rate did you use in your CAPM analysis?**

10 A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day
11 average yield on 30-year U.S. Treasury bonds, which is 1.42 percent;⁴⁵ (2) the
12 average projected 30-year U.S. Treasury bond yield for the first quarter of 2021
13 through the first quarter of 2022, which is 1.72 percent;⁴⁶ and (3) the average projected
14 30-year U.S. Treasury bond yield for 2022 through 2026, which is 3.00 percent.⁴⁷

15

16 **Q. Would you place more weight on one of these scenarios?**

17 A. Yes. Based on current market conditions, I place more weight on the results of the
18 projected yields on the 30-year Treasury bonds. As discussed previously, the

⁴⁵ Bloomberg Professional, as of September 30, 2020.

⁴⁶ Blue Chip Financial Forecasts, Vol. 39, No. 10, October 1, 2020, at 2.

⁴⁷ Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14.

1 estimation of the cost of equity in this case should be forward-looking because it is the
2 return that investors would receive over the future rate period. Therefore, the inputs
3 and assumptions used in the CAPM analysis should reflect the expectations of the
4 market at that time. While I have included the results of a CAPM analysis that relies
5 on the current average risk-free rate, this analysis fails to take into consideration the
6 effect of the market's expectations for interest rate increases on the cost of equity.

7

8 **Q. What Beta coefficients did you use in your CAPM analysis?**

9 A. As shown on Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 4, I used the
10 Beta coefficients for the proxy group companies as reported by Bloomberg and Value
11 Line. Value Line Beta coefficients are calculated over 5 years of historical data. The
12 Bloomberg Beta coefficients that I relied on were calculated over a 10-year basis.

13

14 **Q. How did you estimate the market risk premium in the CAPM?**

15 A. I estimated the market risk premium based on the expected return on the S&P 500
16 Index less the yield on the 30-year Treasury bond. I calculated the expected return
17 on the S&P 500 Index using publicly available data: S&P's published dividend yield
18 and five-year projected growth rate for the entire S&P 500 Index. As shown in
19 Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 4, based on S&P's five-year
20 growth rate for the S&P 500 of 12.27 percent and dividend yield of 1.75 percent, the
21 expected return on the S&P 500 Index is 14.12 percent. As a result, the implied market
22 risk premium over the current 30-day average of the 30-year U.S. Treasury bond yield,

1 and over projected yields on the 30-year U.S. Treasury bond, ranges from 11.12
2 percent to 12.70 percent.

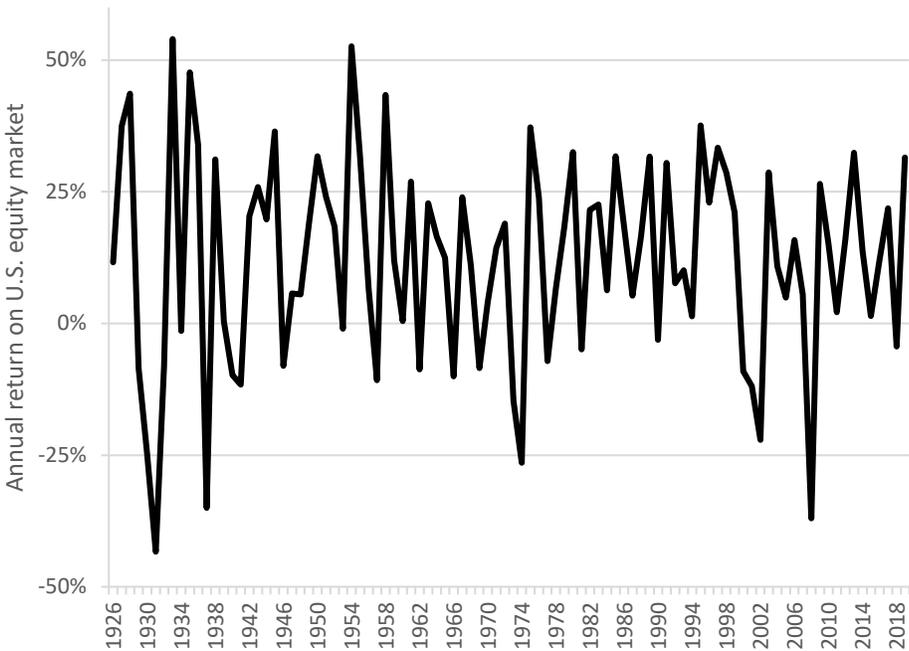
3

4 **Q. How does the current expected market return of 14.12 percent compare to**
5 **observed historical market returns?**

6 A. Given the range of annual equity returns that have been observed over the past
7 century (shown in Figure 11), a current expected return of 14.12 is not unreasonable.
8 In 47 out of the past 94 years (or 50 percent of observations), the realized equity return
9 was at least 14.12 or greater.

10

Figure 11: Realized U.S. equity market returns (1926-2019) ⁴⁸



11

⁴⁸ Depicts total annual returns on large company stocks, as reported in the 2020 Duff and Phelps SBI Yearbook.

1

2 **Q. Did you consider another form of the CAPM in your analysis?**

3 A. Yes. I have also considered the results of an ECAPM (alternatively referred to as the
4 Zero-Beta CAPM)⁴⁹ in estimating the cost of equity for Vectren South. The ECAPM
5 calculates the product of the adjusted Beta coefficient and the market risk premium
6 and applies a weight of 75.00 percent to that result. The model then applies a 25.00
7 percent weight to the market risk premium, without any effect from the Beta coefficient.
8 The results of the two calculations are summed, along with the risk-free rate, to
9 produce the ECAPM result, as noted in Equation [5] below:

10
$$k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

11 Where:

12 k_e = the required market ROE;

13 β = Adjusted Beta coefficient of an individual security;

14 r_f = the risk-free rate of return; and

15 r_m = the required return on the market as a whole.

16 In essence, the Empirical form of the CAPM addresses the tendency of the "traditional"
17 CAPM to underestimate the cost of equity for companies with low Beta coefficients
18 such as regulated utilities. In that regard, the ECAPM is not redundant to the use of
19 adjusted Betas; rather, it recognizes the results of academic research indicating that
20 the risk-return relationship is different (in essence, flatter) than estimated by the
21 CAPM, and that the CAPM underestimates the "alpha," or the constant return term.⁵⁰

⁴⁹ See e.g., Roger A. Morin, *New Regulatory Finance*, Public Utilities Reports, Inc., 2006, at 189.

⁵⁰ *Id.*, at 191.

1 As with the CAPM, my application of the ECAPM uses the forward-looking market risk
2 premium estimates, the three yields on 30-year Treasury securities noted earlier as
3 the risk-free rate, and the Bloomberg and Value Line Beta coefficients.

4

5 **Q. What are the results of your CAPM analyses?**

6 A. As shown in Figure 12 (see also Petitioner's Exhibit No. 12, Attachment AEB-2,
7 Schedule 4), my traditional CAPM analysis produces a range of returns from 11.60
8 percent to 12.46 percent for the Natural Gas Utility Proxy Group, and 11.46 to 12.49
9 percent for the Alternative Proxy Group.⁵¹ The ECAPM analysis results range from
10 12.23 percent to 12.87 percent for the Natural Gas Utility Proxy Group, and 12.13
11 percent to 12.90 percent for the Alternative Proxy Group.⁵² Thus, the range
12 established for the proxy group by the traditional CAPM and the ECAPM is 11.60
13 percent to 12.87 percent with a mean of 12.28 percent (Natural Gas Utility Proxy
14 Group), and a range between 11.46 percent and 12.90 percent, with a mean of 12.24
15 percent (Alternative Proxy Group).

⁵¹ For the Natural Gas Utility Proxy Group plus NJR, the CAPM range is 11.64 percent to 12.54 percent.

⁵² For the Natural Gas Utility Proxy Group plus NJR, the ECAPM range is 12.26 percent to 12.93 percent.

1

Figure 12: CAPM Results⁵³

	Current Risk-Free Rate (1.42%)	Q1 2021 – Q1 2022 Projected Risk-Free Rate (1.72%)	2022-2026 Projected Risk-Free Rate (3.00%)
Natural Gas Utility Proxy Group			
CAPM			
Value Line Beta	12.22%	12.26%	12.46%
Bloomberg Beta	11.60%	11.66%	11.92%
ECAPM			
Value Line Beta	12.70%	12.73%	12.87%
Bloomberg Beta	12.23%	12.28%	12.47%
Alternative Proxy Group			
CAPM			
Value Line Beta	12.26%	12.30%	12.49%
Bloomberg Beta	11.46%	11.50%	11.79%
ECAPM			
Value Line Beta	12.73%	12.76%	12.90%
Bloomberg Beta	12.13%	12.16%	12.37%

2

3 **E. Bond Yield Plus Risk Premium Analysis**

4

5 **Q. Please describe the Bond Yield Plus Risk Premium approach.**

6 A. This approach is based on the fundamental principle that because bondholders have
7 a superior right to be repaid, equity investors bear a residual risk associated with equity
8 ownership and therefore require a premium over the return they would have earned
9 as a bondholder. That is, because returns to equity holders have greater risk than
10 returns to bondholders, equity investors must be compensated to bear that risk. Risk

⁵³ Results are for the proxy group of six companies, not including NJR.

1 premium approaches, therefore, estimate the cost of equity as the sum of the equity
2 risk premium and the yield on a "risk-free" class of bonds.

3

4 **Q. Are there other considerations that should be addressed in conducting this**
5 **analysis?**

6 A. Yes, there are. It is important to recognize both academic literature and market
7 evidence indicating that the equity risk premium (as used in this approach) is inversely
8 related to the level of interest rates. That is, as interest rates increase, the equity risk
9 premium decreases, and vice versa. Consequently, it is important to develop an
10 analysis that: (1) reflects the inverse relationship between interest rates and the equity
11 risk premium; and (2) relies on recent and expected market conditions. Such an
12 analysis can be developed based on a regression of the risk premium as a function of
13 U.S. Treasury bond yields. In my analysis, I used actual authorized returns for natural
14 gas utility companies and corresponding long-term Treasury yields as the historical
15 measure of the cost of equity to determine the risk premium. If we let authorized ROEs
16 for natural gas utilities serve as the measure of required equity returns and define the
17 yield on the long-term U.S. Treasury bond as the relevant measure of interest rates,
18 the risk premium simply would be the difference between those two points.⁵⁴

⁵⁴ See e.g., S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. See also Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, Financial Management, Spring 1986, at 66.

1

2 **Q. Is the Bond Yield Plus Risk Premium analysis relevant to investors?**

3 A. Yes, it is. Investors are aware of ROE awards in other jurisdictions, and they consider
4 those awards as a benchmark for a reasonable level of equity returns for utilities of
5 comparable risk operating in other jurisdictions. Because my Bond Yield Plus Risk
6 Premium analysis is based on authorized ROEs for utility companies relative to
7 corresponding Treasury yields, it provides relevant information to assess the return
8 expectations of investors.

9

10 **Q. What did your Bond Yield Plus Risk Premium analysis reveal?**

11 A. As shown in Figure 13 below, from 1992 through September 2020, there was a strong
12 negative relationship between risk premia and interest rates. To estimate that
13 relationship, I conducted a regression analysis using Equation [6]:

14
$$RP = a + b(T)RP = a + b(T) [6]$$

15 Where:

16 RP = Risk Premium (difference between allowed ROEs and the yield on 30-year U.S.
17 Treasury bonds)

18 a = intercept term

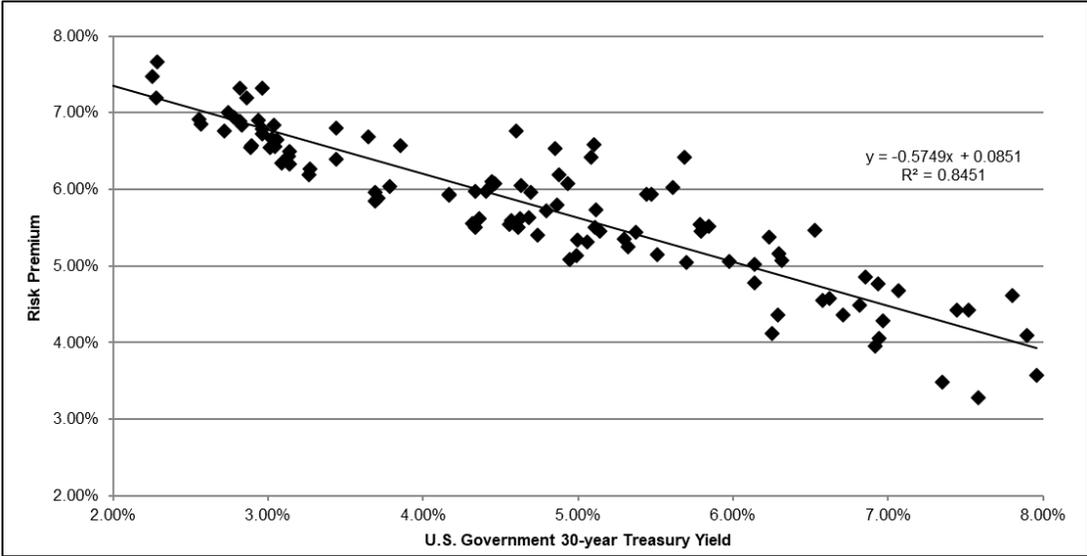
19 b = slope term

20 T = 30-year U.S. Treasury bond yield

21 Data regarding allowed ROEs were derived from 653 natural gas utility rate cases from
22 1992 through September 2020 as reported by Regulatory Research Associates

1 ("RRA").⁵⁵ This equation's coefficients were statistically significant at the 99.00
2 percent level.

3 **Figure 13: Risk Premium Results**



4
5 As shown on Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 5, based on the
6 current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 1.42 percent),
7 the risk premium would be 7.69 percent, resulting in an estimated ROE of 9.11 percent.
8 Based on the near-term (Q1 2021 – Q1 2022) projections of the 30-year U.S. Treasury
9 bond yield (i.e., 1.72 percent), the risk premium would be 7.52 percent, resulting in an
10 estimated ROE of 9.24 percent. Based on longer-term (2022 – 2026) projections of
11 the 30-year U.S. Treasury bond yield (i.e., 3.00 percent), the risk premium would be
12 6.78 percent, resulting in an estimated ROE of 9.78 percent.

⁵⁵ This analysis began with a total of 1,051 natural gas cases, which were screened to eliminate limited issue rider cases, transmission cases, and cases that did not specify an authorized ROE. After applying those screening criteria, the analysis was based on data for 660 cases.

1

2 **Q. How did the results of the Bond Yield Risk Premium inform your recommended**
3 **ROE for Vectren South?**

4 A. I have considered the results of the Bond Yield Risk Premium analysis in setting my
5 recommended ROE for Vectren South. As noted above, investors consider the ROE
6 award of a company when assessing the risk of that company as compared to utilities
7 of comparable risk operating in other jurisdictions. The Risk Premium analysis takes
8 into account this comparison by estimating the return expectations of investors based
9 on the current and past ROE awards of gas utilities across the U.S.

10

11 F. Expected Earnings Analysis

12

13 **Q. Have you considered any additional analysis to estimate the cost of equity for**
14 **Vectren South?**

15 A. Yes. I have considered an Expected Earnings analysis based on the projected ROEs
16 for each of the proxy group companies.

17

18 **Q. What is an Expected Earnings analysis?**

19 A. The Expected Earnings methodology is a comparable earnings analysis that
20 calculates the earnings that an investor expects to receive on the book value of a
21 stock. The Expected Earnings analysis is a forward-looking estimate of investors'
22 expected returns. The use of an Expected Earnings approach based on the proxy
23 companies provides a range of the expected returns on a group of risk comparable

1 companies to the subject company. This range is useful in helping to determine the
2 opportunity cost of investing in the subject company, which is relevant in determining
3 a company's ROE.

4

5 **Q. Have any regulators considered the use of an Expected Earnings analysis?**

6 A. Yes. The Washington Utilities & Transportation Commission ("Washington UTC"), in
7 its order in Dockets UE-170485 and UG-170486, considered the results of the
8 Comparable Earnings analysis⁵⁶ in establishing the authorized ROE for Avista
9 Corporation. The Washington UTC noted that it tends to place more weight on the
10 results of the DCF, CAPM and Risk Premium analyses; however, given the wide range
11 of CAPM results presented by the ROE witnesses in the case, the Washington UTC
12 decided to apply weight to the results of the Comparable Earnings analysis.⁵⁷

13 Specifically, the Washington UTC stated the following:

14 Finally, as additional data points for our consideration of establishing
15 Avista's ROE, we note that two witness *[sic]*, Mr. McKenzie for Avista
16 and Mr. Parcell for Staff, employ the CE approach to two proxy groups
17 of companies. The respective mid-points of each witnesses' *[sic]* CE
18 analysis are 10.5 and 9.5 percent, respectively, with an average of 10.0
19 percent. Although we generally do not apply material weight to the CE
20 method, having stronger reliance on the DCF, CAPM and RP methods,
21 we are inclined to include the CE method here given the anomalous
22 CAPM results described previously.⁵⁸

⁵⁶ The Expected Earnings analysis is a form of the Comparable Earnings analysis that relies exclusively on forward-looking projections.

⁵⁷ *Wash. Utils. & Transp. Comm'n v. Avista Corp.*, Docket Nos. UE-170485 and UG-170486, Order 07, ¶ 65 (April 26, 2018). Comparable Earnings as discussed in this docket is similar to the Expected Earnings analysis developed in my Prepared Direct Testimony.

⁵⁸ *Ibid.*

1 Additionally, in its order in Docket No. ER12111052 for Jersey Central Power and Light
2 Company, the New Jersey Board of Public Utilities ("NJ Board") noted that rate of
3 return experts use a number of models including the DCF, CAPM, Risk Premium, and
4 Comparable Earnings to estimate the return required by investors. Specifically, the
5 Board noted:

6 In determining the cost of equity capital for a regulated utility, rate of
7 return experts typically use a variety of financial models to simulate the
8 returns assertedly required by investors. These include Discounted
9 Cash Flow (DCF) models, Risk Premium models, Capital Asset Pricing
10 Models (CAPM), Comparable Earnings models and variations thereof.
11 However, it is widely acknowledged that these economic models
12 constitute estimates, which, although probative, are not necessarily
13 precise. The imprecision in the estimates provided by these models is
14 more pronounced as a result of the current economic environment still
15 recovering from the Great Recession, characterized by some as the
16 worst economy since the Great Depression.⁵⁹

17

18 **Q. How did you develop the Expected Earnings approach?**

19 A. I relied on Value Line projections of the return on equity capital for the proxy companies
20 for the period from 2023-2025. I adjusted those projected ROEs to account for the
21 fact that the ROEs reported by Value Line are calculated on the basis of common
22 shares outstanding at the end of the period, as opposed to average shares outstanding
23 over the period. As shown in Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule
24 6, the Expected Earnings analysis for the Natural Gas Utility Proxy Group results in a
25 mean of 9.53 percent.⁶⁰ The Expected Earnings analysis for the Alternative Proxy
26 Group results in a mean of 10.48 percent.

⁵⁹ BPU Docket No. ER12111052, OAL Docket No. PUC16310-12, Order Adopting Initial Decision with Modifications and Clarifications, March 18, 2015, at 71.

⁶⁰ For the proxy group plus NJR, the mean is 9.59 percent.

1

2

3 **VIII. REGULATORY AND BUSINESS RISKS**

4

5 **Q. Do the DCF, CAPM, and Expected Earnings results for the proxy group, taken**
6 **alone, provide an appropriate estimate of the cost of equity for Vectren South?**

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

12

13 A. Small Size Risk

14

15 **Q. Please explain the risk associated with small size.**

16 A. Both the financial and academic communities have long accepted the proposition that
17 the cost of equity for small firms is subject to a "size effect." While empirical evidence
18 of the size effect often is based on studies of industries other than regulated utilities,
19 utility analysts also have noted the risk associated with small market capitalizations.

20 Specifically, an analyst for Ibbotson Associates noted:

21

For small utilities, investors face additional obstacles, such as a smaller
customer base, limited financial resources, and a lack of diversification

22

1 across customers, energy sources, and geography. These obstacles
2 imply a higher investor return.⁶¹
3

4 **Q. How does the smaller size of a utility affect its business risk?**

5 A. In general, smaller companies are less able to withstand adverse events that affect
6 their revenues and expenses. The impact of weather variability, the loss of large
7 customers to bypass opportunities, or the destruction of demand as a result of general
8 macroeconomic conditions or fuel price volatility will have a proportionately greater
9 impact on the earnings and cash flow volatility of smaller utilities. Similarly, capital
10 expenditures for non-revenue producing investments, such as system maintenance
11 and replacements, will put proportionately greater pressure on customer costs,
12 potentially leading to customer attrition or demand reduction. Taken together, these
13 risks affect the return required by investors for smaller companies.
14

15 **Q. How do Vectren South's natural gas distribution operations in Indiana compare**
16 **in size to the proxy group companies?**

17 A. As noted previously, Vectren South serves approximately 113,000 residential,
18 commercial, and industrial natural gas customers as of year-end 2019, and had net
19 utility natural gas plant in Indiana of approximately \$352.1 million, and expects to have
20 net utility natural gas plant in Indiana in 2021 totaling \$469.39 million.⁶² Vectren
21 South's natural gas distribution operations in Indiana are substantially smaller than the

⁶¹ Michael Annin, Equity and the Small-Stock Effect, Public Utilities Fortnightly, October 15, 1995.

⁶² Data provided by Vectren South.

1 median for the proxy group companies in terms of market capitalization. Petitioner's
2 Exhibit No. 12, Attachment AEB-2, Schedule 7 provides the actual market
3 capitalization for the proxy group companies and estimates the implied market
4 capitalization for Vectren South (i.e., the implied market capitalization if Vectren
5 South's natural gas distribution operations in Indiana were a stand-alone publicly-
6 traded entity). To estimate the size of the Company's market capitalization, relative to
7 the proxy group, I calculated Vectren South's projected capital structure equity
8 component of \$221.55 million by multiplying Vectren South's 2021 expected net utility
9 plant in service of approximately \$469.39 million by Vectren South's projected
10 common equity ratio of 47.20 percent.⁶³

11

12 I then applied the median market-to-book ratio for the proxy group of 1.49 to Vectren
13 South's implied common equity balance and arrived at an implied market capitalization
14 of approximately \$330.42 million, or 10.48 percent of the median market capitalization
15 for the proxy group.⁶⁴

16

17 **Q. How did you estimate the size premium for Vectren South?**

18 A. Given this relative size information, it is possible to estimate the impact of size on the
19 ROE for Vectren South using Duff and Phelps data that estimates the stock risk premia
20 based on the size of a company's market capitalization. As shown in Petitioner's

⁶³ Common equity of 47.20% includes the impact of 14.42% cost free capital and 0.52% in other capital to total capital. Common equity is 55.49% of investor provided capital excluding the impact of cost free and other capital.

⁶⁴ For the proxy group plus NJR, the median market-to-book ratio is 1.50, and the implied market cap is \$364.00 million.

1 Exhibit No. 12, Attachment AEB-2, Schedule 7, the median market capitalization of
2 the proxy group of approximately \$3.15 billion corresponds to the fifth decile of the
3 Duff and Phelps market capitalization data.⁶⁵ Based on Duff and Phelps' analysis, that
4 decile corresponds to a size premium of 1.08 percent (i.e., 108 basis points). Vectren
5 South's implied market capitalization of approximately \$330.42 million falls within the
6 ninth decile, which comprises market capitalization levels up to \$515.60 million and
7 corresponds to a size premium of 2.26 percent (i.e., 226 basis points). The difference
8 between those size premia is 118 basis points (i.e., 2.26 percent minus 1.08 percent).

9

10 **Q. Were utility companies included in the size premium study conducted by Duff**
11 **and Phelps?**

12 A. Yes. In fact, as shown in the Duff and Phelps' 2019 Valuation Handbook, OGE Energy
13 Corp. had the largest market capitalization of the companies contained in the fourth
14 decile.⁶⁶ Therefore, Duff and Phelps did include utility companies in its size risk
15 premium study.

16

17 **Q. Is the size premium applicable to companies in regulated industries such as**
18 **natural gas utilities?**

19 A. Yes, it is. In fact, Stéphane Chrétien and Frank Coggins in the article "Cost of Equity
20 for Energy Utilities: Beyond the CAPM",⁶⁷ recently studied the CAPM and its ability to

⁶⁵ For the proxy group plus NJR, the median market cap is \$2.85 billion, which also corresponds to the fifth decile.

⁶⁶ Duff & Phelps, Valuation Handbook: Guide to Cost of Capital, 2019, Exhibit 7.2.

⁶⁷ Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." *Energy Studies Review*, vol. 18, no. 2, 2011, doi:10.15173/esr.v18i2.531.

1 estimate the risk premium for the utility industry in particular subgroups of utilities. One
2 of the subgroups was a group of natural gas distribution companies that contained
3 many of the same natural gas distribution companies included in my proxy group.⁶⁸
4 The article considered the CAPM, the Fama-French three-factor model and a model
5 similar to the ECAPM that I have also considered above. In the article, the Fama-
6 French three-factor model explicitly included an adjustment to the CAPM for risk
7 associated with size. As Chrétien and Coggins show, the Beta coefficient on the size
8 variable for the U.S. natural gas utility group was positive and statistically significant
9 indicating that small size risk was relevant for regulated natural gas utilities.⁶⁹ This
10 demonstrates that the traditional CAPM model would not account for risk associated
11 with small size.

12

13 **Q. Have regulators in other jurisdictions made a specific risk adjustment to the**
14 **ROE results based on a company's small size?**

15 A. Yes. In Order No. 15, the Regulatory Commission of Alaska ("RCA") concluded that
16 Alaska Electric Light and Power Company ("AEL&P") was riskier than the proxy group
17 companies due to small size as well as other business risks. The RCA did "not believe
18 that adopting the upper end of the range of ROE analyses in this case, without an
19 explicit adjustment, would adequately compensate AEL&P for its greater risk."⁷⁰

⁶⁸ The U.S. natural gas utility group included: AGL Resources Inc., Atmos Energy Corp., Laclede Group, New Jersey Resources Corp., Northwest Natural Gas Co., Piedmont Natural Gas Co., South Jersey Industries, Southwest Gas Corp. and WGL Holdings Inc.

⁶⁹ Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." *Energy Studies Review*, vol. 18, no. 2, 2011, doi:10.15173/esr.v18i2.531, at 31.

⁷⁰ Docket No. U-10-29, In the Matter of the Revenue Requirement and Cost of Service Study Designated as TA381-1 Filed by Alaska Electric Light and Power Company, Order entered September 2, 2011 (Order No. 15), at 37.

1 Thus, the RCA awarded AEL&P an ROE of 12.875 percent which was 108 basis points
2 above the highest return on equity estimate from any model presented in the case.⁷¹
3 Similarly, in Order No. 19, the RCA noted that small size as well as other business
4 risks such as structural regulatory lag, weather risk, alternative rate mechanisms, gas
5 supply risk, geographic isolation and economic conditions increased the risk of
6 ENSTAR Natural Gas Company.⁷² Ultimately, the RCA concluded that:

7 Although we agree that the risk factors identified by ENSTAR increase
8 its risk, we do not attempt to quantify the amount of that increase.
9 Rather, we take the factors into consideration when evaluating the
10 remainder of the record and the recommendations presented by the
11 parties. After applying our reasoned judgment to the record, we find
12 that 11.875% represents a fair ROE for ENSTAR.⁷³

13 Additionally, in Docket No. E017/GR-15-1033 for Otter Tail Power Company ("Otter
14 Tail"), the Minnesota Public Utilities Commission ("Minnesota PUC") selected an ROE
15 above the mean DCF results, as a result of multiple factors including Otter Tail's small
16 size. The Minnesota PUC stated:

17 The record in this case establishes a compelling basis for selecting an
18 ROE above the mean average within the DCF range, given Otter Tail's
19 unique characteristics and circumstances relative to other utilities in the
20 proxy group. These factors include the company's relatively smaller
21 size, geographically diffuse customer base, and the scope of the
22 Company's planned infrastructure investments.⁷⁴

⁷¹ *Id.*, at 32 and 37.

⁷² Docket No. U-16-066, In the Matter of the Tariff Revision Designated as TA285-4 Filed by ENSTAR Natural Gas Company, A Division of SEMCO Energy, Inc., Order entered September 22, 2017 (Order No. 19), at 50-52.

⁷³ *Ibid.*

⁷⁴ Order in Docket No. E017/GR-15-1033, In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota (May 1, 2017), at 55.

1

2 **Q. How have you considered the smaller size of Vectren South in your**
3 **recommendation?**

4 A. While I have estimated the effect of Vectren South's small size on the ROE, I am not
5 proposing a specific adjustment for this risk factor. Rather, I believe it is important to
6 consider the small size of Vectren South's natural gas distribution operations in Indiana
7 in the determination of where, within the range of analytical results, the Company's
8 required ROE falls. Therefore, the additional risk associated with small size indicates
9 that the Company's ROE should be established above the mean results for the proxy
10 group companies.

11

12 B. Flotation Costs

13

14 **Q. What are flotation costs?**

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

18

19 **Q. Why is it important to consider flotation costs in the allowed ROE?**

20 A. A regulated utility must have the opportunity to earn an ROE that is both competitive
21 and compensatory to attract and retain new investors. To the extent that a company
22 is denied the opportunity to recover prudently incurred flotation costs, actual returns
23 will fall short of expected returns, thereby diluting equity share value.

1

2 **Q. Are flotation costs part of the utility's invested costs or part of the utility's**
3 **expenses?**

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

14

15 **Q. Please provide an example of why a flotation cost adjustment is necessary to**
16 **compensate investors for the capital they have invested.**

17 A. Suppose CenterPoint Energy, the parent company of Vectren South, issues stock with
18 a value of \$100, and an equity investor invests \$100 in CenterPoint Energy in
19 exchange for that stock. Further suppose that, after paying the flotation costs
20 associated with the equity issuance, which include fees paid to underwriters and
21 attorneys, among others, CenterPoint Energy ends up with only \$97 of issuance
22 proceeds, rather than the \$100 the investor contributed. CenterPoint Energy invests
23 that \$97 in plant used to serve its customers, which becomes part of rate base. Absent

1 a flotation cost adjustment, the investor will thereafter earn a return on only the \$97
2 invested in rate base, even though she contributed \$100. Making a small flotation cost
3 adjustment gives the investor a reasonable opportunity to earn the authorized return,
4 rather than the lower return that results when the authorized return is applied to an
5 amount less than what the investor contributed.

6

7 **Q. Is the date of CenterPoint Energy's last issued common equity important in the**
8 **determination of flotation costs?**

9 A. No. As shown in Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 8,
10 CenterPoint Energy closed on equity issuances of approximately \$1.90 billion,
11 \$326.37 million, and \$289.80 million (for a total of 119.1 million shares of common
12 stock) in September 2018, June 2010, and September 2009, respectively. The vintage
13 of the issuance, however, is not particularly important because the investor suffers a
14 shortfall in every year that he should have a reasonable opportunity to earn a return
15 on the full amount of capital that he has contributed. Returning to my earlier example,
16 the investor who contributed \$100 is entitled to a reasonable opportunity to earn a
17 return on \$100 not only in the first year after the investment, but in every subsequent
18 year in which he has the \$100 invested. Leaving aside depreciation, which is dealt
19 with separately, there is no basis to conclude that the investor is entitled to earn a
20 return on \$100 in the first year after issuance, but thereafter is entitled to earn a return
21 on only \$97. As long as the \$100 is invested, the investor should have a reasonable
22 opportunity to earn a return on the entire amount.

1

2 **Q. Is the need to consider flotation costs recognized by the academic and financial**
3 **communities?**

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

8 Flotation costs occur when new issues of stock or debt are sold to the
9 public. The firm usually incurs several kinds of flotation or transaction
10 costs, which reduce the actual proceeds received by the firm. Some of
11 these are direct out-of-pocket outlays, such as fees paid to
12 underwriters, legal expenses, and prospectus preparation costs.
13 Because of this reduction in proceeds, the firm's required returns on
14 these proceeds equate to a higher return to compensate for the
15 additional costs. Flotation costs can be accounted for either by
16 amortizing the cost, thus reducing the cash flow to discount, or by
17 incorporating the cost into the cost of capital. Because flotation costs
18 are not typically applied to operating cash flow, one must incorporate
19 them into the cost of capital.⁷⁵

20

21 **Q. How did you calculate the flotation costs for Vectren South?**

22 A. My flotation cost calculation is based on the costs of issuing equity that were incurred
23 by CenterPoint Energy in its three most recent common equity issuances, as well as
24 three most recent common equity issuances by Vectren South's parent company,
25 Vectren Corporation, prior to the CenterPoint Energy acquisition. Those issuance
26 costs were applied to my proxy group. Applying the actual issuance costs for Vectren
27 South provided in Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 8, to the

⁷⁵ Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

1 DCF analysis, the flotation costs are estimated to be 0.13 percent (i.e., 13 basis
2 points).⁷⁶

3

4 **Q. Has the Commission provided any guidance on the approval of flotation costs?**

5 A. Yes. The Commission has approved inclusion of flotation costs, including a 2004
6 Order, which agreed to an adjustment to the return on equity to account for actual
7 flotation costs incurred by the company. In that proceeding, the Commission ordered
8 a 15-basis-point upward adjustment to the cost of equity.⁷⁷ In a later Order, the
9 Commission stated that while adjustments such as flotation costs are often
10 inappropriate to include in cost of equity, it reiterated that the "Commission will only
11 allow flotation cost adjustments when they are based on verifiable actual costs so that
12 the reasonableness and appropriateness of the costs may be examined."⁷⁸ As
13 detailed above, my flotation cost analysis includes actual flotation costs of the parent
14 companies, which is appropriate according to multiple previous Commission orders.

15

16 **Q. Do your final results include an adjustment for flotation cost recovery?**

17 A. No. I did not make an explicit adjustment for flotation costs to any of my quantitative
18 analyses. Rather, I provide the above result for consideration in my recommended

⁷⁶ For the proxy group plus NJR, the flotation costs are estimated to be 0.13 percent (i.e., 13 basis points).

⁷⁷ PSI Energy, Inc. Petition for Authority to Increase Its Rates, Cause No. 42359, Indiana Utility Regulatory Commission Order Approved May 18, 2004, at 43.

⁷⁸ Indiana Michigan Power Company Petition for Authority to Increase its Rates, Cause No. 44075, Indiana Utility Regulatory Commission Order Approved February 13, 2013, at 43. February 1

1 ROE, which reflects the range of results from my Constant Growth DCF, CAPM,
2 ECAPM, and Expected Earnings analyses.

3

4 C. Capital Expenditures

5

6 **Q. Please summarize the Company's capital expenditure requirements.**

7 A. The Company's current projections for 2021 through 2025 include approximately
8 \$369.20 million in capital investments for the period.⁷⁹ Based on the Company's net
9 utility plant of approximately \$352.1 million as of December 31, 2019,⁸⁰ the \$369.20
10 million of anticipated capital expenditures are approximately 104.86 percent of Vectren
11 South's net utility plant as of December 31, 2019.

12

13 **Q. How is the Company's risk profile affected by its substantial capital expenditure**
14 **requirements?**

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

⁷⁹ Data provided by Vectren South for Capital Expenditures 2021-2025.

⁸⁰ Data provided by Vectren South.

1

2 **Q. Do credit rating agencies recognize the risks associated with elevated levels of**
3 **capital expenditures?**

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

8 When applicable, a jurisdiction's willingness to support large capital
9 projects with cash during construction is an important aspect of our
10 analysis. This is especially true when the project represents a major
11 addition to rate base and entails long lead times and technological risks
12 that make it susceptible to construction delays. Broad support for all
13 capital spending is the most credit-sustaining. Support for only specific
14 types of capital spending, such as specific environmental projects or
15 system integrity plans, is less so, but still favorable for creditors.
16 Allowance of a cash return on construction work-in-progress or similar
17 ratemaking methods historically were extraordinary measures for use
18 in unusual circumstances, but when construction costs are rising, cash
19 flow support could be crucial to maintain credit quality through the
20 spending program. Even more favorable are those jurisdictions that
21 present an opportunity for a higher return on capital projects as an
22 incentive to investors.⁸¹

23 Therefore, to the extent that Vectren South's rates do not permit the opportunity to
24 recover its capital investments on a regular basis, the Company will face increased
25 recovery risk and thus increased pressure on its credit metrics.

⁸¹ S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.

1

2 **Q. Does Vectren South have a capital tracking mechanism to recover the costs**
3 **associated with its capital expenditures plan between rate cases?**

4 A. Vectren South currently has certain investment tracking mechanisms including the
5 Compliance and System Improvement Adjustment ("CSIA") which recovers 80 percent
6 of the revenue requirement on investments and expenses associated with complying
7 with federal mandates, as well as the Transmission and Distribution System
8 Infrastructure Charge ("TDSIC") related investments and expenses, which allows for
9 the recovery of certain safety, reliability and modernization investments in the natural
10 gas distribution system. The current CSIA plan is expiring in 2020.

11

12 **Q. How does the capital investment tracker that has been authorized for Vectren**
13 **South compare with the capital investment and other trackers that have been**
14 **implemented by the proxy companies?**

15 A. As shown in Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 10, 12 out of 18
16 (or 66.67 percent) of the operating companies held by the Natural Gas Utility Proxy
17 Group and 38 of 73 (52.05 percent) in the Alternative Proxy Group recover costs
18 through capital tracking mechanisms. Therefore, to the extent that Vectren South were
19 to continue the CSIA or other capital investment trackers, the financial risk for the
20 Company would be comparable to the proxy group. In the event that the CSIA was not
21 renewed, Vectren South would have higher risk than the proxy group companies.

1

2 **Q. What are your conclusions regarding the effect of the Company's capital**
3 **spending requirements on its risk profile and cost of capital?**

4 A. The Company's capital expenditure requirements as a percentage of net utility plant
5 are significant and will continue over the next few years. Therefore, absent the ability
6 to recover these costs between rate proceedings, Vectren South's significant capital
7 expenditures plan results in a risk profile that is greater than that of the proxy group
8 and supports an ROE toward the higher end of the reasonable range of ROEs.

9

10 D. Regulatory Risk

11

12 **Q. Please explain how the regulatory environment affects investors' risk**
13 **assessments.**

14 A. The ratemaking process is premised on the principle that, for investors and companies
15 to commit the capital needed to provide safe and reliable utility service, the subject
16 utility must have the opportunity to recover the return of, and the market-required
17 return on, invested capital. Regulatory authorities recognize that because utility
18 operations are capital intensive, regulatory decisions should enable the utility to attract
19 capital at reasonable terms; doing so balances the long-term interests of investors and
20 customers. Utilities must finance their operations and require the opportunity to earn
21 a reasonable return on their invested capital to maintain their financial profiles.
22 Vectren South is no exception. In that respect, the regulatory environment is one of

1 the most important factors considered in both debt and equity investors' risk
2 assessments.

3

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

13

14 Equity investors require that the authorized return be adequate to provide a risk-
15 comparable return on the equity portion of the utility's capital investments. Because
16 equity investors are the residual claimants on the utility's cash flows (which is to say
17 that the equity return is subordinate to interest payments), they are particularly
18 concerned with the strength of regulatory support and its effect on future cash flows.

19

20 **Q. Please explain how credit rating agencies consider regulatory risk in**
21 **establishing a company's credit rating.**

22 A. Both S&P and Moody's consider the overall regulatory framework in establishing credit
23 ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory

1 framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4)
2 financial strength, liquidity, and key financial metrics. Of these criteria, regulatory
3 framework, and the ability to recover costs and earn returns are each given a broad
4 rating factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00
5 percent weighting in the overall assessment of business and financial risk for regulated
6 utilities.⁸²

7

8 S&P also identifies the regulatory framework as an important factor in credit ratings for
9 regulated utilities, stating: "One significant aspect of regulatory risk that influences
10 credit quality is the regulatory environment in the jurisdictions in which a utility
11 operates."⁸³ S&P identifies four specific factors that it uses to assess the credit
12 implications of the regulatory jurisdictions of investor-owned regulated utilities: (1)
13 regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and
14 (4) regulatory independence and insulation.⁸⁴

15

16 **Q. How does the regulatory environment in which a utility operates affect its access**
17 **to and cost of capital?**

18 A. The regulatory environment can significantly affect both the access to, and cost of
19 capital in several ways. First, the proportion and cost of debt capital available to utility
20 companies are influenced by the rating agencies' assessment of the regulatory

⁸² Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 4.

⁸³ 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.

⁸⁴ *Id.*, at 1.

1 environment. As noted by Moody's, "[f]or rate regulated utilities, which typically
2 operate as a monopoly, the regulatory environment and how the utility adapts to that
3 environment are the most important credit considerations."⁸⁵ Moody's further
4 highlighted the relevance of a stable and predictable regulatory environment to a
5 utility's credit quality, noting: "[b]roadly speaking, the Regulatory Framework is the
6 foundation for how all the decisions that affect utilities are made (including the setting
7 of rates), as well as the predictability and consistency of decision-making provided by
8 that foundation."⁸⁶

9

10 **Q. Have you conducted any analysis of the regulatory framework in Indiana relative**
11 **to the jurisdictions in which the companies in your proxy group operate?**

12 A. Yes. I have evaluated the regulatory framework in Indiana on four factors that are
13 important in terms of providing a regulated utility an opportunity to earn its authorized
14 ROE. These are: 1) test year convention (i.e., forecast vs. historical); 2) method for
15 determining rate base (i.e., average vs. year-end); 3) use of revenue decoupling
16 mechanisms or other clauses that mitigate volumetric risk; and 4) prevalence of capital
17 cost recovery between rate cases. The results of this regulatory risk assessment are
18 shown in Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 10 and are
19 summarized below.

20

⁸⁵ Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 6.

⁸⁶ *Ibid.*

1 Test year convention: Vectren South can use a future test year test year in Indiana,
2 which is consistent with 7 out of 18 (39 percent) of the operating companies held by
3 the Natural Gas Utility Proxy Group⁸⁷, or 35 of 73 (48 percent) in the Alternative Proxy
4 Group, which provide service in jurisdictions that use a fully or partially forecast test
5 year.

6
7 Rate Base: The Company's rate base in Indiana is determined using the test year end
8 rate base method, similar to 11 out of 18 (61 percent) of the operating companies held
9 by the Natural Gas Utility Proxy Group,⁸⁸ or 30 of 73 (41 percent) in the Alternative
10 Proxy Group, meaning that the rate base includes capital additions that occurred in
11 the second half of the test year and is more reflective of net utility plant going forward.

12
13 Volumetric Risk: Vectren South does have some protection against volumetric risk in
14 Indiana, with full revenue decoupling mechanisms. This is consistent with 16 out of 18
15 (89 percent) of the operating companies held by the Natural Gas Utility Proxy Group⁸⁹,
16 or 45 of 73 (62 percent) in the Alternative Proxy Group, that also have some form of
17 protection against volumetric risk.

18
19 Capital Cost Recovery: Vectren South has capital tracking mechanisms available to
20 recover selected capital investment costs between rate cases, consistent with 12 of

⁸⁷ The Natural Gas Utility Proxy includes six companies and excludes New Jersey Resources Corporation.

⁸⁸ *Ibid.*

⁸⁹ *Ibid.*

1 18 (67 percent) of the operating companies held by the Natural Gas Utility Proxy⁹⁰, or
2 38 of 73 (52 percent), that also have some form of capital cost recovery mechanism.

3

4 **Q. What are your conclusions regarding the perceived risks related to the Indiana**
5 **regulatory environment?**

6 A. As discussed throughout this section of my testimony, both Moody's and S&P have
7 identified the supportiveness of the regulatory environment as an important
8 consideration in developing their overall credit ratings for regulated utilities.
9 Considering the regulatory adjustment mechanisms, many of the companies in the
10 proxy group have cost recovery mechanisms that are similar to those implemented by
11 Vectren South (through forecasted test years, year-end rate base, cost recovery
12 trackers, and revenue stabilization mechanisms) in Indiana. In addition, the RRA
13 jurisdictional ranking and the S&P credit supportiveness ranking for Indiana indicates
14 average risk level. For that reason, I conclude that the regulatory risks for Vectren
15 South are comparable to the proxy group.

16

17

⁹⁰ *Ibid.*

1 **IX. CAPITAL STRUCTURE**

2

3 **Q. Is the capital structure of the Company an important consideration in the**
4 **determination of the appropriate ROE?**

5 A. Yes, it is. Assuming other factors equal, a higher debt ratio increases the risk to
6 investors. For debt holders, higher debt ratios result in a greater portion of the
7 available cash flow being required to meet debt service, thereby increasing the risk
8 associated with the payments on debt. The result of increased risk is a higher interest
9 rate. The incremental risk of a higher debt ratio is more significant for common equity
10 shareholders, who are the residual claimants on the cash flow of the Company.
11 Therefore, the greater the debt service requirement, the less cash flow is available for
12 common equity holders.

13

14 **Q. What is Vectren South's projected capital structure?**

15 A. The Company's projection establishes a capital structure consisting of 55.49 percent
16 common equity and 44.51 percent long-term debt.⁹¹

17

18 **Q. Did you conduct any analysis to determine if this projected equity ratio was**
19 **reasonable?**

20 A. Yes, I did. I reviewed the Company's projected capital structure and the capital
21 structures of the utility operating subsidiaries of the proxy companies. Because the

⁹¹ Excludes 14.42% cost free capital and 0.52% in other capital (customer deposits and job development investment tax credit) from total capital.

1 ROE is set based on the return that is derived from the risk-comparable proxy group,
2 it is reasonable to look to the proxy group average capital structure to benchmark the
3 equity ratio for the Company.

4

5 **Q. Please discuss your analysis of the capital structures of the proxy group**
6 **companies.**

7 A. I calculated the mean proportions of common equity, long-term debt, short-term debt,
8 and preferred equity for the most recent year for each of the companies in the proxy
9 group at the operating subsidiary level.⁹² My analysis of the capital structures of the
10 proxy group companies is provided in Petitioner's Exhibit No. 12, Attachment AEB-2,
11 Schedule 11. As shown in Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule
12 11, the equity ratios for the Natural Gas Utility Proxy Group ranged from 50.03 percent
13 to 66.58 percent, with an average of 58.88 percent, and the Alternative Proxy Group
14 averaged 54.97 percent, with a range of 47.59 percent to 66.58 percent.⁹³ Vectren
15 South's projected equity ratio of 55.49 is near the average equity ratio for the utility
16 operating subsidiaries of the proxy groups and is therefore reasonable.

⁹² Source: SNL Financial and FERC Form 1 and FERC Form 2 annual reports.

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⁹³ For the Natural Gas Utility Proxy Group plus NJR, the range is also 50.03 percent to 66.58 percent, and with an average of 58.88 percent.

1

2 **Q. Are there other factors to be considered in setting the Company's capital**
3 **structure?**

4 A. Yes. The credit rating agencies' response to the TCJA must also be considered when
5 determining the equity ratio. As discussed previously in my testimony, all three rating
6 agencies have noted that the TCJA has negative implications for utility cash flows.
7 Moody's unprecedented downgrade of the rating outlook for the entire utilities sector
8 in June 2018 and continued downgrades of utilities since that time stresses the
9 importance of maintaining adequate cash flow metrics for the industry as a whole and
10 Vectren South in the context of this proceeding.

11

12 **Q. Is there a relationship between the equity ratio and the authorized ROE?**

13 A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such
14 as Vectren South. To the extent the equity ratio is reduced, it is necessary to increase
15 the authorized ROE to compensate investors for the greater financial risk associated
16 with greater leverage and the resulting increased fixed payment obligations.

17

18 **Q. What is your conclusion regarding an appropriate equity ratio for Vectren**
19 **South?**

20 A. Considering the actual capital structures of the proxy group operating companies, I
21 believe that Vectren South's projected common equity ratio of 55.49 percent is
22 reasonable. The projected equity ratio is well within the range of equity ratios
23 established by the capital structures of the utility operating subsidiaries of the proxy

1 companies. In addition, based on the cash flow concerns raised by credit rating
2 agencies as a result of the TCJA, it is reasonable to rely on a higher equity ratio than
3 the Company may have relied on previously.

4

5

6 **X. CONCLUSIONS AND RECOMMENDATION**

7

8 **Q. What is your conclusion regarding a fair ROE for Vectren South?**

9 A. Figure 14 below provides a summary of my analytical results for the proxy group.⁹⁴

10 Based on these results, the qualitative analyses presented in my Prepared Direct
11 Testimony, the business and financial risks of Vectren South compared to the proxy
12 group, and the effects of Federal tax reform on the cash flow metrics of utilities, it is
13 my view that an ROE of 10.15 percent is reasonable and would fairly balance the
14 interests of customers and shareholders. This ROE would enable the Company to
15 maintain its financial integrity and therefore its ability to attract capital at reasonable
16 rates under a variety of economic and financial market conditions, while continuing to
17 provide safe, reliable, and affordable natural gas utility service to customers in Indiana.

⁹⁴ For results based on the proxy group plus NJR, please see Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 1.

1 **Figure 14: Summary of Analytical Results- Natural Gas Utility Proxy Group**^{95, 96}

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	9.76%	10.55%	11.81%
90-Day Average	9.90%	10.19%	11.45%
180-Day Average	9.65%	9.92%	11.18%
Constant Growth Average	9.77%	10.22%	11.48%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.22%	12.26%	12.46%
Bloomberg Beta	11.60%	11.66%	11.92%
ECAPM			
Value Line Beta	12.70%	12.73%	12.87%
Bloomberg Beta	12.23%	12.28%	12.47%
Bond Yield Plus Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Analysis	9.11%	9.24%	9.78%
Expected Earnings Analysis			
Expected Earnings Analysis	9.53%		

2

⁹⁵ The analytical results included in Figure 14 reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

⁹⁶ Results displayed are for the proxy group. For results based on the proxy group plus NJR, please see Petitioner's Exhibit No. 12, Attachment AEB-2, Schedule 1.

1 **Figure 15: Summary of Analytical Results- Alternative Proxy Group**^{97, 98}

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	9.18%	9.58%	10.54%
90-Day Average	9.20%	9.43%	10.35%
180-Day Average	9.08%	9.36%	10.17%
Constant Growth Average	9.15%	9.46%	10.35%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.26%	12.30%	12.49%
Bloomberg Beta	11.46%	11.50%	11.79%
ECAPM			
Value Line Beta	12.73%	12.76%	12.90%
Bloomberg Beta	12.13%	12.16%	12.37%
Expected Earnings Analysis			
Expected Earnings Analysis	10.48%		

2

3

4 **Q. What is your conclusion with respect to Vectren South's projected capital**
5 **structure?**

6 A. My conclusion is that Vectren South's projected capital structure consisting of 55.49
7 percent common equity and 44.51 percent long-term debt is reasonable when
8 compared to the capital structures of the companies in the proxy group and taking in
9 consideration the impact of the TCJA on the cash flows.⁹⁹

⁹⁷ The analytical results included in Figure 15 reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

⁹⁸ The Bond Yield Plus Risk Premium analysis was not conducted on the Alternative Proxy Group due to data limitations.

⁹⁹ Excludes 14.42% cost free capital and 0.52% in other capital (customer deposits and job development investment tax credit) from total capital.

1 Q. **Does this conclude your Prepared Direct Testimony?**

2 A. Yes, it does.

VERIFICATION

I, Ann E. Bulkley, affirm under the penalties of perjury that the forgoing representations of fact in my Direct Testimony are true to the best of my knowledge, information and belief.


Ann E. Bulkley

Dated: October 30, 2020

ANN E. BULKLEY

Senior Vice President

Ms. Bulkley has more than two decades of management and economic consulting experience in the energy industry. Ms. Bulkley has extensive state and federal regulatory experience on both electric and natural gas issues including rate of return, cost of equity and capital structure issues. Ms. Bulkley has provided expert testimony on the cost of capital in more than 30 regulatory proceedings before regulatory commissions in Arizona, Arkansas, Colorado, Connecticut, Kansas, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New Mexico, New York, North Dakota, Oklahoma, Pennsylvania, Texas, South Dakota, West Virginia, and the Federal Energy Regulatory Commission. In addition, Ms. Bulkley has prepared and provided supporting analysis for at least forty Federal and State regulatory proceedings. In addition, Ms. Bulkley has worked on acquisition teams with investors seeking to acquire utility assets, providing valuation services including an understanding of regulation, market expected returns, and the assessment of utility risk factors. Ms. Bulkley has assisted clients with valuations of public utility and industrial properties for ratemaking, purchase and sale considerations, ad valorem tax assessments, and accounting and financial purposes. In addition, Ms. Bulkley has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring and regulatory and litigation support. Prior to joining Concentric, Ms. Bulkley held senior expertise-based consulting positions at several firms, including Reed Consulting Group and Navigant Consulting, Inc. where she specialized in valuation. Ms. Bulkley holds an M.A. in economics from Boston University and a B.A. in economics and finance from Simmons College. Ms. Bulkley is a Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

REPRESENTATIVE PROJECT EXPERIENCE

Regulatory Analysis and Ratemaking

Ms. Bulkley has provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking. Specific services have included: 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; and many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation).

Cost of Capital

Ms. Bulkley has provided expert testimony on the cost of capital in more than 30 regulatory proceedings before regulatory commissions in Arizona, Arkansas, Colorado, Connecticut, Kansas, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New Mexico, New York, North Dakota, Oklahoma, Pennsylvania, Texas, South Dakota, West Virginia, and the Federal Energy Regulatory Commission. In addition, Ms. Bulkley has prepared and provided supporting analysis for at least forty Federal and State regulatory proceedings in which she did not testify.



Valuation

Ms. Bulkley has 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. Ms. Bulkley's appraisal practices are consistent with the national standards established by the Uniform Standards of Professional Appraisal Practice.

Representative projects/clients have included:

- Northern Indiana Fuel and Light: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.
- Kokomo Gas: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.
- Prepared fair value rate base analyses for Northern Indiana Public Service Company for several electric rate proceedings. Valuation approaches used in this project included income, cost and comparable sales approaches.
- Confidential Utility Client: Prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.
- 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, a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. 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.
- 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 for and prepared appraisal reports of generation assets to be used in ad valorem tax disputes.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.



Ratemaking

Ms. Bulkley has 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. Analyzed and evaluated rate application. Attended hearings and conducted investigation of rate application for regulatory staff. Prepared, supported and defended recommendations for revenue requirements and rates for the company. Developed rates for gas utility for transportation program and ancillary services.

Strategic and Financial Advisory Services

Ms. Bulkley has 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.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 – Present)

Senior Vice President

Vice President

Assistant Vice President

Project Manager

Navigant Consulting, Inc. (1995 – 2002)

Project Manager



Cahners Publishing Company (1995)

Economist

EDUCATION

Boston University

M.A., Economics, 1995

Simmons College

B.A., Economics and Finance, 1991

CERTIFICATIONS

Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
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
Arkansas Public Service Commission				
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
Colorado Public Utilities Commission				
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
Connecticut Public Utilities Regulatory Authority				
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
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
Federal Energy Regulatory Commission				
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
Idaho Public Utilities Commission				
PacifiCorp d/b/a Rocky Mountain Power	06/20	PacifiCorp d/b/a Rocky Mountain Power	PAC-E-20-03	Return on Equity
Indiana Utility Regulatory Commission				
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity
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
Iowa Department of Commerce Utilities Board				
Iowa-American Water Company	08/20	Iowa-American Water Company	Docket No. RPU-2020-0001	Return on Equity
Kansas Corporation Commission				
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
Kentucky Public Service Commission				
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity
Maine Public Utilities Commission				
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-00194	Return on Equity
Maryland Public Service Commission				
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Massachusetts Appellate Tax Board				
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
Massachusetts Department of Public Utilities				
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
Michigan Public Service Commission				
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
Michigan Tax Tribunal				
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
Minnesota Public Utilities Commission				
Allete, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity
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
Missouri Public Service Commission				
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity
Montana Public Service Commission				
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
New Hampshire - Board of Tax and Land Appeals				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
New Hampshire Public Utilities Commission				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity
New Hampshire-Merrimack County Superior Court				
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
New Hampshire-Rockingham Superior Court				
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
New Jersey Board of Public Utilities				
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	E018060629 G018060630	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
New Mexico Public Regulation Commission				
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
New York State Department of Public Service				
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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	Gas 17-G-0460 Electric 17-E-0459	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
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-G-0284 Case No. 15-E-0285 Case No. 15-G-0286	Return on Equity
North Dakota Public Service Commission				
Montana-Dakota Utilities Co.	08/20	Montana-Dakota Utilities Co.	C-PU-20-	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
Oklahoma Corporation Commission				
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
Oregon Public Service Commission				
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity
Pennsylvania Public Utility Commission				
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017- 2595853	Return on Equity
South Dakota Public Utilities Commission				
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
Texas Public Utility Commission				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
Utah Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	05/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20-035-04	Return on Equity
Virginia State Corporation Commission				
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
Washington Utilities Transportation Commission				
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
West Virginia Public Service Commission				
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
Wisconsin Public Service Commission				
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
Wyoming Public Service Commission				
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

No 12 Attachment AEB-2 provided in Excel format