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INDIANA UTILITY  
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Cause No. 45576

**INDIANA MICHIGAN POWER COMPANY**

**PRE-FILED DIRECT TESTIMONY**

**OF**

**ANN E. BULKLEY**

## Glossary of Acronyms

ADFIT	Accumulated Deferred Federal Income Taxes
ALJ	Administrative Law Judge
CAPM	Capital Asset Pricing Model
CARES	Coronavirus Aid, Relief, and Economic Security
CBO	Congressional Budget Office
COE	Cost of Equity
Company	Indiana Michigan Power Company
Concentric	Concentric Energy Advisors, Inc.
DCF	Discounted Cash Flow
ECAPM	Empirical Capital Asset Pricing Model
FFO	Funds from Operations
FOMC	Federal Reserve Open Market Committee
I&M	Indiana Michigan Power Company
IURC or Commission	Indiana Utility Regulatory Commission
Michigan PSC	Michigan Public Service Commission
NITS	Network Integration Transmission Services
NJ Board	New Jersey Board of Public Utilities
Oregon PUC	Oregon Public Utilities Commission
OUCC	Office of Utility Consumer Counselor
P/E	Price-to-Earnings
Risk Premium	Bond Yield Plus Risk Premium Analysis
ROE	Return on Equity
ROR	Rate of Return
TCJA	Tax Cut and Jobs Act of 2017
TDSIC	Transmission, Distribution, and Storage System Improvement Charge
Utah PSC	Utah Public Service Commission
Wyoming PSC	Wyoming Public Service Commission

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**DIRECT TESTIMONY OF ANN E. BULKLEY**

1           **I.        INTRODUCTION AND OVERVIEW**

2   **Q1.    Please state your name and affiliation.**

3   A1.    My name is Ann E. Bulkley. I am a Senior Vice President employed by  
4           Concentric Energy Advisors, Inc. (“Concentric”). My business address is 293  
5           Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

6   **Q2.    On whose behalf are you submitting this Testimony?**

7   A2.    I am submitting this pre-filed direct testimony (“Direct Testimony”) before the  
8           Indiana Utility Regulatory Commission (IURC or the “Commission”) on behalf  
9           of Indiana Michigan Power Company (“I&M” or the “Company”).

10   **Q3.    Please describe your education and experience.**

11   A3.    I hold a Bachelor’s degree in Economics and Finance from Simmons College  
12           and a Master’s degree in Economics from Boston University, with more than  
13           25 years of experience consulting to the energy industry. I have advised  
14           numerous energy and utility clients on a wide range of financial and economic  
15           issues with primary concentrations in valuation and utility rate matters. Many  
16           of these assignments have included the determination of the cost of capital for  
17           valuation and ratemaking purposes. I have included my resume and a  
18           summary of testimony that I have filed in other proceedings as Attachment  
19           AEB-1.

1 **Q4. Please describe Concentric's activities in energy and utility**  
2 **engagements.**

3 A4. Concentric provides financial and economic advisory services to many and  
4 various energy and utility clients across North America. Our regulatory,  
5 economic, and market analysis services include utility ratemaking and  
6 regulatory advisory services; energy market assessments; market entry and  
7 exit analysis; corporate and business unit strategy development; demand  
8 forecasting; resource planning; and energy contract negotiations. Our financial  
9 advisory activities include buy- and sell-side merger, acquisition, and  
10 divestiture assignments; due diligence and valuation assignments; project and  
11 corporate finance services; and transaction support services. In addition, we  
12 provide litigation support services on a wide range of financial and economic  
13 issues on behalf of clients throughout North America.

14 **Q5. Please describe the purpose of your Pre-filed Direct Testimony.**

15 A5. The purpose of my Pre-filed Direct Testimony is to present evidence and  
16 address the reasonableness of the Company's requested Return on Equity  
17 ("ROE"). I also assess the reasonableness of the Company's projected capital  
18 structure. My analyses and recommendations are supported by the data  
19 presented in Attachments AEB-2 through 10, which were prepared by me or  
20 under my direction.

1 **Q6. Please provide a brief overview of the analyses that led to your ROE**  
2 **recommendation.**

3 A6. As discussed in more detail in Section VI, I applied the Constant Growth form  
4 of the Discounted Cash Flow (“DCF”) model, the Capital Asset Pricing Model  
5 (“CAPM”), the Empirical Capital Asset Pricing Model (“ECAPM”), the Bond  
6 Yield Plus Risk Premium Analysis (“Risk Premium”), and the Expected  
7 Earnings analysis. My recommendation also takes into consideration: (1)  
8 flotation costs; (2) the Company’s generation portfolio and environmental  
9 regulations; (3) the Company’s capital expenditure requirements; and (4) the  
10 regulatory environment in which the Company operates. Finally, I considered  
11 the Company’s projected capital structure as compared to the capital structures  
12 of the proxy companies.<sup>1</sup> While I did not make any specific adjustments to my  
13 ROE estimates for any of these factors, I did take them into consideration in  
14 aggregate when determining where the Company’s ROE falls within the range  
15 of analytical results.

16 **Q7. How is the remainder of your Pre-filed Direct Testimony organized?**

17 A7. Section II provides a summary of my analyses and conclusions. Section III  
18 reviews the regulatory guidelines pertinent to the development of the cost of  
19 capital. Section IV discusses current and projected capital market conditions  
20 and the effect of those conditions on I&M’s cost of equity in Indiana. Section V

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<sup>1</sup> The selection and purpose of developing a group of comparable companies will be discussed in detail in Section V of my Pre-filed Direct Testimony.

1 explains my selection of a proxy group of electric utilities. Section VI describes  
2 my analyses and the analytical basis for the recommendation of the appropriate  
3 ROE for I&M. Section VII provides a discussion of specific regulatory,  
4 business, and financial risks that have a direct bearing on the ROE to be  
5 authorized for the Company in this case. Section VIII assesses the Company's  
6 projected capital structure as compared to the proxy group. Section IX  
7 presents my conclusions and recommendations for the market cost of equity.

8 **Q8. Please explain the difference between the ROE and the Cost of Equity**  
9 **("COE").**

10 A8. The ROE is an income from the investor's perspective. It is the formulaic  
11 calculation of the income return to an investor. The COE is a cost. It is the  
12 return that is required by investors or shareholders for making an equity  
13 investment. In the context of a regulated utility, the authorized return is a ROE.

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

2   **Q9.    Please summarize the key factors considered in your analyses and upon**  
3           **which you base your recommended ROE.**

4   A9.    In developing my recommended ROE for I&M, I considered the following:

- 5           • The *Hope* and *Bluefield* decisions<sup>2</sup> that established the standards for  
6           determining a fair and reasonable allowed ROE, including consistency of  
7           the allowed return with the returns of other businesses having similar risk,  
8           adequacy of the return to provide access to capital and support credit  
9           quality, and the requirement that the result lead to just and reasonable rates.
- 10          • The effect of current and projected capital market conditions on investors'  
11          return requirements.
- 12          • The results of several analytical approaches that provide estimates of the  
13          Company's cost of equity.
- 14          • The Company's regulatory, business, and financial risks relative to the  
15          proxy group of comparable companies, and the implications of those risks.

16   **Q10.   Please explain how you considered those factors.**

17   A10.   I relied on several analytical approaches to estimate I&M's cost of equity based  
18           on a proxy group of publicly traded companies. As shown in Figure 1, those  
19           ROE estimation models produce a wide range of results. My conclusion about  
20           where within that range of results I&M's ROE falls is based on the Company's  
21           business and financial risk relative to the proxy group. Although the companies  
22           in my proxy groups are generally comparable to I&M, each company is unique,  
23           and no two companies have the exact same business and financial risk profiles.

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<sup>2</sup> *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).

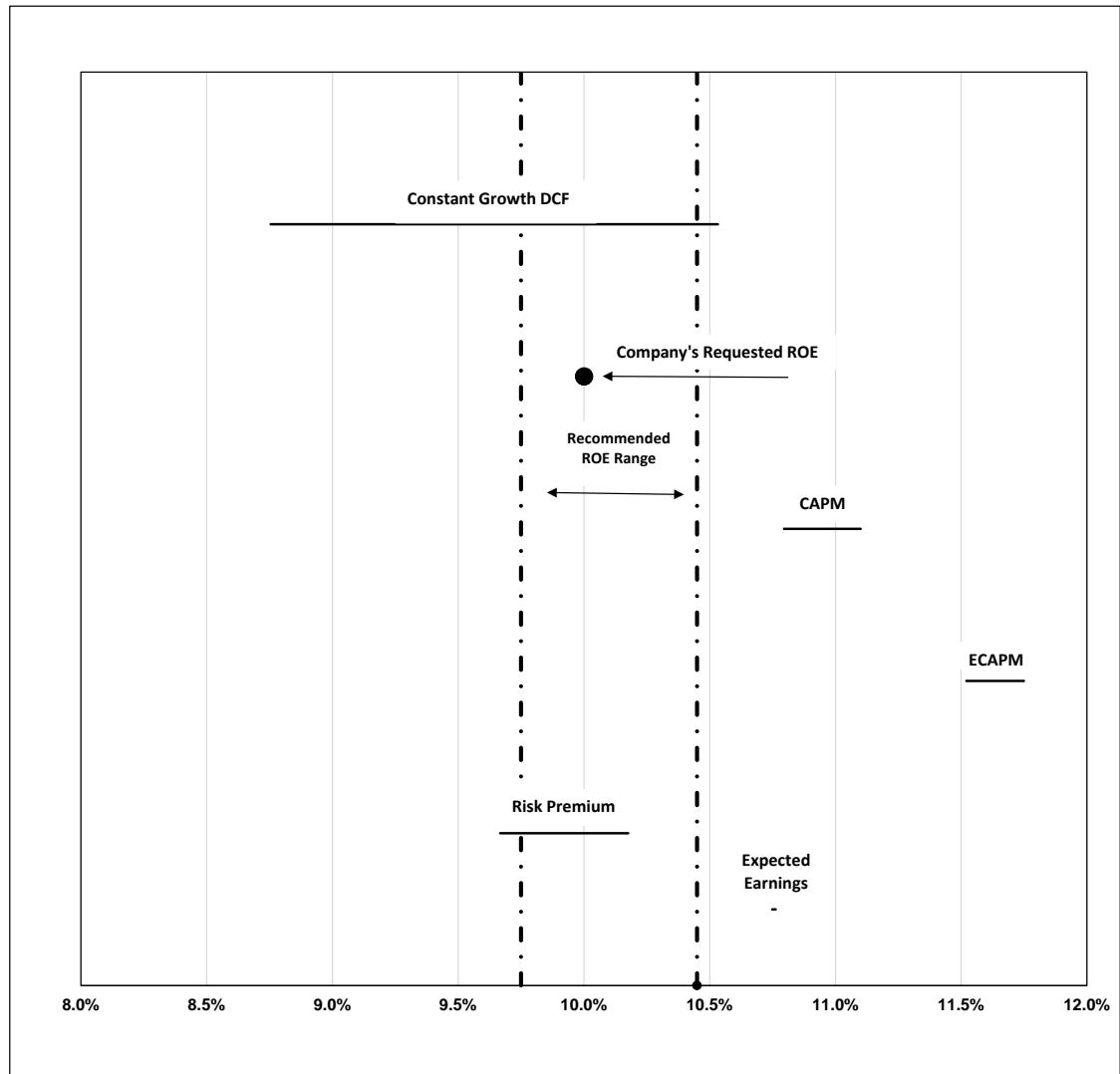


1           Accordingly, I selected proxy groups with similar, but not the same risk profiles;  
2           and I adjusted the results of my analysis either upwards or downwards within  
3           the reasonable range of results to account for any residual differences in risk.

4 **Q11. Please summarize the results of the ROE estimation models that you**  
5 **considered to establish the range of ROEs for I&M.**

6 A11. Figure 1 summarizes the range of results produced by the Constant Growth  
7 DCF, CAPM, ECAPM, Bond Yield Plus Risk Premium analysis, and Expected  
8 Earnings analyses.

**Figure 1: Summary of Analytical Results**



1 While it is common to consider multiple models to estimate the cost of equity,  
2 it is particularly important when the range of results is wide, in order to  
3 appropriately consider the factors that have resulted in the diverging range of  
4 results. Based on current market conditions, my ROE recommendation  
5 considers the results of the DCF model, forward-looking CAPM and ECAPM  
6 analyses, Risk Premium analysis, and an Expected Earnings analysis. I also

1 consider company-specific risk factors and current and prospective capital  
2 market conditions.

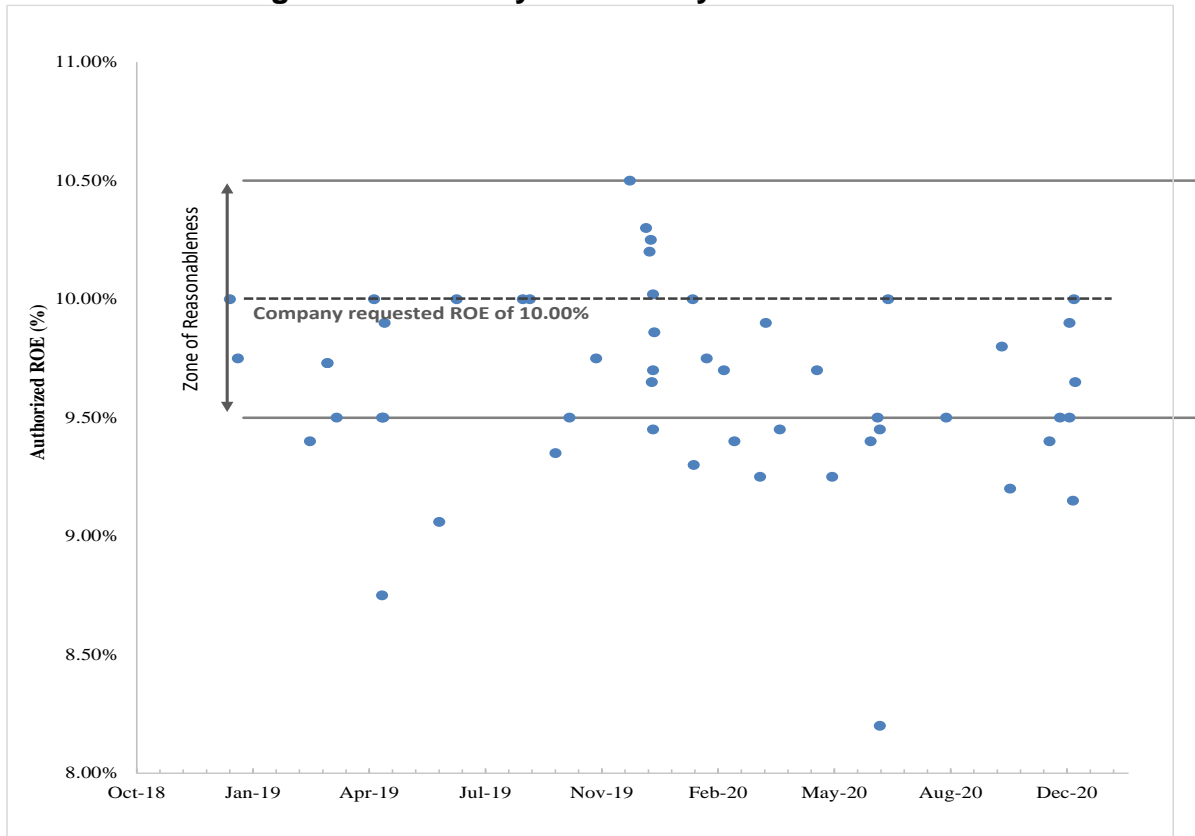
3 **Q12. What is your recommended ROE for I&M?**

4 A12. Considering the analytical results presented in Figure 1, as well as the level of  
5 regulatory, business, and financial risk faced by I&M's Indiana operations,  
6 relative to the proxy group, and current capital market conditions, I recommend  
7 an ROE within a range of 9.75 percent to 10.45 percent. Within that range, the  
8 Company requested authorized ROE of 10.00 percent is below the midpoint of  
9 the range. The Company makes this request in conjunction with the  
10 Commission's approval of the rate relief package proposed by the Company in  
11 this case, as referred to in Company Witness Toby Thomas' testimony.

12 **Q13. How does your recommended ROE compare with recently authorized**  
13 **ROEs for vertically integrated electric utilities?**

14 A13. As shown in Figure 2 below, the range that I have established is within the  
15 range of recently authorized ROEs. Furthermore, the Company's requested  
16 ROE of 10.00 percent is reasonable considering recently authorized ROEs and  
17 the relative risk of the Company as compared to the proxy group, which is  
18 discussed in greater detail in Section VII of my testimony.

**Figure 2: Summary of Recently Authorized ROEs.**



1 **Q14. Is the Company's requested ROE reasonable based on recent ROE**  
2 **determinations made by the IURC?**

3 A14. Yes. The IURC recently authorized an ROE of 9.70 percent for Duke Indiana  
4 on June 29, 2020. At that time, the yield on the 30-year Treasury bond was  
5 approximately 1.48 percent.<sup>3 4</sup> As discussed in more detail in Section IV of my  
6 testimony, the current yield on the 30-year Treasury bond is 2.30 percent, an  
7 increase of 82 basis points. Therefore, it is reasonable to expect that the COE  
8 would have increased since the determination that was made in the Duke case.

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<sup>3</sup> Petition of Duke Energy Indiana for Authority to Modify its Rates, Cause No. 45253, Indiana Utility Regulatory Commission Order Approved June 29, 2020, at 59.

<sup>4</sup> 30-year Treasury bond yield based on 30-day average ending June 29, 2020.

1 **Q15. Please summarize the analysis you conducted in determining that I&M's**  
2 **projected capital structure is reasonable and appropriate.**

3 A15. Based on the analysis presented in Section VIII of my testimony, I conclude  
4 that I&M's projected 50.94 percent investor-supplied capital (*i.e.*, common  
5 equity) is reasonable.<sup>5</sup> To determine if I&M's projected capital structure was  
6 reasonable, I reviewed the capital structures of the utility subsidiaries of the  
7 proxy companies. As shown in Attachment AEB-10, the results of that analysis  
8 demonstrate that the equity ratios for the proxy group ranges from 46.99  
9 percent to 59.37 percent, with an average of 52.59 percent. Comparing the  
10 projected equity ratio to the proxy group demonstrates that the Company's  
11 projected investor supplied common equity ratio is well within the range  
12 established by the proxy group. This is particularly important to consider given  
13 the concerns of credit rating agencies regarding negative effect of federal tax  
14 reform legislation and the current COVID -19 pandemic on the cash flows and  
15 credit metrics of regulated utilities.

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<sup>5</sup> Messner Direct at 5, Figure FDM-2. Excludes customer deposits of 0.60%, accumulated deferred federal income taxes of 15.91%, and accumulated deferred job development investment tax credits of 0.20%.

1           **III.    REGULATORY GUIDELINES**

2 **Q16.    Please describe the guiding principles to be used in establishing the cost**  
3 **of capital for a regulated utility.**

4 A16.    The United States Supreme Court’s precedent-setting *Hope* and *Bluefield*  
5 cases established the standards for determining the fairness or  
6 reasonableness of a utility’s allowed ROE. Among the standards established  
7 by the Court in those cases are: (1) consistency with other businesses having  
8 similar or comparable risks; (2) adequacy of the return to support credit quality  
9 and access to capital; and (3) the principle that the result reached, as opposed  
10 to the methodology employed, is the controlling factor in arriving at just and  
11 reasonable rates.<sup>6</sup>

12 **Q17.    Why is it important for a utility to be allowed the opportunity to earn an**  
13 **ROE that is adequate to attract capital at reasonable terms?**

14 A17.    An authorized ROE that is adequate to attract capital at reasonable terms  
15 enables the Company to continue to provide safe, reliable electric service while  
16 maintaining its financial integrity. To the extent the Company is provided the  
17 opportunity to earn its market-based cost of capital, neither customers nor  
18 shareholders are disadvantaged.

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

1 **Q18. Is a utility's ability to attract capital also affected by the ROEs that are**  
2 **authorized for other utilities?**

3 A18. Yes. Utilities compete directly for capital with other investments of similar risk,  
4 which include other electric utilities. Therefore, the authorized ROE sends an  
5 important signal to investors regarding whether there is regulatory support for  
6 financial integrity, dividends, growth, and fair compensation for business and  
7 financial risk. The cost of capital represents an opportunity cost to investors.  
8 If higher returns are available for other investments of comparable risk,  
9 investors have an incentive to direct their capital to those investments. Thus,  
10 an authorized ROE significantly below authorized ROEs for other electric  
11 utilities can inhibit the utility's ability to attract capital for investment in Indiana.

12 **Q19. What are your conclusions regarding regulatory guidelines?**

13 A19. The ratemaking process is premised on the principle that a utility must have the  
14 opportunity to recover the return of, and the market-required return on, its  
15 invested capital. Because utility operations are capital-intensive, regulatory  
16 decisions should enable the utility to attract capital at reasonable terms under  
17 a variety of economic and financial market conditions; doing so balances the  
18 long-term interests of the utility and its ratepayers.

19 The financial community carefully monitors the current and expected financial  
20 condition of utility companies and the regulatory framework in which they  
21 operate. In that respect, the regulatory framework is one of the most important  
22 factors in both debt and equity investors' assessments of risk. The

1 Commission's order in this proceeding, therefore, should establish rates that  
2 provide the Company with the opportunity to earn an ROE that is: (1) adequate  
3 to attract capital at reasonable terms under a variety of economic and financial  
4 market conditions; (2) sufficient to ensure good financial management and firm  
5 integrity; and (3) commensurate with returns on investments in enterprises with  
6 similar risk. To the extent I&M is authorized the opportunity to earn its market-  
7 based cost of capital, the proper balance is achieved between customers' and  
8 shareholders' interests.

9 **IV. CAPITAL MARKET CONDITIONS**

10 **Q20. Why is it important to analyze capital market conditions?**

11 A20. The ROE estimation models rely on market data that are either specific to the  
12 proxy group, in the case of the DCF model, or the expectations of market risk,  
13 in the case of the CAPM. The results of ROE estimation models can be  
14 affected by prevailing market conditions at the time the analysis is performed.  
15 While the ROE that is established in a rate proceeding is intended to be  
16 forward-looking, the practitioner uses current and projected market data,  
17 specifically stock prices, dividends, growth rates, and interest rates in the ROE  
18 estimation models to estimate the required return for the subject company.

19 Analysts and regulatory commissions recognize that current market conditions  
20 affect the results of the ROE estimation models. Accordingly, it is important to  
21 consider the effect of these conditions on the ROE estimation models when  
22 determining the appropriate range and recommended ROE for a future period.



1 If investors do not expect current market conditions to be sustained in the  
2 future, the ROE estimation may not provide an accurate estimate of investors'  
3 required return during that rate period. Therefore, it is very important to  
4 consider projected market data to estimate the return for that forward-looking  
5 period.

6 **Q21. What factors affect the cost of equity for regulated utilities in the current  
7 and prospective capital markets?**

8 A21. The cost of equity for regulated utility companies is affected by several factors  
9 in the current and prospective capital markets, including: (1) the dramatic shifts  
10 in market conditions during 2020 and the expectations for 2021, and the effect  
11 of these changes on the assumptions used in the ROE estimation models and  
12 (2) effects of Federal tax reform on utility cash flows. In this section, I discuss  
13 each of these factors and how it affects the models used to estimate the cost  
14 of equity for regulated utilities.

15 **Economic Recovery and Performance of the Utility Sector**

16 **Q22. Do recent economic projections indicate the expectation for a strong  
17 economic recovery in 2021?**

18 A22. Yes. The Federal Reserve Open Market Committee ("FOMC") issued its  
19 Summary of Economic Projections in March 2021, where the FOMC's median  
20 projection for GDP growth from Q4 2020 to Q4 2021 is 6.5 percent.<sup>7</sup> The

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<sup>7</sup> Federal Open Market Committee, Summary of Economic Projections, March 17, 2021, at 2.

1 Congressional Budget Office (“CBO”) issued its outlook on economic  
2 conditions in February 2021. In that report, the CBO projected strong GDP  
3 growth for 2021 and significant strength in overall economic conditions:

- 4 • Real GDP growth of 3.7 percent, which is a significant change from  
5 the negative 2.5 percent growth rate in 2020.
- 6 • Inflation indicators nearing the 2.0 percent threshold in 2021-2022.
- 7 • Labor force expected to be restored to pre-pandemic levels in 2022.
- 8 • Interest rates on federal borrowing increasing in 2024.<sup>8</sup>

9 Further, consumer confidence has been projected to be at a high level,  
10 exceeding levels established prior to the pandemic.<sup>9</sup> Finally, Bloomberg  
11 recently forecasted growth of 6.9 percent, which would largely reverse the  
12 contraction seen in 2020, the definition of a “V” shaped recovery. Bloomberg  
13 also projects inflation to increase in the months ahead.<sup>10</sup> High economic  
14 growth is expected to drive an increase in U.S. bond yields and inflation in 2021,  
15 which may result in modest monetary tightening.<sup>11</sup> U.S. bond yields have  
16 already rebounded considerably in the past year, with 30-year Treasury bond  
17 yields up 99 basis points between April 1, 2020 and May 28, 2021, with further  
18 rebounding expected throughout the year. These trends indicate strong

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<sup>8</sup> Congressional Budget Office, An Overview of the Economic Outlook 2021 to 2031, February 2021.

<sup>9</sup> IPSOS-Forbes Advisor U.S. Consumer Confidence Weekly Tracker, April 8, 2021.

<sup>10</sup> Bloomberg, “It’s a ‘V’- World Growth to Hit 60-Year High, April 13, 2021.

<sup>11</sup> Van Roye, Bjorn and Tom Orlik. “Tantrums, Spillovers and the \$1.9T U.S. Stimulus.” Bloomberg Briefs, accessed April 13, 2021.

1 economic recovery over the next year, with robust consumer spending  
2 expected.

3 **Q23. Please summarize the recent monetary policy of the Federal Reserve.**

4 A23. In response to the COVID-19 pandemic, the Federal Reserve has in the past  
5 year:

- 6 • decreased the Federal Funds rate twice in March 2020, resulting in a  
7 target range of 0.00 percent to 0.25 percent;
- 8 • increased its holdings of both Treasury and mortgaged-back securities;
- 9 • started expansive programs to support credit to large employers – the  
10 Primary Market Corporate Credit Facility to provide liquidity for new  
11 issuances of corporate bonds; and the Secondary Market Corporate  
12 Credit Facility to provide liquidity for outstanding corporate debt  
13 issuances; and
- 14 • supported the flow of credit to consumers and businesses through the  
15 Term Asset-Backed Securities Loan Facility.

16 In addition, Congress also passed the Coronavirus Aid, Relief, and Economic  
17 Security (“CARES”) Act in March 2020, the Consolidated Appropriations Act,  
18 2021 in December 2020 and the American Rescue Plan Act in March 2021,  
19 which included \$2.2 trillion, \$900 billion and \$1.9 trillion, respectively, in fiscal  
20 stimulus aimed at also mitigating the economic effects of COVID-19. These  
21 expansive monetary and fiscal programs mitigated the economic effects of the  
22 COVID-19 pandemic and are currently providing additional support as the  
23 economy recovers from the COVID-19 recession.

1 **Q24. Has the Federal Reserve signaled a continuation of its accommodating**  
2 **monetary policy?**

3 A24. Yes. On April 28, 2021, the Federal Reserve Chairman stated that:

4 [o]ur guidance for interest rates and asset purchases ties the path  
5 of the federal funds rate and the size of the balance sheet to our  
6 employment and inflation goals. This outcome-based guidance  
7 will ensure that the stance of monetary policy remains highly  
8 accommodative as the recovery progresses.”<sup>12</sup>

9 The Federal Reserve also indicated that it has kept the federal funds rate near  
10 zero and will continue to maintain its sizeable asset purchases of both  
11 treasuries and mortgage-backed securities until substantial further progress  
12 has been made toward its dual goals of maximum employment and price  
13 stability, noting that, “[t]he economy is a long way from our goals, and it is likely  
14 to take some time for substantial further progress to be achieved.”<sup>13</sup>

15 **Q25. What effect, if any, will the Federal Reserve’s accommodative monetary**  
16 **policy have on long-term interest rates over the near-term?**

17 A25. The Federal Reserve has acknowledged that they will keep the federal funds  
18 rate near zero for the near-term. The goal of the accommodative monetary  
19 policy is to achieve the Federal Reserve’s dual mandate of maximum  
20 employment and stable prices. However, while the current accommodative  
21 monetary policy will keep short-term interest rates low, it does not have a direct

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<sup>12</sup> FOMC Press Conference, April 28, 2021;  
<https://www.federalreserve.gov/monetarypolicy/fomc.htm>.

<sup>13</sup> *Ibid.*

1 effect on long-term interest rates. Long-term interest rates can increase even  
2 though monetary policy is accommodative. In fact, one of the leading indicators  
3 used by investors to determine what stage of the business cycle the economy  
4 is in is to review the yield curve which shows the difference between long-term  
5 and short-term interest rates. A flat or inverted yield curve is when long-term  
6 interest rates are equivalent to or less than short-term interest rates and usually  
7 occurs prior to a recession. Conversely, a steepening yield curve is when the  
8 difference between long-term interest rates and short-term interest rates is  
9 increasing and indicates that the economy is entering a period of economic  
10 expansion and inflation following a recession.<sup>14</sup>

11 **Q26. Have you reviewed the yield curve to determine investors' expectations**  
12 **regarding the economy over the near-term?**

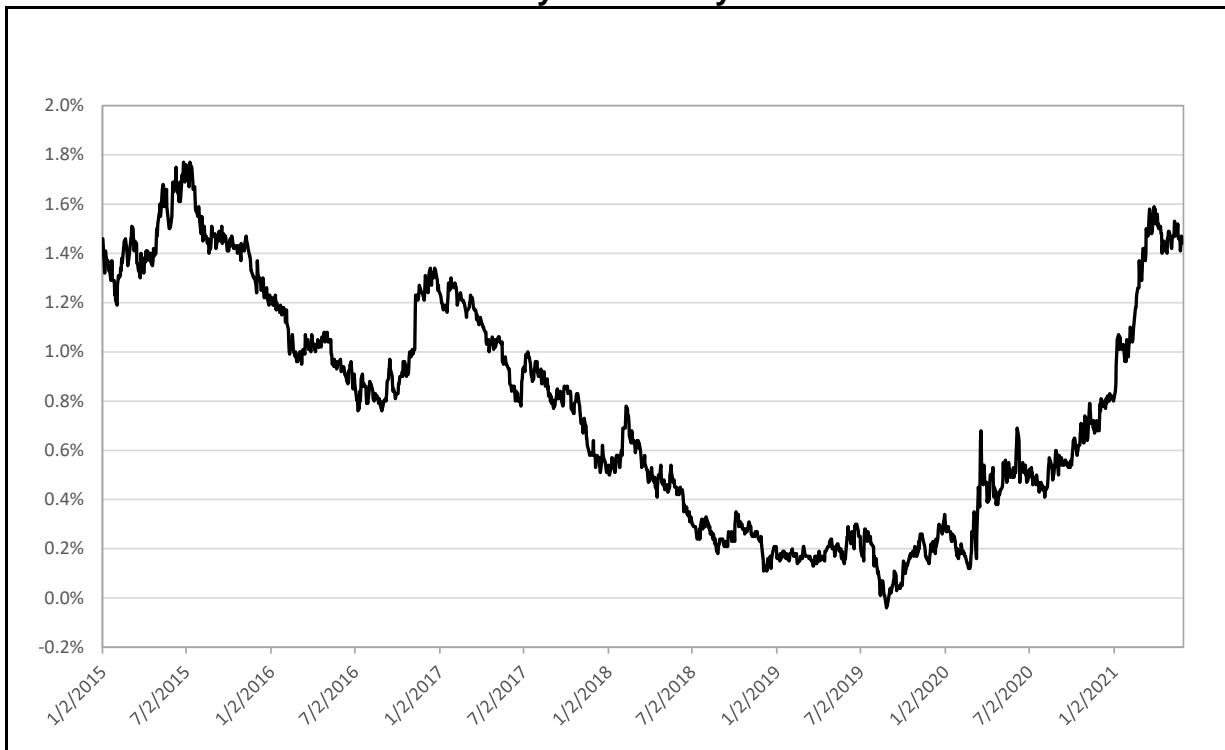
13 A26. Yes, I reviewed the yield curve, calculated as the difference between the yield  
14 on the 10-year Treasury Bond and the yield on the 2-year Treasury Bond from  
15 January 2015 through May 2021. I selected the 10-year Treasury Bond yield  
16 to represent long-term interest rates and the yield on the 2-year Treasury Bond  
17 to represent short-term interest rates. As shown in Figure 3, the yield curve  
18 has been steepening, with the spread increasing to approximately 144 basis  
19 points, which is a level not seen since the middle of 2015. The steepening of  
20 the yield curve indicates that investors expect economic growth and inflation to

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<sup>14</sup> "What is a yield curve?", Fidelity.com. <https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-yield-curve>

1 increase in the near-term, and as a result they are rotating out of long-term  
2 government bonds to avoid being locked into to low interest rates for the long-  
3 term. The steep yield curve signals that higher yields are required by investors  
4 to invest in long-term government bonds.

**Figure 3: 10-year Treasury Bond Yield Minus 2-year Treasury Bond Yield – January 2015 – May 2021<sup>15</sup>**



5 **Q27. What have equity analysts said about the steepening of the yield curve?**  
6 **A27.** Several equity analysts have noted that the yield curve is steepening and is  
7 expected to continue to steepen into 2021, which is an indicator that the  
8 economy is entering the early expansion phase of the business cycle. For

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<sup>15</sup> Federal Reserve Bank of St. Louis, 10-Year Treasury Constant Maturity Minus 2-Year Treasury Constant Maturity [T10Y2Y], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/T10Y2Y>, May 31, 2021.

1 example, in a recent Bloomberg article, Morgan Stanley indicated that they  
2 expected a “V-shaped” economic recovery and therefore advised investors to  
3 underweight government bonds and overweight equities.<sup>16</sup> Similarly, in a  
4 Bloomberg article, Goldman Sachs noted the following:

5 As the economic recovery consolidates next year, we expect to  
6 see more differentiation across the curve, with policymakers  
7 committing to keeping front-end rates low, but higher  
8 expectations for real growth and inflation driving long-end rates  
9 higher,” Goldman strategists including Zach Pandl wrote in the  
10 report, released Tuesday.

11 This should be especially true in the U.S. due to the Federal  
12 Reserve’s new average inflation targeting framework, which  
13 commits the central bank to holding off on rate hikes until inflation  
14 has reached its target and is on track to overshoot it.<sup>17</sup>

15 More recently, BTG Pactual Asset Management noted the following regarding  
16 increasing interest rates:

17 We’re talking about a fair amount of stimulus -- both fiscal and  
18 monetary -- going forward,” BTG Pactual Asset Management’s  
19 John Fath said, referring to the \$1.9 trillion pandemic-relief bill  
20 and prospects for more, along with the Federal Reserve’s pledge  
21 to stay accommodative. “We potentially could grow a lot faster  
22 and inflation could come into the horizon a lot quicker,” which  
23 begets higher rates.<sup>18</sup>

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<sup>16</sup> Ossinger, Joanna. “Morgan Stanley Says Go Risk-On and ‘Trust the Recovery’ in 2021.” Bloomberg.com, 15 Nov. 2020, [www.bloomberg.com/news/articles/2020-11-16/morgan-stanley-says-go-risk-on-and-trust-the-recovery-in-2021](http://www.bloomberg.com/news/articles/2020-11-16/morgan-stanley-says-go-risk-on-and-trust-the-recovery-in-2021).

<sup>17</sup> McCormick, Liz. “Goldman Goes All-In for Steeper U.S. Yield Curves as 2021 Theme.” Bloomberg.com, 10 Nov. 2020, [www.bloomberg.com/news/articles/2020-11-10/goldman-goes-all-in-for-steeper-u-s-yield-curves-as-2021-theme](http://www.bloomberg.com/news/articles/2020-11-10/goldman-goes-all-in-for-steeper-u-s-yield-curves-as-2021-theme).

<sup>18</sup> Spratt, Stephen, et al. “Treasury Yields Leap Past Key Level to 1.64%, Highest in a Year.” Bloomberg.com, Bloomberg, 12 Mar. 2021, [www.bloomberg.com/news/articles/2021-03-12/treasury-yields-surge-to-test-key-level-in-sudden-selling-bout](http://www.bloomberg.com/news/articles/2021-03-12/treasury-yields-surge-to-test-key-level-in-sudden-selling-bout).

1 Finally, Barron's noted that Citigroup also projected that the yield on the 10-  
2 year Treasury Bond is expected to increase in 2021, which prompted  
3 Citigroup's recommendation to overweight equities and favor cyclical sectors  
4 over defensive sectors, such as utilities.<sup>19</sup>

5 **Q28. Have equity analysts specifically commented on the performance of the**  
6 **utility sector over the near-term?**

7 A28. Yes. In a recent article, Barron's conducted its Big Money poll of 152  
8 professional investors regarding the outlook for the next twelve months. The  
9 majority of respondents projected the yield on the 10-year Treasury Bond to be  
10 between 2.00 percent and 2.50 percent at the end of the next twelve months  
11 which is an increase from the current 30-day average 10-year Treasury Bond  
12 yield as of April 30, 2021 of 1.65 percent.<sup>20</sup> Furthermore, the utility sector was  
13 selected as the sector which will perform the worst over the next twelve  
14 months.<sup>21</sup> Therefore, the professional investors surveyed by Barron's are  
15 projecting that utilities will underperform the broader market in 2021.

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<sup>19</sup> Keown, Callum. "10-Year Treasury Yields Will Rise Into 2021, Citi Says. This 'Aggressive' Equity Strategy Can Outperform." Barrons.com, 16 Nov. 2020, [www.barrons.com/articles/10-year-treasury-yields-will-rise-into-2021-citi-says-this-aggressive-equity-strategy-can-outperform-51605543920](http://www.barrons.com/articles/10-year-treasury-yields-will-rise-into-2021-citi-says-this-aggressive-equity-strategy-can-outperform-51605543920).

<sup>20</sup> Jasinski, Nicholas. This Bull Market Is Far From Over, Pros Say. Where They're Investing Now. Barron's, 26 Apr. 2021, [www.barrons.com/articles/stocks-have-more-room-to-rise-says-barrons-big-money-poll-51619222301?mod=past\\_editions](http://www.barrons.com/articles/stocks-have-more-room-to-rise-says-barrons-big-money-poll-51619222301?mod=past_editions).

<sup>21</sup> *Ibid.*



1 Similarly, Fidelity recently recommended underweighting the utility sector and  
2 ranked the utility sector last in its relative strength rankings which measures  
3 each sector's performance relative to the broader market.<sup>22</sup>

4 Finally, Charles Schwab has classified the utilities sector overall as  
5 "Underperform," noting that:

6 The Utilities sector has tended to perform relatively better when  
7 concerns about slowing economic growth resurface, and to  
8 underperform when those worries fade. That's partly because of  
9 the sector's traditional defensive nature and steady revenues—  
10 people need water, gas and electric services during all phases of  
11 the business cycle. Meanwhile, the low interest rates that typically  
12 come with a weak economy provide cheap funding for the large  
13 capital expenditures required in this industry.

14 However, while interest rates are low from a historical  
15 perspective, they have ramped higher as the economy continues  
16 to expand and stimulus is raising inflation expectations. On the  
17 flip side, there is the potential for a renewed decline in the  
18 economy to push rates even lower, or there could be significant  
19 government funding to Utilities as part of clean-energy initiatives  
20 that would benefit the sector's profit outlook.<sup>23</sup>

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<sup>22</sup> Fidelity, "Q2 2021 sector scorecard: The financials and energy sectors may be areas to watch as inflation returns," May 5, 2021.

<sup>23</sup> Charles Schwab, "Schwab Sector Insights: A view on 11 Equity Sectors," May 13, 2021.

1 **Q29. How has the utility sector performed historically during periods where the**  
2 **yield curve is steepening, and the economy is in the early stage of the**  
3 **business cycle?**

4 A29. In a recent report, Fidelity noted that the utility sector has historically been one  
5 of the worst performing sectors during the early phase of the business cycle  
6 with a geometric average return of -10.5 percent.<sup>24</sup> This conclusion is further  
7 supported by studies conducted by both Goldman Sachs and Deutsche Bank  
8 that examined the sensitivity of share prices of different industries to changes  
9 in interest rates over the past five years. Both Goldman Sachs and Deutsche  
10 Bank found that utilities had one of the strongest negative relationships with  
11 bond yields (i.e., increases in bond yields resulted in the decline of utility share  
12 prices).<sup>25</sup> This is important because if the utility sector underperforms over the  
13 near term, and prices of utility stocks decline, then the DCF model, which relies  
14 on historical averages of share prices, is likely to understate the cost of equity  
15 for I&M over the near term or the period that Company's rates will be in effect.

16 **Q30. Why do utilities historically underperform in the early stage of the**  
17 **business cycle?**

18 A30. Utilities are considered a defensive sector and are therefore affected less by  
19 changes in the business cycle relative to other market sectors since consumers

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<sup>24</sup> Fidelity Investments, "The Business Cycle Approach to Equity Sector Investing," 2020.

<sup>25</sup> Lee, Justina. "Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks." Bloomberg.com, 11 Mar. 2021, [www.bloomberg.com/news/articles/2021-03-11/wall-street-is-rethinking-the-treasury-threat-to-big-tech-stocks](http://www.bloomberg.com/news/articles/2021-03-11/wall-street-is-rethinking-the-treasury-threat-to-big-tech-stocks).

1 need energy during all phases of the business cycle. Therefore, utilities tend  
2 to perform well during periods of uncertainty where the prospect of slowing  
3 economic growth increases. As Fidelity noted historically utilities outperform  
4 the market in latter and recession phases of the business cycle.<sup>26</sup> This  
5 relationship mostly held during the past few years as the share prices of utilities  
6 were bid up to unsustainable levels as investors responded to economic  
7 uncertainty due to the trade war between the U.S. and China and ultimately the  
8 COVID-19 pandemic.

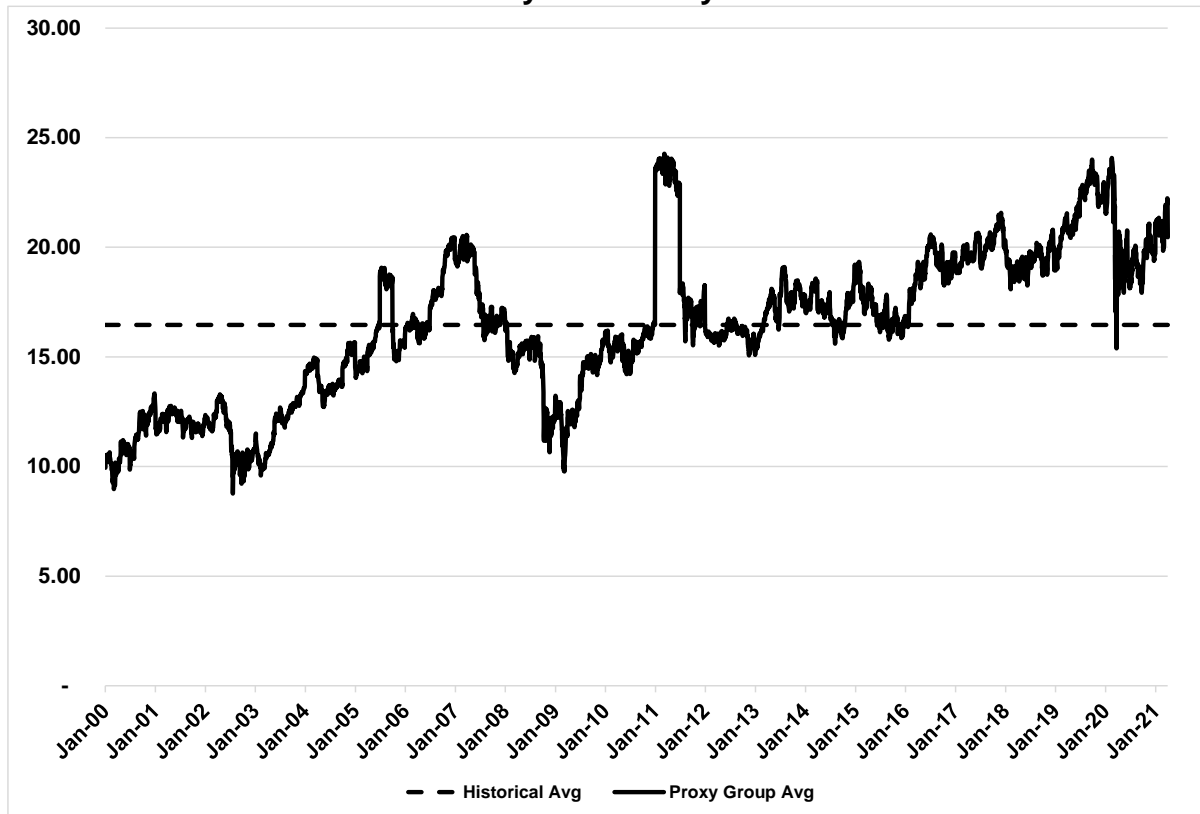
9 **Q31. How do the recent valuations of utilities compare to historical averages?**

10 A31. The utility sector's valuations remain above the long-term historical average.  
11 As shown in Figure 3, the price-to-earnings ("P/E") ratio of the Proxy Group is  
12 currently approximately 21.02, which exceeds above the long-term average of  
13 the Proxy Group over this period of approximately 16.46. It is not reasonable  
14 to expect the proxy group utilities to maintain P/E ratios that are above long-  
15 term averages over the long term.

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<sup>26</sup> Fidelity Investments, "The Business Cycle Approach to Equity Sector Investing," 2020.

**Figure 4: P/E Ratios of Utility Proxy Group Relative to the Long-Term Average, January 2000 – May 2021<sup>27</sup>**



- 1 **Q32. What is the effect of high valuations of utility stocks on the DCF model?**
- 2 **A32.** High valuations have the effect of depressing dividend yields, which results in
- 3 overall lower estimates of the cost of equity resulting from the DCF model. The
- 4 relatively low dividend yields demonstrated over the longer historical period
- 5 imply that the ROE calculated using historical market data in the DCF model
- 6 may understate the forward-looking cost of equity. Therefore, the DCF model
- 7 results must be interpreted with extreme caution so as to not understate the
- 8 cost of equity during the period that I&M's rates will be in effect.

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<sup>27</sup> Bloomberg Professional.

1                    **Effect of Tax Reform on the ROE and Capital Structure**

2 **Q33. Are there other factors that should be considered in determining the cost**  
3 **of equity for I&M?**

4 A33. Yes. There are important considerations with respect to Federal Income Tax  
5 treatment; 1) the effect of the Tax Cuts and Jobs Act of 2017 (“TCJA”) and 2)  
6 the potential for increases in Federal Income Tax as contemplated by the  
7 current administration. It is important to recognize how Federal tax changes  
8 affect the cash flow of the subject company and the potential effects of these  
9 proposals on the cost of equity. It is also relevant to setting the equity ratio in  
10 the capital structure, which I address in Section VIII of my testimony.

11 **Q34. Should the effect of tax reform be considered in determining the cost of**  
12 **equity for the Company?**

13 A34. Yes. The credit rating agencies have commented on the adverse effect of the  
14 TCJA on regulated utilities.<sup>28</sup> Specifically, the TCJA has reduced utility  
15 revenues due to lower federal income taxes in the revenue requirement, the  
16 end of bonus depreciation, and the requirement to return “unprotected” excess  
17 Accumulated Deferred Federal Income Taxes (“ADFIT”) (which, as discussed  
18 later herein, has been a significant amount for the Company and has been used

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<sup>28</sup> Standard & Poor’s Ratings, “Industry Top Trends 2019, North America Regulated Utilities”, November 8, 2018; FitchRatings, Special Report, What Investors Want to Know, “Tax Reform Impact on the U.S. Utilities, Power & Gas Sector”, January 24, 2018.

1 to defer rate increases and provide rate stability). This change in revenue  
2 reduced funds from operations metrics across the sector, and absent regulatory  
3 mitigation strategies, has led to weaker credit metrics (Funds from Operations  
4 “FFO”)) and negative ratings actions for many utilities.<sup>29</sup>

5 **Q35. What has been the effect of the TCJA on utility financial risk?**

6 A35. The TCJA reduced utilities’ financial flexibility through the loss of bonus  
7 depreciation and the return of ADFIT. In 2018 when the TCJA was passed,  
8 credit rating agencies initially revised the outlook on utilities. Since that time,  
9 Moody’s has downgraded the credit ratings of 39 utilities related in part to the  
10 TCJA beginning in June 2018 and continuing into 2021.

11 **Q36. Has the TCJA resulted in increased financial pressure for I&M?**

12 A36. Yes. I&M has experienced increasing credit pressure with the loss of bonus  
13 depreciation associated with the TCJA and a downward trend in coverage  
14 ratios over the past several years. However, I&M benefits from a supportive  
15 regulatory environment in Indiana, as cited in a recent Moody’s credit opinion:

16 Historically, I&M’s key financial credit metrics have been robust,  
17 buoyed in part by bonus depreciation, even as it implemented its  
18 increasing capital plan. For example, as of December 2017, the  
19 three year average ratio of CFO pre-W/C to debt was about 23%,  
20 which is at the low end of the “A” scoring range for this factor as  
21 indicated in our rating methodology for regulated electric and gas  
22 utilities. For the year ending December 31, 2019, I&M generated

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<sup>29</sup> *Ibid.*

1 a ratio of CFO pre-W/C to debt of approximately 21%, which is  
2 below the aforementioned “A” scoring range.

3 I&M’s financial metrics are viewed against a backdrop of  
4 supportive regulatory environments and predictability of cash flow  
5 generated by automatic recovery mechanisms. As such, although  
6 I&M’s ongoing capital program and the loss of bonus depreciation  
7 has caused credit metrics to decline somewhat, we expect they  
8 will remain supportive of its credit quality. For example, we  
9 believe the company will be able to demonstrate CFO pre-W/C to  
10 debt ratios in the low 20% range<sup>30</sup>

11 While there remains uncertainty surrounding changes to federal taxes, an  
12 increase in the corporate tax rate without timely recovery of tax increases may  
13 result in credit implications for I&M.

14 **Q37. Does tax reform continue to present challenges for utilities?**

15 A37. Yes. While the TCJA was passed in 2018, the reforms resulted in an ongoing  
16 change in the cash flow metrics of utilities. Credit rating agencies have  
17 recognized this change in metrics and have proposed that increasing ROEs  
18 and the use of thicker equity layers can improve credit metrics.<sup>31</sup>

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<sup>30</sup> Moody’s. Credit Opinion, April 23, 2020, at 5.

<sup>31</sup> FitchRatings, Special Report, What Investors Want to Know, “Tax Reform Impact on the U.S. Utilities, Power & Gas Sector”, January 24, 2018.

1 **Q38. Have state regulatory commissions recognized that the TCJA has had an**  
2 **adverse effect on utility cash flows?**

3 A38. Yes. The Oregon Public Utilities Commission (“Oregon PUC”),<sup>32</sup> the Wyoming  
4 Public Service Commission (“Wyoming PSC”)<sup>33</sup> and the Utah Public Service  
5 Commission (“Utah PSC”)<sup>34</sup> have acknowledged the negative effect of the  
6 TCJA on the cash flow of utilities.

7 Further, in a rate case for Consumers Energy Company in Michigan, Case No.  
8 U-18322, the Michigan Public Service Commission (“Michigan PSC”) Staff  
9 recommended a 9.80 percent ROE based on the results of the DCF, CAPM  
10 and Risk Premium approaches, which was supported by the Administrative  
11 Law Judge (“ALJ”).<sup>35</sup> However, in its Order issued on March 29, 2018, the  
12 Michigan PSC partly disagreed with the ALJ and Staff regarding expected  
13 market conditions and authorized a 10.00 percent ROE for Consumers Energy  
14 Company. The Michigan PSC noted that:

15 [i]n setting the ROE at 10.00%, the Commission believes there is  
16 an opportunity for the company to earn a fair return during this

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<sup>32</sup> 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).

<sup>33</sup> 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).

<sup>34</sup> Report and Order, Docket No. 19-057-02, Dominion Energy Utah, February 25, 2020, at 6.

<sup>35</sup> Michigan Public Service Commission Order, Cause No. U-18322, Consumers Energy Company, March 29, 2018, at 37.



1 period of atypical market conditions. This decision also reinforces  
2 the Commission's belief that customers do not benefit from a  
3 lower ROE if it means the utility has difficulty accessing capital at  
4 attractive terms and in a timely manner. The fact that other utilities  
5 have been able to access capital despite lower ROEs, as argued  
6 by many intervenors, is also a relevant consideration. It is also  
7 important to consider how extreme market reactions to singular  
8 events, as have occurred in the recent past, may impact how  
9 easily capital will be able to be accessed during the future test  
10 period should an unforeseen market shock occur. The  
11 Commission will continue to monitor a variety of market factors in  
12 future rate cases to gauge whether volatility and uncertainty  
13 continue to be prevalent issues that merit more consideration in  
14 setting the ROE.<sup>36</sup>

15 The Michigan PSC references "singular events" and the overall effect the  
16 events could have on the ability of a utility to access capital. Consistent with  
17 the Michigan PSC's views, it is important to consider a) that the TCJA has had  
18 a negative effect on the cash flows of utilities and b) the effects of the increased  
19 volatility associated with the uncertainty surrounding the economic effects of  
20 COVID-19.

21 **Q39. How would potential increases in Federal income taxes affect the**  
22 **Company?**

23 A39. If Federal income taxes are increased, it will be important for those increases  
24 to be recognized and addressed with efficiency so that the utilities have the  
25 opportunity to recover those costs on a timely basis. The Company is proposing  
26 a Tax rider that will properly track and return the remaining unprotected excess  
27 ADFIT to customer and would also serve to address any future changes in

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<sup>36</sup> *Id.*, at 43.

1 corporate income taxes, which would ensure timely recovery of any tax  
2 changes. Failure to implement a change in tax recovery with efficiency would  
3 result in greater stress on financial metrics, potential reduced earned ROEs  
4 and could have negative credit implications.

5 **Conclusion**

6 **Q40. What conclusions do you draw from your analysis of capital market  
7 conditions?**

8 A40. The important conclusions regarding capital market conditions are:

- 9 • As markets continue to rebound from the uncertainty and volatility that  
10 characterized capital markets in 2020 and interest rates continue to  
11 increase from the market lows in August 2020, it is reasonable that equity  
12 investors would require a higher return on equity to compensate for the  
13 additional risk associated with owning common stock. Likewise, if electric  
14 utilities continue to underperform the broader market, as expected by  
15 analysts, this will indicate additional risk associated with these investments.
- 16 • Investors' current expectations regarding the economy highlights the  
17 importance of using forward-looking inputs in the models used to estimate  
18 the cost of equity. Current utility valuations are still well above the long-  
19 term average. The current high valuations result in low dividend yields for  
20 utilities, which means that DCF models using recent historical data likely  
21 underestimate investors' required return over the period that rates will be in  
22 effect.
- 23 • Credit rating agencies have demonstrated concern about the cash flow  
24 metrics of utilities, related to the negative effects of both current market  
25 conditions and the TCJA, which increases investor risk expectations for  
26 utilities. Therefore, it is increasingly important to consider a rate of return  
27 and capital structure that support the Company's cash flow metrics to  
28 enable I&M the ability to attract capital at reasonable terms during the period  
29 that rates will be in effect.

1           **V.     PROXY GROUP SELECTION**

2 **Q41.   Why have you used a group of proxy companies to estimate the cost of**  
3 **equity for I&M?**

4 A41.   In this proceeding, I am estimating the cost of equity for a vertically integrated  
5 electric utility company that is not itself publicly traded. Because the cost of  
6 equity is a market-based concept and because I&M's operations do not make  
7 up the entirety of a publicly traded entity, it is necessary to establish a group of  
8 companies that is both publicly traded and comparable to I&M in certain  
9 fundamental business and financial respects to serve as its "proxy" in the ROE  
10 estimation process.

11 Even if I&M was a publicly-traded entity, it is possible that transitory events  
12 could bias its market value over a given period. A significant benefit of using a  
13 proxy group is that it moderates the effects of unusual events that may be  
14 associated with any one company. The proxy companies used in my analyses  
15 all possess a set of operating and risk characteristics that are substantially  
16 comparable to the Company, and thus provide a reasonable basis to derive  
17 and estimate the appropriate ROE for I&M.

18 **Q42.   Please provide a brief profile of Indiana Michigan Power.**

19 A42.   I&M is a wholly owned subsidiary of American Electric Power Company. The  
20 Company is based in Fort Wayne, Indiana, and provides regulated retail electric  
21 service to over 602,000 customers in northern and eastern Indiana and  
22 southwestern Michigan. The Company's electric operations in Indiana and

1 Michigan serve approximately 602,000 residential, commercial, and industrial  
2 customers.<sup>37</sup> As of December 31, 2020, the Company's net electric utility plant  
3 in Indiana and Michigan was approximately \$7.3 billion.<sup>38</sup> In addition, the  
4 Company had total retail electric revenues in Indiana and Michigan in 2020 of  
5 approximately \$1.8 billion, made up of 43.0 percent residential, 27.0 percent  
6 commercial, 29.6 percent large industrial, and 0.4 percent other retail sales<sup>39, 40</sup>  
7 For the Company's parent entity, American Electric Power, I&M in Indiana and  
8 Michigan accounted for 23.6 percent of its vertically integrated utilities segment  
9 retail sales revenue in 2020.<sup>41</sup> I&M's current credit ratings are summarized in  
10 Figure 5.

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<sup>37</sup> AEP 2020 Form 10-K, p. 2.

<sup>38</sup> 2020 Federal Energy Regulatory Commission ("FERC") Form 1 Annual Report, Page 200.

<sup>39</sup> Includes PJM net charges.

<sup>40</sup> AEP 2020 Form 10-K, p. 7.

<sup>41</sup> AEP 2020 Form 10-K, p. 5. AEP 2020 vertically integrated utilities segment retail revenues totaled \$7.8 billion.

**Figure 5: I&M Credit Ratings**

Credit Rating Agency	Rating	Outlook
Standard & Poor's <sup>42</sup>	A-	Negative
Moody's Investors Service <sup>43</sup>	A3	Stable
Fitch <sup>44</sup>	BBB+	Stable

1 **Q43. How did you select the companies included in your proxy group?**

2 A43. I began with the group of 37 companies that Value Line classifies as Electric

3 Utilities and applied the following screening criteria to select companies that:

- 4 • pay consistent quarterly cash dividends, because companies that do not  
5 cannot be analyzed using the Constant Growth DCF model;
- 6 • have investment grade long-term issuer ratings from S&P and/or Moody's;
- 7 • are covered by at least two utility industry analysts;
- 8 • have positive long-term earnings growth forecasts from at least two  
9 sources;
- 10 • own generation assets;
- 11 • generation assets in rate base;

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<sup>42</sup> S&P Global Market Intelligence, April 28, 2021.

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<sup>43</sup> Moody's. Credit Opinion, April 22, 2021.

<sup>44</sup> Messner Direct at 9, lines 20-22.

- 1 • derive at least 5.00 percent of their regulated generation capacity from coal;
- 2 • derive more than 60.00 percent of their total operating income from
- 3 regulated operations;
- 4 • derive more than 80.00 percent of regulated operating income from electric
- 5 operations;
- 6 • had a mean ROE lower than 7.00 percent;
- 7 • were not parties to a merger or transformative transaction during the
- 8 analytical periods relied on.

9 **Q44. What is the composition of your proxy group?**

10 A44. The screening criteria discussed above are shown in Attachment AEB-3 and  
11 resulted in a proxy group consisting of the companies shown in Figure 6 below.

**Figure 6: Proxy Group**

<b>Company</b>	<b>Ticker</b>
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Otter Tail Corporation	OTTR
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
Xcel Energy Inc.	XEL

1 **Q45. Please explain your reason for not including AEP in the proxy group.**

2 A45. While AEP met the proxy group screening criteria, AEP is the parent company  
3 of I&M, and is thus excluded from the analysis.

4 **Q46. Please explain your reasoning for excluding IDACORP, Inc. from the  
5 proxy group.**

6 A46. IDACORP did not meet the 7.00 percent threshold ROE screening, as the  
7 constant growth 30-day mean ROE for IDACORP was 6.56 percent.

8 **VI. COST OF EQUITY ESTIMATION**

9 **Q47. Please briefly discuss the ROE in the context of the regulated Rate of  
10 Return (“ROR”).**

11 A47. The ROE is the cost rate applied to the equity capital in the ROR. The ROR  
12 for a regulated utility is the weighted average cost of capital, in which the cost  
13 rates of the individual sources of capital are weighted by their respective book  
14 values. While the costs of debt and preferred stock can be directly observed,  
15 the cost of equity is market-based and, therefore, must be estimated based on  
16 observable market data.

17 **Q48. How is the required ROE determined?**

18 A48. The required ROE is estimated by using one or more analytical techniques that  
19 rely on market-based data to quantify investor expectations regarding equity  
20 returns, adjusted for certain incremental costs and risks. Informed judgment is

1 then applied to determine where the company's cost of equity falls within the  
2 range of results. The key consideration in determining the cost of equity is to  
3 ensure that the methodologies employed reasonably reflect investors' views of  
4 the financial markets in general, as well as the subject company (in the context  
5 of the proxy group), in particular.

6 **Q49. What methods did you use to determine I&M's ROE?**

7 A49. I considered the results of the Constant Growth DCF model, the CAPM, the  
8 ECAPM, a Bond Yield Plus Risk Premium analysis, and an Expected Earnings  
9 analysis. As discussed in more detail below, a reasonable ROE estimate  
10 appropriately considers alternative methodologies and the reasonableness of  
11 their individual and collective results.

12 **Importance of Multiple Analytical Approaches**

13 **Q50. Why is it important to use more than one analytical approach?**

14 A50. Because the cost of equity is not directly observable, it must be estimated  
15 based on both quantitative and qualitative information. When faced with the  
16 task of estimating the cost of equity, analysts and investors are inclined to  
17 gather and evaluate as much relevant data as reasonably can be  
18 analyzed. Several models have been developed to estimate the cost of equity,  
19 and I use multiple approaches to estimate the cost of equity. As a practical  
20 matter, however, all the models available for estimating the cost of equity are  
21 subject to limiting assumptions or other methodological



1 constraints. Consequently, many well-regarded finance texts recommend  
2 using multiple approaches when estimating the cost of equity. For example,  
3 Copeland, Koller, and Murrin<sup>45</sup> suggest using the CAPM and Arbitrage Pricing  
4 Theory model, while Brigham and Gapenski<sup>46</sup> recommend the CAPM, DCF,  
5 and Bond Yield Plus Risk Premium approaches.

6 **Q51. Do current market conditions increase the importance of using more than  
7 one analytical approach?**

8 A51. Yes. Low interest rates and the effects of the investor “flight to quality” can be  
9 seen in high utility share valuations, relative to historical levels and relative to  
10 the broader market. Higher utility stock valuations produce lower dividend  
11 yields and result in lower cost of equity estimates from a DCF analysis. Low  
12 interest rates also affect the CAPM in two ways: (1) the risk-free rate is lower,  
13 and (2) because the market risk premium is a function of interest rates (i.e., it  
14 is the return on the broad stock market less the risk-free interest rate), the risk  
15 premium should move higher when interest rates are lower. Therefore, it is  
16 important to use multiple analytical approaches to moderate the impact that the  
17 current low interest rate environment is having on the ROE estimates for the  
18 proxy group and, where possible, consider using projected market data in the  
19 models to estimate the return for the forward-looking period.

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<sup>45</sup> 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.

<sup>46</sup> Eugene Brigham, Louis Gapenski, Financial Management: Theory and Practice, 7th Ed. (Orlando: Dryden Press, 1994), at 341.

1 **Q52. What are your conclusions about the results of the DCF and CAPM**  
2 **models?**

3 A52. Recent market data that is used as the basis for the assumptions for both  
4 models have been affected by market conditions. As a result, relying  
5 exclusively on historical assumptions in these models, without considering  
6 whether these assumptions are consistent with investors' future expectations,  
7 will underestimate the cost of equity that investors would require over the period  
8 that the rates in this case are to be in effect. In this instance, relying on the  
9 historically low dividend yields that are not expected to continue over the period  
10 that the new rates will be in effect will underestimate the ROE for I&M.  
11 Furthermore, as discussed in Section IV above, long-term interest rates have  
12 increased since August 2020 and this trend is expected to continue over the  
13 near-term as the economy enters the recovery phase of the business cycle.  
14 Therefore, the use of current averages of Treasury bond yields as the estimate  
15 of the risk-free rate in the CAPM is not appropriate since recent market  
16 conditions are not expected to continue over the long-term. Instead, analysts  
17 should rely on projected yields of Treasury Bonds in the CAPM. The projected  
18 Treasury Bond yields results in CAPM estimates that are more reflective of the  
19 market conditions that investors expect during the period that the Company's  
20 rates will be in effect.

1                    **Constant Growth DCF Model**

2 **Q53. Please describe the DCF approach.**

3 A53. The DCF approach is based on the theory that a stock's current price  
4 represents the present value of all expected future cash flows. In its most  
5 general form, the DCF model is expressed as follows:

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

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

11                    
$$k = \frac{D_0(1+g)}{P_0} + g \quad [2]$$

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

15 **Q54. What assumptions are required for the Constant Growth DCF model?**

16 A54. The Constant Growth DCF model requires the following four assumptions: (1)  
17 a constant growth rate for earnings and dividends; (2) a stable dividend payout  
18 ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than  
19 the expected growth rate. To the extent that any of these assumptions are  
20 violated, considered judgment and/or specific adjustments should be applied  
21 to the results.

1

2 **Q55. What market data did you use to calculate the dividend yield in your**  
3 **Constant Growth DCF model?**

4 A55. The dividend yield in my Constant Growth DCF model is based on the proxy  
5 companies' current annualized dividend and average closing stock prices over  
6 the 30-, 90-, and 180-trading days ended May 31, 2021.

7 **Q56. Why did you use 30-, 90-, and 180-day averaging periods?**

8 A56. In my Constant Growth DCF model, I use an average of recent trading days to  
9 calculate the term  $P_0$  in the DCF model to ensure that the ROE is not skewed  
10 by anomalous events that may affect stock prices on any given trading day.  
11 The averaging period should also be reasonably representative of expected  
12 capital market conditions over the long-term. However, the averaging periods  
13 that I use rely on historical data that are not consistent with the forward-looking  
14 market expectations. Therefore, the results of my Constant Growth DCF model  
15 using historical data may underestimate the forward-looking cost of equity. As  
16 a result, I place more weight on the mean to mean-high results produced by  
17 my Constant Growth DCF model.

18 **Q57. Did you make any adjustments to the dividend yield to account for**  
19 **periodic growth in dividends?**

20 A57. Yes, I did. Because utility companies tend to increase their quarterly dividends  
21 at different times throughout the year, it is reasonable to assume that dividend

1 increases will be evenly distributed over calendar quarters. Given that  
2 assumption, it is reasonable to apply one-half of the expected annual dividend  
3 growth rate for purposes of calculating the expected dividend yield component  
4 of the DCF model. This adjustment ensures that the expected first-year  
5 dividend yield is, on average, representative of the coming twelve-month  
6 period, and does not overstate the aggregated dividends to be paid during that  
7 time.

8 **Q58. Why is it important to select appropriate measures of long-term growth**  
9 **in applying the DCF model?**

10 A58. In its Constant Growth form, the DCF model (*i.e.*, Equation [2]) assumes a  
11 single growth estimate in perpetuity. To reduce the long-term growth rate to a  
12 single measure, one must assume that the payout ratio remains constant and  
13 that earnings per share, dividends per share and book value per share all grow  
14 at the same constant rate. Over the long run, however, dividend growth can  
15 only be sustained by earnings growth. Therefore, it is important to incorporate  
16 a variety of sources of long-term earnings growth rates into the Constant  
17 Growth DCF model.

18 **Q59. Which sources of long-term earnings growth rates did you use?**

19 A59. My Constant Growth DCF model incorporates three sources of long-term  
20 earnings growth rates: (1) Zacks Investment Research; (2) Thomson First Call  
21 (provided by Yahoo!Finance); and (3) Value Line Investment Survey.

1                    **Discounted Cash Flow Model Results**

2 **Q60. How did you calculate the range of results for the Constant Growth DCF**  
3 **Models?**

4 A60. I calculated the low result for my DCF model using the minimum growth rate  
5 (*i.e.*, the lowest of the Value Line, First Call, and Zacks earnings growth rates)  
6 for each of the proxy group companies. Thus, the low result reflects the  
7 minimum DCF result for the proxy group. I used a similar approach to calculate  
8 the high results, using the highest growth rate for each proxy group company.  
9 The mean results were calculated using the average growth rates from all  
10 sources.

11 **Q61. What were the results of your Constant Growth DCF analyses?**

12 A61. Figure 7 summarizes the results of my Constant Growth DCF analyses.

**Figure 7: Constant Growth Discounted Cash Flow Results<sup>47</sup>**

	Mean Low	Mean	Mean High
30-Day Average	8.59%	9.43%	10.35%
90-Day Average	8.79%	9.62%	10.54%
180-Day Average	8.88%	9.72%	10.64%
	Median Low	Median	Median High
30-Day Average	8.68%	9.66%	10.41%
90-Day Average	8.87%	9.88%	10.59%
180-Day Average	8.87%	9.88%	10.59%

1 **Q62. What are your conclusions about the results of the DCF models?**

2 A62. As discussed previously, one primary assumption of the DCF models is a  
 3 constant P/E ratio. That assumption is heavily influenced by the market price  
 4 of utility stocks. To the extent that utility valuations are high and may not be  
 5 sustainable, it is important to consider the results of the DCF models with  
 6 caution. As discussed in Section IV above, while dividend yields have  
 7 increased somewhat due to the declines in utility share prices, they are still low  
 8 historically. This demonstrates that the results of the current DCF models are  
 9 significantly below more normal market conditions. Therefore, while I have  
 10 given weight to the results of the Constant Growth DCF model, my  
 11 recommendation also gives weight to the results of other ROE estimation

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<sup>47</sup> See Attachment AEB-2 and Attachment AEB-4.

1 models. My ROE approach is generally consistent with the Commission's  
2 position in the most recent I&M case where the Commission supported the use  
3 of multiple models:<sup>48</sup>

4 The Commission is also mindful that "the cost of common equity  
5 cannot be precisely calculated and estimating it requires the use  
6 of judgment." Indiana-American Water Co., Cause No. 44022, p.  
7 35 (June 6, 2012). Due to this lack of precision, the use of multiple  
8 methods is desirable, in part, because no one method will  
9 produce reasonable results under all conditions and in all  
10 circumstances. The Commission is also mindful of the strengths  
11 and weaknesses of the various models typically used to estimate  
12 a utility's cost of common equity, and we find that with appropriate  
13 and reasonable inputs, models such as the DCF and CAPM can  
14 produce reasonable estimates of a utility's cost of common  
15 equity. Consistent with the standards in Hope and Bluefield, as  
16 well as under Indiana law, I&M's authorized return on equity  
17 should be reasonable given the totality of the circumstances.

### 18 **CAPM Analysis**

19 **Q63. Please briefly describe the CAPM.**

20 A63. The CAPM (Equation [3]) is a risk premium approach that estimates the cost of  
21 equity for a given security as a function of a risk-free return plus a risk premium  
22 to compensate investors for the non-diversifiable or "systematic" risk of that  
23 security. This second component is the product of the market risk premium  
24 and the Beta coefficient, which measures the relative riskiness of the security  
25 being evaluated.

---

<sup>48</sup> Petition of Indiana Michigan Power Company for Authority to Increase its Rates, Cause No. 45235, Indiana Utility Regulatory Commission Order Approved March 11, 2020, at 40.



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

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

4 Where:

5  $K_e$  = the required market ROE;

6  $\beta$  = Beta coefficient of an individual security;

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

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

9 In this specification, the term ( $r_m - r_f$ ) represents the market risk premium.  
10 According to the theory underlying the CAPM, because unsystematic risk can  
11 be diversified away, investors should only be concerned with systematic or non-  
12 diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined  
13 in Equation [4]:

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

14 The variance of the market return (i.e., Variance ( $r_m$ )) is a measure of the  
15 uncertainty of the general market, and the covariance between the return on a  
16 specific security and the general market (i.e., Covariance ( $r_e, r_m$ )) reflects the  
17 extent to which the return on that security will respond to a given change in the  
18 general market return. Thus, Beta represents the risk of the security relative to  
19 the general market.

1 **Q64. What risk-free rate did you use in your CAPM analysis?**

2 A64. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-  
3 day average yield on 30-year U.S. Treasury bonds, which is 2.30 percent;<sup>49</sup> (2)  
4 the average projected 30-year U.S. Treasury bond yield for the third quarter of  
5 2021 through the third quarter of 2022, which is 2.64 percent;<sup>50</sup> and (3) the  
6 average projected 30-year U.S. Treasury bond yield for 2023 through 2027,  
7 which is 3.50 percent.<sup>51</sup>

8 **Q65. Would you place more weight on one of these scenarios?**

9 A65. Yes. Based on current market conditions, I place more weight on the results  
10 of the projected yields on the 30-year Treasury bonds. As discussed  
11 previously, the estimation of the cost of equity in this case should be forward-  
12 looking because it is the return that investors would receive over the future rate  
13 period. Therefore, the inputs and assumptions used in the CAPM analysis  
14 should reflect the expectations of the market at that time. While I have included  
15 the results of a CAPM analysis that relies on the current average risk-free rate,  
16 this analysis fails to take into consideration the effect of the market's  
17 expectations for interest rate increases on the cost of equity.

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<sup>49</sup> Bloomberg Professional, as of May 31, 2021.

<sup>50</sup> Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 2.

<sup>51</sup> Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14.

1 **Q66. What Beta coefficients did you use in your CAPM analysis?**

2 A66. As shown on my Attachment AEB-5, I used the Beta coefficients for the proxy  
3 group companies as reported by Bloomberg and Value Line. Value Line Beta  
4 coefficients are calculated over 5 years of historical data. The Bloomberg Beta  
5 coefficients that I relied on were calculated over a 10-year basis.

6 Additionally, as shown in Attachment AEB-5, page 18, I also considered an  
7 additional CAPM analysis which relies on the long-term average utility Beta  
8 coefficient for the companies in my proxy group. The long-term average utility  
9 Beta coefficient was calculated as an average of the Value Line Beta  
10 coefficients for the companies in my proxy group from 2011 through 2020.  
11 Since the pandemic, betas for the utility sector have increased significantly,  
12 from a previous average of about 0.65 to now approximately 0.85. Note that  
13 betas are typically based on a 3- to 5-year average. As the economy continues  
14 to recover from the pandemic, betas are likely to return to historical levels.  
15 Thus, an increase of approximately 20 basis points over a brief period is a  
16 significant escalation, indicating elevated risks to the sector. Long term, we  
17 expect the utility sector betas to drop to a range of 0.70-0.75, in line with  
18 historical averages.

19 **Q67. How did you estimate the market risk premium in the CAPM?**

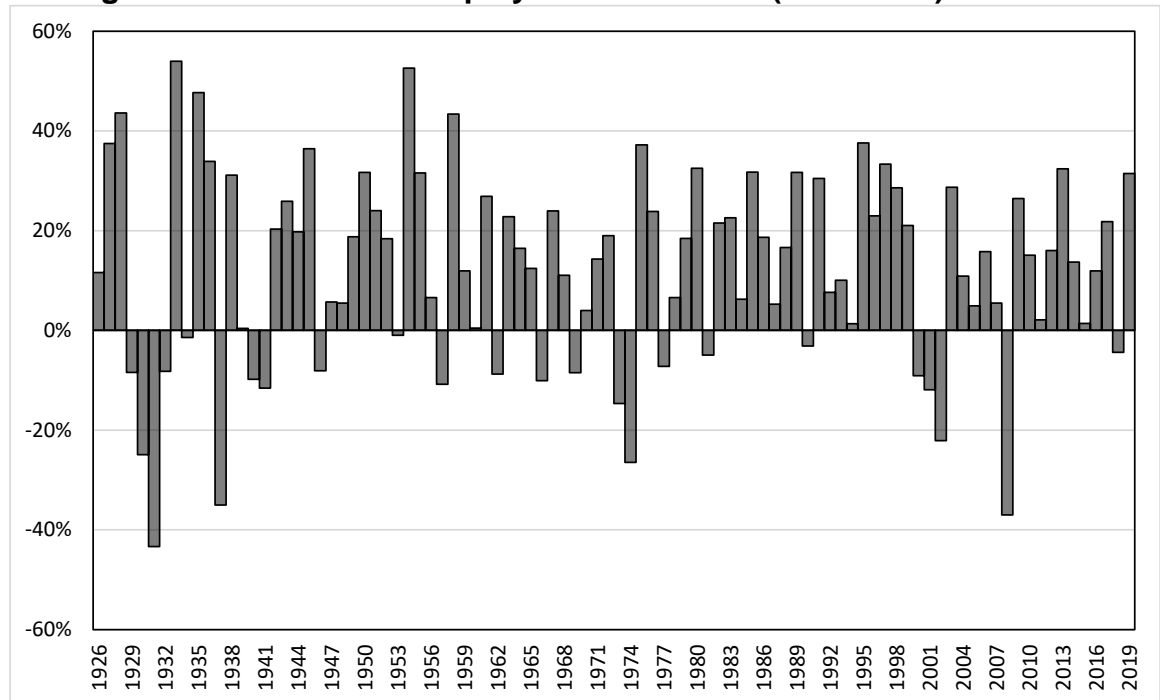
20 A67. I estimated the market risk premium based on the expected return on the S&P  
21 500 Index less the yield on the 30-year Treasury bond. I calculated the  
22 expected return on the S&P 500 Index using publicly available data: S&P's

1 published dividend yield and five-year projected growth rate for the entire S&P  
2 500 Index. As shown in Attachment AEB-5, based on S&P's five-year growth  
3 rate for the S&P 500 of 12.15 percent and dividend yield of 1.46 percent, the  
4 expected return on the S&P 500 Index is 13.70 percent. As a result, the implied  
5 market risk premium over the current 30-day average of the 30-year U.S.  
6 Treasury bond yield, and over projected yields on the 30-year U.S. Treasury  
7 bond, ranges from 10.20 percent to 11.39 percent.

8 **Q68. How does the current expected market return of 13.70 percent compare**  
9 **to observed historical market returns?**

10 A68. Given the range of annual equity returns that have been observed over the past  
11 century (shown in Figure 8), a current expected return of 13.70 is not  
12 unreasonable. In 47 out of the past 94 years (or 50 percent of observations),  
13 the realized equity return was at least 13.70 or greater.

**Figure 8: Realized U.S. equity market returns (1926-2019)** <sup>52</sup>



1 **Q69. Did you consider another form of the CAPM in your analysis?**

2 A69. Yes. I have also considered the results of an ECAPM (alternatively referred to  
3 as the Zero-Beta CAPM)<sup>53</sup> in estimating the cost of equity for I&M. The ECAPM  
4 calculates the product of the adjusted Beta coefficient and the market risk  
5 premium and applies a weight of 75.00 percent to that result. The model then  
6 applies a 25.00 percent weight to the market risk premium, without any effect  
7 from the Beta coefficient. The results of the two calculations are summed,  
8 along with the risk-free rate, to produce the ECAPM result, as noted in Equation  
9 [5] below:

<sup>52</sup> Depicts total annual returns on large company stocks, as reported in the 2020 Duff and Phelps SBBI Yearbook.

<sup>53</sup> See e.g., Roger A. Morin, *New Regulatory Finance*, Public Utilities Reports, Inc., 2006, at 189.

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

2 Where:

3  $k_e$  = the required market ROE;

4  $\beta$  = Adjusted Beta coefficient of an individual security;

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

6  $r_m$  = the required return on the market as a whole.

7 In essence, the Empirical form of the CAPM addresses the tendency of the  
8 “traditional” CAPM to underestimate the cost of equity for companies with low  
9 Beta coefficients such as regulated utilities. In that regard, the ECAPM is not  
10 redundant to the use of adjusted Betas; rather, it recognizes the results of  
11 academic research indicating that the risk-return relationship is different (in  
12 essence, flatter) than estimated by the CAPM, and that the CAPM  
13 underestimates the “alpha,” or the constant return term.<sup>54</sup>

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

18 **Q70. What are the results of your CAPM analyses?**

19 A70. As shown in Figure 9 (see also Attachment AEB-5), my traditional CAPM  
20 analysis produces a range of returns from 10.80 percent to 12.64 percent for  
21 the proxy group. The ECAPM analysis results range from 11.52 percent to

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<sup>54</sup> *Id.*, at 191.

1 12.90 percent for the proxy group. Thus, the range established for the proxy  
2 group by the traditional CAPM and the ECAPM is 10.80 percent to 12.90  
3 percent with a mean of 11.97 percent.

**Figure 9: CAPM Results**

	Current Risk-Free Rate (2.30%)	Q3 2021 – Q3 2022 Projected Risk-Free Rate (2.64%)	2023-2027 Projected Risk-Free Rate (3.50%)
<b>CAPM</b>			
Value Line Beta	12.51%	12.55%	12.64%
Bloomberg Beta	11.58%	11.64%	11.80%
LT Avg. Beta	10.80%	10.88%	11.10%
<b>ECAPM</b>			
Value Line Beta	12.81%	12.84%	12.90%
Bloomberg Beta	12.11%	12.15%	12.27%
LT Avg. Beta	11.52%	11.59%	11.75%

4 **Bond Yield Plus Risk Premium Analysis**

5 **Q71. Please describe the Bond Yield Plus Risk Premium approach.**

6 A71. This approach is based on the fundamental principle that because bondholders  
7 have a superior right to be repaid, equity investors bear a residual risk  
8 associated with equity ownership and therefore require a premium over the  
9 return they would have earned as a bondholder. That is, because returns to  
10 equity holders have greater risk than returns to bondholders, equity investors  
11 must be compensated to bear that risk. Risk premium approaches, therefore,  
12 estimate the cost of equity as the sum of the equity risk premium and the yield  
13 on a “risk-free” class of bonds.

1 **Q72. Are there other considerations that should be addressed in conducting**  
2 **this analysis?**

3 A72. Yes, there are. It is important to recognize both academic literature and market  
4 evidence indicating that the equity risk premium (as used in this approach) is  
5 inversely related to the level of interest rates. That is, as interest rates increase,  
6 the equity risk premium decreases, and vice versa. Consequently, it is  
7 important to develop an analysis that: (1) reflects the inverse relationship  
8 between interest rates and the equity risk premium; and (2) relies on recent  
9 and expected market conditions. Such an analysis can be developed based  
10 on a regression of the risk premium as a function of U.S. Treasury bond yields.  
11 In my analysis, I used actual authorized returns for vertically integrated electric  
12 utility companies and corresponding long-term Treasury yields as the historical  
13 measure of the cost of equity to determine the risk premium. If we let  
14 authorized ROEs for vertically integrated electric utilities serve as the measure  
15 of required equity returns and define the yield on the long-term U.S. Treasury  
16 bond as the relevant measure of interest rates, the risk premium simply would  
17 be the difference between those two points.<sup>55</sup>

---

<sup>55</sup> 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 **Q73. Is the Bond Yield Plus Risk Premium analysis relevant to investors?**

2 A73. Yes, it is. Investors are aware of ROE awards in other jurisdictions, and they  
3 consider those awards as a benchmark for a reasonable level of equity returns  
4 for utilities of comparable risk operating in other jurisdictions. Because my  
5 Bond Yield Plus Risk Premium analysis is based on authorized ROEs for utility  
6 companies relative to corresponding Treasury yields, it provides relevant  
7 information to assess the return expectations of investors.

8 **Q74. What did your Bond Yield Plus Risk Premium analysis reveal?**

9 A74. As shown in Figure 10 below, from 1992 through May 2021, there was a strong  
10 negative relationship between risk premia and interest rates. To estimate that  
11 relationship, I conducted a regression analysis using Equation [6]:

$$12 \quad RP = a + b(T) \quad RP = a + b(T) \quad [6]$$

13 Where:

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

16 a = intercept term

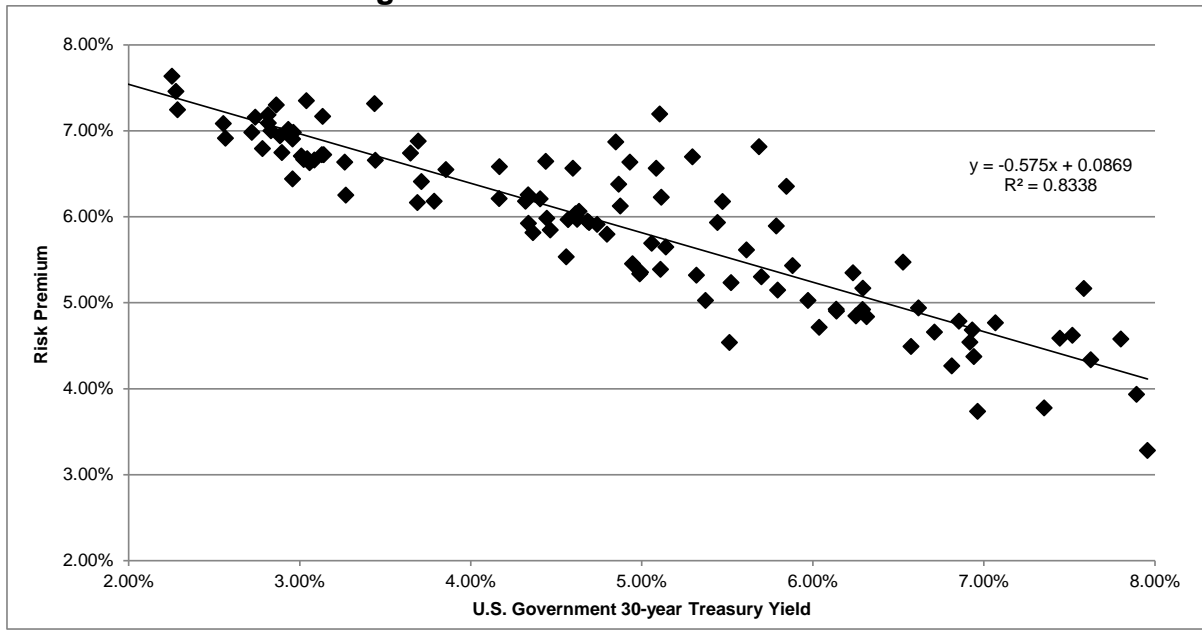
17 b = slope term

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

19 Data regarding allowed ROEs were derived from 656 vertically-integrated  
20 electric utility rate cases from 1992 through May 2021 as reported by

1 Regulatory Research Associates (“RRA”).<sup>56</sup> This equation’s coefficients were  
2 statistically significant at the 99.00 percent level.

**Figure 10: Risk Premium Results**



3 As shown on Attachment AEB-6, based on the current 30-day average of the  
4 30-year U.S. Treasury bond yield (i.e., 2.30 percent), the risk premium would  
5 be 7.37 percent, resulting in an estimated ROE of 9.67 percent. Based on the  
6 near-term (Q3 2021 – Q3 2022) projections of the 30-year U.S. Treasury bond  
7 yield (i.e., 2.64 percent), the risk premium would be 7.17 percent, resulting in  
8 an estimated ROE of 9.81 percent. Based on longer-term (2023 – 2027)  
9 projections of the 30-year U.S. Treasury bond yield (i.e., 3.50 percent), the risk  
10 premium would be 6.68 percent, resulting in an estimated ROE of 10.18  
11 percent.

---

<sup>56</sup> This analysis began with a total of 1,289 electric cases, which were screened to eliminate limited issue rider cases, transmission cases, distribution cases, and cases that did not specify an authorized ROE. After applying those screening criteria, the analysis was based on data for 656 cases.

1 **Q75. How did the results of the Bond Yield Risk Premium inform your**  
2 **recommended ROE for I&M?**

3 A75. I have considered the results of the Bond Yield Risk Premium analysis in setting  
4 my recommended ROE for I&M. As noted above, investors consider the ROE  
5 award of a company when assessing the risk of that company as compared to  
6 utilities of comparable risk operating in other jurisdictions. The Risk Premium  
7 analysis considers this comparison by estimating the return expectations of  
8 investors based on the current and past ROE awards of gas utilities across the  
9 U.S.

10 **Expected Earnings Analysis**

11 **Q76. Have you considered any additional analysis to estimate the cost of**  
12 **equity for I&M?**

13 A76. Yes. I have considered an Expected Earnings analysis based on the projected  
14 ROEs for each of the proxy group companies.

15 **Q77. What is an Expected Earnings analysis?**

16 A77. The Expected Earnings methodology is a comparable earnings analysis that  
17 calculates the earnings that an investor expects to receive on the book value  
18 of a stock. The Expected Earnings analysis is a forward-looking estimate of  
19 investors' expected returns. The use of an Expected Earnings approach based  
20 on the proxy companies provides a range of the expected returns on a group  
21 of risk comparable companies to the subject company. This range is useful in  
22 helping to determine the opportunity cost of investing in the subject company,  
23 which is relevant in determining a company's ROE.

1 **Q78. Has the IURC considered the use of the Expected Earnings approach?**

2 A78. Yes. The IURC has also allowed the use of Expected Earnings, stating in  
3 another rate case, for example:

4 Four models were used to determine a cost of equity: DCF;  
5 CAPM; Risk Premium; and Expected Earnings. Each was  
6 discussed in varying degrees by the Parties in this Cause. The  
7 expert witnesses of each Party used the same proxy group of  
8 seventeen electric utility companies to conduct their respective  
9 analyses. While Dr. Avera also submitted analyses using a proxy  
10 group of non-utility companies, we give little weight to those  
11 analyses due to the inherent differences between regulated  
12 utilities and non-utility companies operating in a free-market  
13 system.<sup>57</sup>

14 The Commission further supported the use of Expected Earnings in its  
15 authorized rate decision, citing the projected returns, in this case over the  
16 following 3 to 5 years:

17 Vectren South submitted evidence supporting an 11.5% ROE but  
18 moderated its request to 10.7% to limit the amount of the  
19 proposed increase in this case. The OUCC proposes an ROE of  
20 9.25% and the Industrial Group proposes an ROE of 9.85%.  
21 Vectren South must compete for capital attraction with other  
22 utilities. The expert witnesses of each party have used the same  
23 proxy group of 17 electric utility companies. **Dr. Avera's exhibits**  
24 **show that these companies are projected by Value Line to**  
25 **have returns on average common equity of 11.5% over the**  
26 **next 3 to 5 years.** In his Sustainable Growth Rate DCF  
27 calculation, Mr. Gorman has projected a return on year-end  
28 equity for these companies of 10.87%. Vectren South currently  
29 has an authorized ROE of 10.40%. (Emphasis added)<sup>58</sup>

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<sup>57</sup> IURC. Cause No. 43839. Petition of Southern Indiana Gas and Electric Company for Approval of and Authorization for Rate Increase Order, April 27, 2011, at 28.

<sup>58</sup> *Ibid.* **Emphasis added.**

1 **Q79. Have other regulators considered the use of an Expected Earnings**  
2 **analysis?**

3 A79. Yes. In its order in Docket No. ER12111052 for Jersey Central Power and Light  
4 Company, the New Jersey Board of Public Utilities (“NJ Board”) noted that rate  
5 of return experts use a number of models including the DCF, CAPM, Risk  
6 Premium, and Comparable Earnings to estimate the return required by  
7 investors. Specifically, the Board noted:

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

20 **Q80. How did you develop the Expected Earnings approach?**

21 A80. I relied on Value Line projections of the return on equity capital for the proxy  
22 companies for the period from 2024-2026. I adjusted those projected ROEs to  
23 account for the fact that the ROEs reported by Value Line are calculated on the  
24 basis of common shares outstanding at the end of the period, as opposed to  
25 average shares outstanding over the period. As shown in Attachment AEB-7,

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

1 the Expected Earnings analysis for the proxy group results in a mean of 10.75  
2 percent and median of 10.76 percent.

3 **VII. REGULATORY AND BUSINESS RISKS**

4 **Q81. Do the DCF, CAPM, and Expected Earnings results for the proxy group,**  
5 **taken alone, provide an appropriate estimate of the cost of equity for**  
6 **I&M?**

7 A81. No. These results provide only a range of the appropriate estimate of the  
8 Company's cost of equity. There are several additional factors that must be  
9 taken into consideration when determining where the Company's cost of equity  
10 falls within the range of results. These factors, which are discussed below,  
11 should be considered with respect to their overall effect on the Company's risk  
12 profile.

13 **Flotation Costs**

14 **Q82. What are flotation costs?**

15 A82. Flotation costs are the costs associated with the sale of new issues of common  
16 stock. These costs include out-of-pocket expenditures for preparation, filing,  
17 underwriting, and other issuance costs.

18 **Q83. Why is it important to consider flotation costs in the allowed ROE?**

19 A83. A regulated utility must have the opportunity to earn an ROE that is both  
20 competitive and compensatory to attract and retain new investors. To the  
21 extent that a company is denied the opportunity to recover prudently incurred

1 flotation costs, actual returns will fall short of expected returns, thereby diluting  
2 equity share value.

3 **Q84. Are flotation costs part of the utility's invested costs or part of the utility's**  
4 **expenses?**

5 A84. Flotation costs are part of the invested costs of the utility, which are properly  
6 reflected on the balance sheet under "paid in capital." They are not current  
7 expenses, and, therefore, are not reflected on the income statement. Rather,  
8 like investments in rate base or the issuance costs of long-term debt, flotation  
9 costs are incurred over time. As a result, the great majority of a utility's flotation  
10 cost is incurred prior to the test year but remains part of the cost structure that  
11 exists during the test year and beyond, and as such, should be recognized for  
12 ratemaking purposes. Therefore, it is irrelevant whether an issuance occurs  
13 during the test year or is planned for the test year because failure to allow  
14 recovery of past flotation costs may deny I&M the opportunity to earn its  
15 required ROR in the future.

1 **Q85. Have flotation costs been applied to the results of the DCF model?**

2 A85. Yes. The Connecticut Public Utilities Regulatory Authority has regularly  
3 adjusted the results of the DCF model to include flotation costs.<sup>60</sup> Further, Dr.  
4 Myron Gordon recognized that the DCF model did not include the cost of  
5 floating a new stock issue and proposed a means for regulators to recognize  
6 these costs in his text on the subject.<sup>61</sup>

7 **Q86. Please provide an example of why a flotation cost adjustment is**  
8 **necessary to compensate investors for the capital they have invested.**

9 A86. Suppose AEP, the parent company of I&M, issues stock with a value of \$100,  
10 and an equity investor invests \$100 in AEP in exchange for that stock. Further  
11 suppose that, after paying the flotation costs associated with the equity  
12 issuance, which include fees paid to underwriters and attorneys, among others,  
13 AEP ends up with only \$97 of issuance proceeds, rather than the \$100 the  
14 investor contributed. AEP invests that \$97 in plant used to serve its customers,  
15 which becomes part of rate base. Absent a flotation cost adjustment, the  
16 investor will thereafter earn a return on only the \$97 invested in rate base, even  
17 though she contributed \$100. Making a small flotation cost adjustment gives  
18 the investor a reasonable opportunity to earn the authorized return, rather than

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<sup>60</sup> See for example, Docket No. 10-12-02, Application of Yankee Gas Services Company for Amended Rate Schedules (June 29, 2011), at 133–135.

<sup>61</sup> Gordon, Myron, "The Cost of Capital to a Public Utility", 1974, pp. 164-166.



1 the lower return that results when the authorized return is applied to an amount  
2 less than what the investor contributed.

3 **Q87. Is the date of American Electric Power Company's last issued common**  
4 **equity important in the determination of flotation costs?**

5 A87. No. As shown in Attachment AEB-8, American Electric Power closed on equity  
6 issuances of approximately \$1.64 billion and \$1.14 billion (for a total of 125.0  
7 million shares of common stock) in April 2009 and February 2003, respectively.  
8 The vintage of the issuance, however, is not particularly important because the  
9 investor suffers a shortfall in every year that he should have a reasonable  
10 opportunity to earn a return on the full amount of capital that he has contributed.  
11 Returning to my earlier example, the investor who contributed \$100 is entitled  
12 to a reasonable opportunity to earn a return on \$100 not only in the first year  
13 after the investment, but in every subsequent year in which he has the \$100  
14 invested. Leaving aside depreciation, which is dealt with separately, there is  
15 no basis to conclude that the investor is entitled to earn a return on \$100 in the  
16 first year after issuance, but thereafter is entitled to earn a return on only \$97.  
17 As long as the \$100 is invested, the investor should have a reasonable  
18 opportunity to earn a return on the entire amount.

1 **Q88. Is the need to consider flotation costs recognized by the academic and**  
2 **financial communities?**

3 A88. Yes. The need to reimburse shareholders for the lost returns associated with  
4 equity issuance costs is recognized by the academic and financial communities  
5 in the same spirit that investors are reimbursed for the costs of issuing debt.  
6 This treatment is consistent with the philosophy of a fair ROR. According to  
7 Dr. Shannon Pratt:

8 Flotation costs occur when new issues of stock or debt are sold  
9 to the public. The firm usually incurs several kinds of flotation or  
10 transaction costs, which reduce the actual proceeds received by  
11 the firm. Some of these are direct out-of-pocket outlays, such as  
12 fees paid to underwriters, legal expenses, and prospectus  
13 preparation costs. Because of this reduction in proceeds, the  
14 firm's required returns on these proceeds equate to a higher  
15 return to compensate for the additional costs. Flotation costs can  
16 be accounted for either by amortizing the cost, thus reducing the  
17 cash flow to discount, or by incorporating the cost into the cost of  
18 capital. Because flotation costs are not typically applied to  
19 operating cash flow, one must incorporate them into the cost of  
20 capital.<sup>62</sup>

21 **Q89. How did you calculate the flotation costs for I&M?**

22 A89. My flotation cost calculation is based on the costs of issuing equity that were  
23 incurred by American Electric Power Company in its two most recent common  
24 equity issuances. Those issuance costs were applied to my proxy  
25 group. Applying the actual issuance costs for I&M provided in Attachment

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<sup>62</sup> Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

1 AEB-8, to the DCF analysis, the flotation costs are estimated to be 0.11 percent  
2 (i.e., 11 basis points).

3 **Q90. Has the Commission provided any guidance on the approval of flotation**  
4 **costs?**

5 A90. Yes. The Commission has approved inclusion of flotation costs, including a  
6 2004 Order, which agreed to an adjustment to the return on equity to account  
7 for actual flotation costs incurred by the company. In that proceeding, the  
8 Commission ordered a 15-basis-point upward adjustment to the cost of  
9 equity.<sup>63</sup> In a later Order, the Commission stated that while adjustments such  
10 as flotation costs are often inappropriate to include in cost of equity, it reiterated  
11 that the “Commission will only allow flotation cost adjustments when they are  
12 based on verifiable actual costs so that the reasonableness and  
13 appropriateness of the costs may be examined.”<sup>64</sup> As detailed above, my  
14 flotation cost analysis relies on the flotation cost percentage based on AEP’s  
15 most recent two equity issuances, which is appropriate according to multiple  
16 previous Commission orders.

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<sup>63</sup> PSI Energy, Inc. Petition for Authority to Increase Its Rates, Cause No. 42359, Indiana Utility Regulatory Commission Order Approved May 18, 2004, at 43.

<sup>64</sup> 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.

1 **Q91. Do your ROE results summarized in Figure 1 include an adjustment for**  
2 **flotation cost recovery?**

3 A91. No. I did not make an explicit adjustment for flotation costs to any of my  
4 quantitative analyses. Rather, I provide the above result for consideration in  
5 my recommended ROE, which reflects the range of results from my Constant  
6 Growth DCF, CAPM, ECAPM, Risk Premium, and Expected Earnings  
7 analyses.

8 **Generation Portfolio and Environmental Regulations**

9 **Q92. Please provide an overview of the risks associated with I&M's generation**  
10 **portfolio and current environmental regulations.**

11 A92. Coal-fired and nuclear are the predominate fuel sources for I&M's generation  
12 portfolio. Coal-fired generation makes up 36.0 percent of total generation  
13 capacity, and nuclear makes up an additional 63.0 percent.<sup>65</sup> Both coal and  
14 nuclear generating technology require significant capital outlays for  
15 maintenance, regulatory requirements, and environmental compliance. The  
16 Company also faces uncertainty regarding its nuclear risk associated with costs  
17 of oversight, waste disposal, and potential decommissioning costs. Changing  
18 environmental policies further affect I&M's operating risk related to the  
19 generation portfolio as the cost and extent of remediation evolve over time and  
20 political influence.

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<sup>65</sup> AEP 2020 Form 10-K, p. 47.

1                    **Capital Expenditures**

2 **Q93. Please summarize the Company's capital expenditure requirements.**

3 A93. As discussed in the Direct Testimony of Company Witnesses Toby Thomas  
4 and David Lucas, the Company continues to focus on infrastructure  
5 improvements and compliance with environmental and regulatory  
6 requirements. I&M's capital investments includes new technology that is  
7 designed to improve customer engagement.<sup>66</sup> The Company is continuing to  
8 execute its integrated grid modernization package, which incorporates  
9 technologies such as advanced metering infrastructure (AMI), Enhanced  
10 Conservation Voltage Reduction (Enhanced CVR), distribution automation  
11 circuit reconfiguration (DACR), supervisory control and data acquisition  
12 (SCADA), distribution line sensors, smart reclosers and smart circuit ties. The  
13 Company's filing includes an average annual capital expenditure of \$539.9  
14 million during the Capital Forecast Period (January 2021-December 2022). In  
15 addition, the Company has significant capital expenditures planned beyond the  
16 test year.

17 **Q94. How is the Company's risk profile affected by its substantial capital**  
18 **expenditure requirements?**

19 A94. As with any utility faced with substantial capital expenditure requirements, the  
20 Company's risk profile may be adversely affected in two significant and related

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<sup>66</sup> Direct Testimony of David A. Lucas at 18.

1 ways: (1) the significant level of investment increases the risk of under-recovery  
2 or delayed recovery of the invested capital; and (2) an inadequate return would  
3 put downward pressure on key credit metrics.

4 **Q95. Do credit rating agencies recognize the risks associated with elevated**  
5 **levels of capital expenditures?**

6 A95. Yes, they do. From a credit perspective, the additional pressure on cash flows  
7 associated with significant levels of capital expenditures exerts corresponding  
8 pressure on credit metrics and, therefore, credit ratings. To that point, S&P  
9 explains the importance of regulatory support for large capital projects:

10 When applicable, a jurisdiction's willingness to support large  
11 capital projects with cash during construction is an important  
12 aspect of our analysis. This is especially true when the project  
13 represents a major addition to rate base and entails long lead  
14 times and technological risks that make it susceptible to  
15 construction delays. Broad support for all capital spending is the  
16 most credit-sustaining. Support for only specific types of capital  
17 spending, such as specific environmental projects or system  
18 integrity plans, is less so, but still favorable for creditors.  
19 Allowance of a cash return on construction work-in-progress or  
20 similar ratemaking methods historically were extraordinary  
21 measures for use in unusual circumstances, but when  
22 construction costs are rising, cash flow support could be crucial  
23 to maintain credit quality through the spending program. Even  
24 more favorable are those jurisdictions that present an opportunity  
25 for a higher return on capital projects as an incentive to  
26 investors.<sup>67</sup>

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<sup>67</sup> S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.

1           Therefore, to the extent that I&M's rates do not permit the opportunity to recover  
2           all of its capital investments on a regular basis, the Company will face increased  
3           recovery risk and thus increased pressure on its credit metrics.

4 **Q96. Does I&M have a tracking mechanism to recover the costs associated**  
5 **with capital expenditures plan between rate cases?**

6 A96. I&M has implemented a recovery mechanism to recover Network Integration  
7           Transmission Services ("NITS") costs associated with PJM transmission  
8           investments. The transmission costs are significant and vary, as noted by the  
9           Commission in the previous rate case:

10                   Substantial evidence shows NITS costs are variable and subject  
11                   to potentially significant changes due to market and economic  
12                   conditions, public policy, NERC and FERC requirements,  
13                   environmental and state regulatory requirements, and other  
14                   factors that can be unpredictable.<sup>68</sup>

15           I&M also has the Cook LCM tracker for the LCM project which is scheduled to  
16           conclude in 2022.

17 **Q97. Is the PJM NITS tracker sufficiently risk reducing to adjust the ROE?**

18 A97. No. While I recognize that in the Company's last general rate case, the  
19           Commission reduced the Company's authorized ROE a "moderate decrement  
20           below the mid-point of the reasonable range" in order to recognize "the

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<sup>68</sup> IURC, Cause No. 45235, March 11, 2020, at 110.

1 significant risk reduction afforded I&M through the PJM tracker”,<sup>69</sup> in this case  
2 the Company is requesting an ROE that is below the midpoint of the range  
3 established by my analytical results despite the fact that the Company has  
4 greater risk in some respects than the proxy group companies. Therefore,  
5 there is no basis for an additional adjustment to the Company’s ROE for the  
6 implementation of the PJM Tracker. Further, the ROE analysis is conducted  
7 using market data for a proxy group of comparable companies and necessarily  
8 considers the relative risk of the subject company and the proxy group in the  
9 final determination of the ROE. Therefore, while I&M’s use of the PJM NITS  
10 tracker may reduce its own risk, the appropriate point of comparison is whether  
11 or not this tracking mechanism is risk reducing relative to the proxy group,  
12 which I discuss below.

13 It is important to note, however, that if the PJM tracker were to be eliminated,  
14 the Company’s overall risk profile would be higher than the average of the proxy  
15 group companies.

16 **Q98. How does the PJM tracker compare with the capital investment and other**  
17 **trackers that have been implemented by the proxy companies?**

18 A98. As shown in Attachment AEB-9, 30 out of 56 (or approximately 54 percent) of  
19 the operating companies held by the proxy group recover costs through capital  
20 tracking mechanisms. Therefore, because the proxy group has similar tracking

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<sup>69</sup> *Id.*, at 41.



1 mechanisms, the financial risk for the Company is comparable to the proxy  
2 group. However, as mentioned above, if I&M's PJM tracker is not renewed after  
3 2021, the Company would be at an elevated level of regulatory risk.

4 **Q99. What are your conclusions regarding the effect of the Company's capital  
5 spending requirements on its risk profile and cost of capital?**

6 A99. The Company's capital investment forecast is significant. The Company's  
7 proposed use of rate adjustment mechanisms to timely recover capital  
8 investment, such as PJM NITS costs, remains important. Without it, the  
9 Company would be at greater risk than that of the proxy group. This would  
10 result in a risk profile that is greater than that of the proxy group and would  
11 support an ROE toward the higher end of the reasonable range of ROEs.

12 **Regulatory Risk**

13 **Q100. Please explain how the regulatory environment affects investors' risk  
14 assessments.**

15 A100. The ratemaking process is premised on the principle that, for investors and  
16 companies to commit the capital needed to provide safe and reliable utility  
17 service, the subject utility must have the opportunity to recover the return of,  
18 and the market-required return on, invested capital. Regulatory authorities  
19 recognize that because utility operations are capital intensive, regulatory  
20 decisions should enable the utility to attract capital at reasonable terms; doing  
21 so balances the long-term interests of investors and customers. Utilities must

1 finance their operations and require the opportunity to earn a reasonable return  
2 on their invested capital to maintain their financial profiles. I&M is no exception.  
3 In that respect, the regulatory environment is one of the most important factors  
4 considered in both debt and equity investors' risk assessments.

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

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

1 **Q101. Please explain how credit rating agencies consider regulatory risk in**  
2 **establishing a company's credit rating.**

3 A101. Both S&P and Moody's consider the overall regulatory framework in  
4 establishing credit ratings. Moody's establishes credit ratings based on four  
5 key factors: (1) regulatory framework; (2) the ability to recover costs and earn  
6 returns; (3) diversification; and (4) financial strength, liquidity, and key financial  
7 metrics. Of these criteria, regulatory framework, and the ability to recover costs  
8 and earn returns are each given a broad rating factor of 25.00 percent.  
9 Therefore, Moody's assigns regulatory risk a 50.00 percent weighting in the  
10 overall assessment of business and financial risk for regulated utilities.<sup>70</sup>  
11 S&P also identifies the regulatory framework as an important factor in credit  
12 ratings for regulated utilities, stating: "One significant aspect of regulatory risk  
13 that influences credit quality is the regulatory environment in the jurisdictions in  
14 which a utility operates."<sup>71</sup> S&P identifies four specific factors that it uses to  
15 assess the credit implications of the regulatory jurisdictions of investor-owned  
16 regulated utilities: (1) regulatory stability; (2) tariff-setting procedures and  
17 design; (3) financial stability; and (4) regulatory independence and insulation.<sup>72</sup>

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<sup>70</sup> Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 4.

<sup>71</sup> Standard & Poor's Global Ratings, Ratings Direct, U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality—But Some More So Than Others, June 25, 2018, at 2.

<sup>72</sup> *Id.*, at 1.

1 **Q102. How does the regulatory environment in which a utility operates affect its**  
2 **access to and cost of capital?**

3 A102. The regulatory environment can significantly affect both the access to, and cost  
4 of capital in several ways. First, the proportion and cost of debt capital available  
5 to utility companies are influenced by the rating agencies' assessment of the  
6 regulatory environment. As noted by Moody's, "[f]or rate regulated utilities,  
7 which typically operate as a monopoly, the regulatory environment and how the  
8 utility adapts to that environment are the most important credit  
9 considerations."<sup>73</sup> Moody's further highlighted the relevance of a stable and  
10 predictable regulatory environment to a utility's credit quality, noting: "[b]roadly  
11 speaking, the Regulatory Framework is the foundation for how all the decisions  
12 that affect utilities are made (including the setting of rates), as well as the  
13 predictability and consistency of decision-making provided by that  
14 foundation."<sup>74</sup>

15 **Q103. Have you conducted any analysis of the regulatory framework in Indiana**  
16 **relative to the jurisdictions in which the companies in your proxy group**  
17 **operate?**

18 A103. Yes. Consistent with the Commission's determination in I&M's last rate case,  
19 I have considered the risk factors of the company including: 1) test year

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<sup>73</sup> Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 6.

<sup>74</sup> *Ibid.*

1 convention (i.e., forecast vs. historical); 2) method for determining rate base  
2 (i.e., average vs. year-end); 3) use of revenue decoupling mechanisms or other  
3 clauses that mitigate volumetric risk; and 4) prevalence of capital cost recovery  
4 between rate cases.<sup>75</sup> The results of this regulatory risk assessment are shown  
5 in Attachment AEB-9 and are summarized below.

6 Test year convention: I&M is allowed to use a future test year in Indiana, which  
7 is consistent with 29 out of 56 (approximately 52 percent) of the operating  
8 companies held by the Proxy Group, which provide service in jurisdictions that  
9 use a fully or partially forecast test year.

10 Rate Base: The Company's rate base in Indiana is determined using the test  
11 year end rate base method, similar to 25 out of 56 (approximately 45 percent)  
12 of the operating companies held by the Proxy Group, meaning that the rate  
13 base includes capital additions that occurred in the second half of the test year  
14 and is more reflective of net utility plant going forward.

15 Volumetric Risk: I&M does have some protection against volumetric risk in  
16 Indiana, with partial revenue decoupling mechanisms. This is consistent with  
17 25 out of 56 (approximately 45 percent) of the operating companies held by the  
18 Proxy Group that also have at least some protection against volumetric risk.

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<sup>75</sup> IURC, Cause No. 45235, I&M Rate Increase Petition Order, March 11, 2020.

1        Capital Cost Recovery: I&M has capital tracking mechanisms available under  
2        its PJM tracker to recover selected capital investment costs between rate cases  
3        (*i.e.*, generic infrastructure costs), consistent with 30 of 56 (approximately 54  
4        percent) of the operating companies held by the Proxy Group that also have  
5        some form of capital cost recovery mechanism for generic infrastructure costs.  
6        However, should the PJM tracker be discontinued, the Company will face  
7        greater regulatory risks, relative to the Proxy Group.

8 **Q104. What are your conclusions regarding the perceived risks related to the**  
9 **Indiana regulatory environment?**

10 A104. As discussed throughout this section of my testimony, both Moody's and S&P  
11 have identified the supportiveness of the regulatory environment as an  
12 important consideration in developing their overall credit ratings for regulated  
13 utilities. Considering the regulatory adjustment mechanisms, many of the  
14 companies in the proxy group have cost recovery mechanisms that are similar  
15 to those implemented by I&M (through forecasted test years, year-end rate  
16 base, cost recovery trackers, and revenue stabilization mechanisms) in  
17 Indiana. For that reason, I conclude that the regulatory risks for I&M are  
18 comparable to the proxy group. However, if the PJM tracker did not exist, the  
19 Company will have greater risk than the proxy group, particularly considering  
20 the Company's most recent ROE decision was predicated on access to the  
21 PJM tracker. In addition, the Company's financial health also relies on continual

1 jurisdictional support in Indiana, as well as the assumption of timely recovery  
2 of federal taxes if federal taxes rates increase. Without these provisions, I&M  
3 will be at an elevated financial risk.

4 **VIII. CAPITAL STRUCTURE**

5 **Q105. Is the capital structure of the Company an important consideration in the**  
6 **determination of the appropriate ROE?**

7 A105. Yes, it is. Assuming other factors equal, a higher debt ratio increases the risk  
8 to investors. For debt holders, higher debt ratios result in a greater portion of  
9 the available cash flow being required to meet debt service, thereby increasing  
10 the risk associated with the payments on debt. The result of increased risk is  
11 a higher interest rate. The incremental risk of a higher debt ratio is more  
12 significant for common equity shareholders, who are the residual claimants on  
13 the cash flow of the Company. Therefore, the greater the debt service  
14 requirement, the less cash flow is available for common equity holders.

15 **Q106. What is I&M's projected capital structure?**

16 A106. The Company's projection establishes a capital structure consisting of 50.94  
17 percent common equity and 49.06 percent long-term debt.<sup>76</sup>

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<sup>76</sup> Messner Direct at 5, Figure FDM-2. Excludes customer deposits of 0.60%, accumulated deferred federal income taxes of 15.91%, and accumulated deferred job development investment tax credits of 0.20%.

1 **Q107. Did you conduct any analysis to determine if this projected equity ratio**  
2 **was reasonable?**

3 A107. Yes, I did. I reviewed the Company's projected capital structure and the capital  
4 structures of the utility operating subsidiaries of the proxy companies. Because  
5 the ROE is set based on the return that is derived from the risk-comparable  
6 proxy group, it is reasonable to look to the proxy group average capital structure  
7 to benchmark the equity ratio for the Company.

8 **Q108. Please discuss your analysis of the capital structures of the proxy group**  
9 **companies.**

10 A108. I calculated the mean proportions of common equity, long-term debt, short-term  
11 debt, and preferred equity for the most recent year for each of the companies  
12 in the proxy group at the operating subsidiary level.<sup>77</sup> My analysis of the capital  
13 structures of the proxy group companies is provided in Attachment AEB-10. As  
14 shown in Attachment AEB-10, the equity ratios for the proxy group ranged from  
15 46.99 percent to 59.37 percent, with an average of 52.59 percent. I&M's

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<sup>77</sup> Source: SNL Financial and FERC Form 1 and FERC Form 2 annual reports.

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1 projected equity ratio of 50.94 is below the average equity ratio for the utility  
2 operating subsidiaries of the proxy groups and is therefore reasonable.

3 **Q109. Is there a relationship between the equity ratio and the authorized ROE?**

4 A109. Yes. The equity ratio is the primary indicator of financial risk for a regulated  
5 utility such as I&M. To the extent the equity ratio is reduced, it is necessary to  
6 increase the authorized ROE to compensate investors for the greater financial  
7 risk associated with greater leverage and the resulting increased fixed payment  
8 obligations.

9 **Q110. What is your conclusion regarding an appropriate equity ratio for I&M?**

10 A110. Considering the actual capital structures of the proxy group operating  
11 companies, I believe that I&M's projected common equity ratio of 50.94 percent  
12 is reasonable. The projected equity ratio is well within the range of equity ratios  
13 established by the capital structures of the utility operating subsidiaries of the  
14 proxy companies. In addition, based on the cash flow concerns raised by credit  
15 rating agencies as a result of the TCJA, it is reasonable to rely on a higher  
16 equity ratio than the Company may have relied on previously.

17 **IX. CONCLUSIONS AND RECOMMENDATION**

18 **Q111. What is your conclusion regarding a fair ROE for I&M?**

19 A111. Figure 11 below provides a summary of my analytical results for the proxy  
20 group. Based on these results, the qualitative analyses presented in my Pre-

1 Filed Direct Testimony, the business and financial risks of I&M compared to the  
2 proxy group, and the effects of Federal tax reform on the cash flow metrics of  
3 utilities, it is my view that the Company's requested ROE of 10.00 percent is  
4 reasonable in conjunction with the rate plan that is proposed by the Company,  
5 including the continuation of the PJM tracker and would enable the Company  
6 to attract capital at reasonable rates under a variety of economic and financial  
7 market conditions, while continuing to provide safe, reliable, and  
8 affordable electric service to customers in Indiana.

**Figure 11: Summary of Analytical Results**

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.59%	9.43%	10.35%
90-Day Average	8.79%	9.62%	10.54%
180-Day Average	8.88%	9.72%	10.64%
Average of Mean Results	8.75%	9.59%	10.51%
	Median Low	Median	Median High
30-Day Average	8.68%	9.66%	10.41%
90-Day Average	8.87%	9.88%	10.59%
180-Day Average	8.87%	9.88%	10.59%
Average of Median Results	8.81%	9.81%	10.53%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.51%	12.55%	12.64%
Bloomberg Beta	11.58%	11.64%	11.80%
LT Avg. Beta	10.80%	10.88%	11.10%
ECAPM			
Value Line Beta	12.81%	12.84%	12.90%
Bloomberg Beta	12.11%	12.15%	12.27%
LT Avg. Beta	11.52%	11.59%	11.75%
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	9.67%	9.81%	10.18%
Expected Earnings Analysis			
	Mean	Median	
Expected Earnings Analysis	10.75%	10.76%	

1 **Q112. What is your conclusion with respect to I&M's projected capital**  
2 **structure?**

3 A112. My conclusion is that I&M's projected capital structure consisting of 50.94  
4 percent common equity and 49.06 percent long-term debt is reasonable when  
5 compared to the capital structures of the companies in the proxy group and  
6 taking in consideration the impact of the TCJA on the cash flows.<sup>78</sup>

7 **Q113. Does this conclude your Pre-filed Direct Testimony?**

8 A113. Yes, it does.

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<sup>78</sup> Messner Direct at 5, Figure FDM-2. Excludes customer deposits of 0.60%, accumulated deferred federal income taxes of 15.91%, and accumulated deferred job development investment tax credits of 0.20%.

**VERIFICATION**

I, Ann E. Bulkley, Senior Vice President at Concentric Energy Advisors, Inc., affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

Date: 6/24/21

Ann E Bulkley

Ann E. Bulkley



## **ANN E. BULKLEY**

Senior Vice President

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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.

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## **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
<b>Arizona Corporation Commission</b>				
Arizona Public Service Company	10/19	Arizona Public Service Company	Docket No. E-01345A-19-0236	Return on Equity
Tucson Electric Power Company	04/19	Tucson Electric Power Company	Docket No. E-01933A-19-0028	Return on Equity
Tucson Electric Power Company	11/15	Tucson Electric Power Company	Docket No. E-01933A-15-0322	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity
<b>Arkansas Public Service Commission</b>				
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
<b>Colorado Public Utilities Commission</b>				
Public Service Company of Colorado	02/20	Public Service Company of Colorado	20AL-0049G	Return on Equity
Public Service Company of Colorado	05/19	Public Service Company of Colorado	19AL-0268E	Return on Equity
Public Service Company of Colorado	01/19	Public Service Company of Colorado	19AL-0063ST	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-0299G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity
<b>Connecticut Public Utilities Regulatory Authority</b>				
Connecticut Water Company	01/21	Connecticut Water Company	Docket No. 20-12-30	Return on Equity
Connecticut Natural Gas Corporation	06/18	Connecticut Natural Gas Corporation	Docket No. 18-05-16	Return on Equity
Yankee Gas Services Co. d/b/a Eversource Energy	06/18	Yankee Gas Services Co. d/b/a Eversource Energy	Docket No. 18-05-10	Return on Equity
The Southern Connecticut Gas Company	06/17	The Southern Connecticut Gas Company	Docket No. 17-05-42	Return on Equity
The United Illuminating Company	07/16	The United Illuminating Company	Docket No. 16-06-04	Return on Equity
<b>Federal Energy Regulatory Commission</b>				
Wisconsin Electric Power Company	08/20	Wisconsin Electric Power Company	Docket No. EL20-57-000	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Panhandle Eastern Pipe Line Company, LP	10/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-78-000 RP19-78-001	Return on Equity
Panhandle Eastern Pipe Line Company, LP	08/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-1523	Return on Equity
Sea Robin Pipeline Company LLC	11/18	Sea Robin Pipeline Company LLC	Docket# RP19-352-000	Return on Equity
Tallgrass Interstate Gas Transmission	10/15	Tallgrass Interstate Gas Transmission	RP16-137	Return on Equity
<b>Indiana Utility Regulatory Commission</b>				
Indiana Gas Company Inc.	12/20	Indiana Gas Company Inc.	IURC Cause No. 45468	Return on Equity
Southern Indiana Gas and Electric Company	10/20	Southern Indiana Gas and Electric Company	IURC Cause No. 45447	Return on Equity
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity
Indianapolis Power and Light Company	12/17	Indianapolis Power and Light Company	Cause No. 45029	Fair Value
Northern Indiana Public Service Company	09/17	Northern Indiana Public Service Company	Cause No. 44988	Fair Value
Indianapolis Power and Light Company	12/16	Indianapolis Power and Light Company	Cause No.44893	Fair Value
Northern Indiana Public Service Company	10/15	Northern Indiana Public Service Company	Cause No. 44688	Fair Value
Indianapolis Power and Light Company	09/15	Indianapolis Power and Light Company	Cause No. 44576 Cause No. 44602	Fair Value
Kokomo Gas and Fuel Company	09/10	Kokomo Gas and Fuel Company	Cause No. 43942	Fair Value
Northern Indiana Fuel and Light Company, Inc.	09/10	Northern Indiana Fuel and Light Company, Inc.	Cause No. 43943	Fair Value
<b>Iowa Department of Commerce Utilities Board</b>				
Iowa-American Water Company	08/20	Iowa-American Water Company	Docket No. RPU-2020-0001	Return on Equity
<b>Kansas Corporation Commission</b>				
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
<b>Kentucky Public Service Commission</b>				
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity
<b>Maine Public Utilities Commission</b>				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-194	Return on Equity
<b>Maryland Public Service Commission</b>				
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity
<b>Massachusetts Appellate Tax Board</b>				
Hopkinton LNG Corporation	03/20	Hopkinton LNG Corporation	Docket No.	Valuation of LNG Facility
FirstLight Hydro Generating Company	06/17	FirstLight Hydro Generating Company	Docket No. F-325471 Docket No. F-325472 Docket No. F-325473 Docket No. F-325474	Valuation of Electric Generation Assets
<b>Massachusetts Department of Public Utilities</b>				
Berkshire Gas Company	05/18	Berkshire Gas Company	DPU 18-40	Return on Equity
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
<b>Michigan Public Service Commission</b>				
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
<b>Michigan Tax Tribunal</b>				
New Covert Generating Co., LLC.	03/18	The Township of New Covert Michigan	MTT Docket No. 000248TT and 16-001888-TT	Valuation of Electric Generation Assets
Covert Township	07/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets
<b>Minnesota Public Utilities Commission</b>				
Otter Tail Power Company	11/20	Otter Tail Power Company	E017/GR-20-719	Return on Equity
Allete, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity
CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	10/19	CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	G-008/GR-19-524	Return on Equity
Great Plains Natural Gas Co.	09/19	Great Plains Natural Gas Co.	Docket No. G004/GR-19-511	Return on Equity
Minnesota Energy Resources Corporation	10/17	Minnesota Energy Resources Corporation	Docket No. G011/GR-17-563	Return on Equity
<b>Missouri Public Service Commission</b>				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Missouri American Water Company	06/20	Missouri American Water Company	Case No. WR-2020-0344 Case No. SR-2020-0345	Return on Equity
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity
<b>Montana Public Service Commission</b>				
Montana-Dakota Utilities Co.	06/20	Montana-Dakota Utilities Co.	D2020.06.076	Return on Equity
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
<b>New Hampshire - Board of Tax and Land Appeals</b>				
Public Service Company of New Hampshire d/b/a Eversource Energy	11/19 12/19	Public Service Company of New Hampshire d/b/a Eversource Energy	Master Docket No. 28873-14-15-16-17PT	Valuation of Utility Property and Generating Assets
<b>New Hampshire Public Utilities Commission</b>				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity
<b>New Hampshire-Merrimack County Superior Court</b>				
Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	04/18	Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	220-2012-CV-1100	Valuation of Utility Property
<b>New Hampshire-Rockingham Superior Court</b>				
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
<b>New Jersey Board of Public Utilities</b>				
Public Service Electric and Gas Company	10/20	Public Service Electric and Gas Company	E018101115	Return on Equity
New Jersey American Water Company, Inc.	12/19	New Jersey American Water Company, Inc.	WR19121516	Return on Equity
Public Service Electric and Gas Company	04/19	Public Service Electric and Gas Company	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
<b>New Mexico Public Regulation Commission</b>				
Southwestern Public Service Company	07/19	Southwestern Public Service Company	19-00170-UT	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Southwestern Public Service Company	10/17	Southwestern Public Service Company	Case No. 17-00255-UT	Return on Equity
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Case No. 16-00269-UT	Return on Equity
Southwestern Public Service Company	10/15	Southwestern Public Service Company	Case No. 15-00296-UT	Return on Equity
Southwestern Public Service Company	06/15	Southwestern Public Service Company	Case No. 15-00139-UT	Return on Equity
<b>New York State Department of Public Service</b>				
Central Hudson Gas and Electric Corporation	08/20	Central Hudson Gas and Electric Corporation	Electric 20-E-0428 Gas 20-G-0429	Return on Equity
Niagara Mohawk Power Corporation	07/20	National Grid USA	Case No. 20-E-0380 20-G-0381	Return on Equity
Corning Natural Gas Corporation	02/20	Corning Natural Gas Corporation	Case No. 20-G-0101	Return on Equity
New York State Electric and Gas Company  Rochester Gas and Electric	05/19	New York State Electric and Gas Company  Rochester Gas and Electric	19-E-0378 19-G-0379 19-E-0380 19-G-0381	Return on Equity
Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	04/19	Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	19-G-0309 19-G-0310	Return on Equity
Central Hudson Gas and Electric Corporation	07/17	Central Hudson Gas and Electric Corporation	Electric 17-E-0459 Gas 17-G-0460	Return on Equity
Niagara Mohawk Power Corporation	04/17	National Grid USA	Case No. 17-E-0238 17-G-0239	Return on Equity
Corning Natural Gas Corporation	06/16	Corning Natural Gas Corporation	Case No. 16-G-0369	Return on Equity
National Fuel Gas Company	04/16	National Fuel Gas Company	Case No. 16-G-0257	Return on Equity
KeySpan Energy Delivery	01/16	KeySpan Energy Delivery	Case No. 15-G-0058 Case No. 15-G-0059	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/15	New York State Electric and Gas Company Rochester Gas and Electric	Case No. 15-E-0283 Case No. 15-G-0284 Case No. 15-E-0285 Case No. 15-G-0286	Return on Equity
<b>North Dakota Public Service Commission</b>				
Montana-Dakota Utilities Co.	08/20	Montana-Dakota Utilities Co.	C-PU-20-379	Return on Equity
Northern States Power Company	12/12	Northern States Power Company	C-PU-12-813	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Northern States Power Company	12/10	Northern States Power Company	C-PU-10-657	Return on Equity
<b>Oklahoma Corporation Commission</b>				
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
<b>Oregon Public Service Commission</b>				
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity
<b>Pennsylvania Public Utility Commission</b>				
American Water Works Company Inc.	04/20	Pennsylvania-American Water Company	Docket No. R-2020-3019369 (water) Docket No. R-2020-3019371 (wastewater)	Return on Equity
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017-2595853	Return on Equity
<b>South Dakota Public Utilities Commission</b>				
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
<b>Texas Public Utility Commission</b>				
Southwestern Public Service Commission	08/19	Southwestern Public Service Commission	Docket No. D-49831	Return on Equity
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
<b>Utah Public Service Commission</b>				
PacifiCorp d/b/a Rocky Mountain Power	05/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20-035-04	Return on Equity
<b>Virginia State Corporation Commission</b>				
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
<b>Washington Utilities Transportation Commission</b>				
Cascade Natural Gas Corporation	06/20	Cascade Natural Gas Corporation	Docket No. UG-200568	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	12/19	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-191024	Return on Equity
Cascade Natural Gas Corporation	04/19	Cascade Natural Gas Corporation	Docket No. UG-190210	Return on Equity
<b>West Virginia Public Service Commission</b>				
West Virginia American Water Company	04/18	West Virginia American Water Company	Case No. 18-0573-W-42T Case No. 18-0576-S-42T	Return on Equity

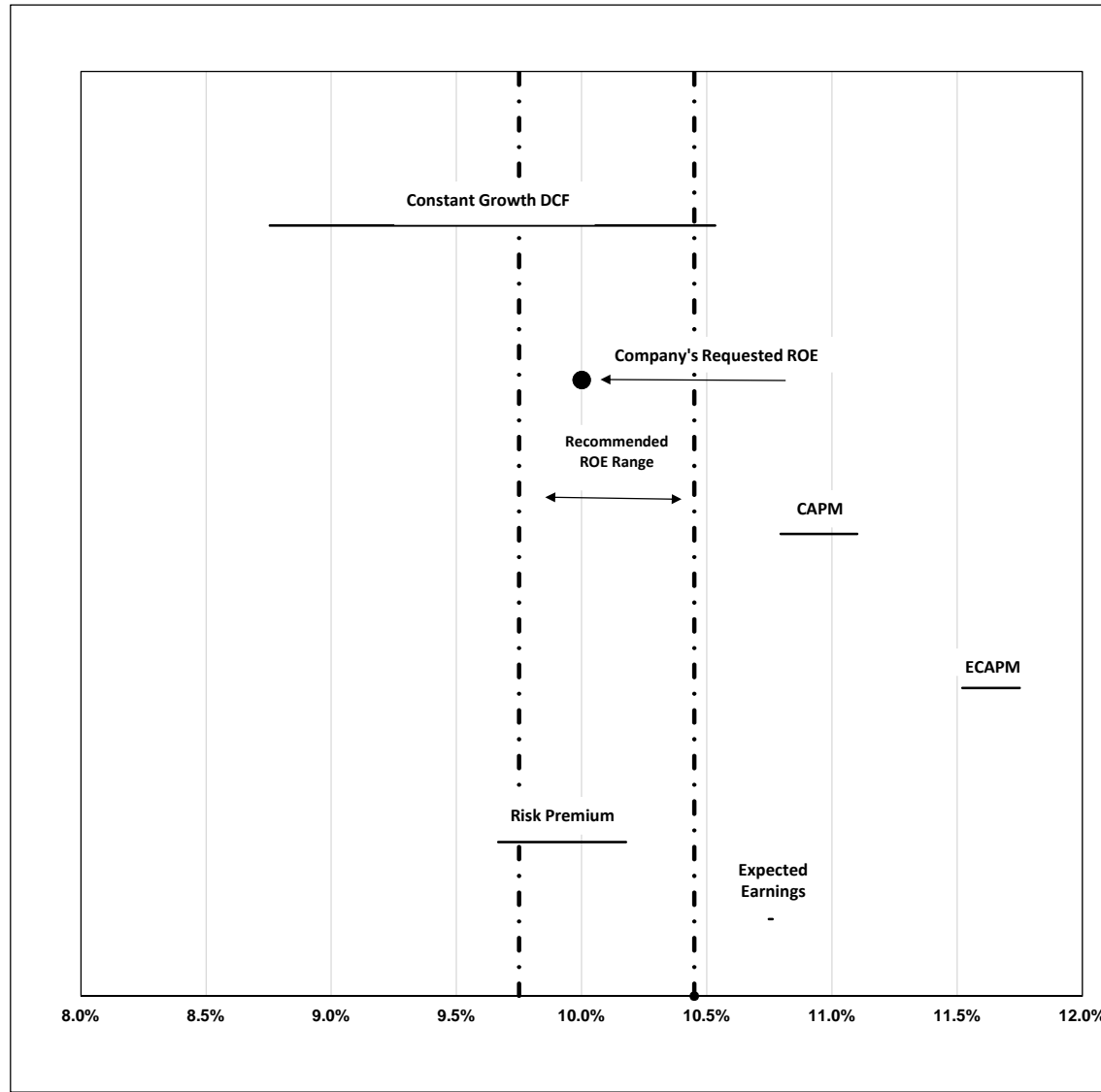


SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
<b>Wisconsin Public Service Commission</b>				
Wisconsin Electric Power Company and Wisconsin Gas LLC	03/19	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-109	Return on Equity
Wisconsin Public Service Corp.	03/19	Wisconsin Public Service Corp.	6690-UR-126	Return on Equity
<b>Wyoming Public Service Commission</b>				
PacifiCorp d/b/a Rocky Mountain Power	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



SUMMARY OF ROE ANALYSES RESULTS<sup>1</sup>

<b>Constant Growth DCF</b>			
	Mean Low	Mean	Mean High
30-Day Average	8.59%	9.43%	10.35%
90-Day Average	8.79%	9.62%	10.54%
180-Day Average	8.88%	9.72%	10.64%
Constant Growth Average	8.75%	9.59%	10.51%
	Median Low	Median	Median High
30-Day Average	8.68%	9.66%	10.41%
90-Day Average	8.87%	9.88%	10.59%
180-Day Average	8.87%	9.88%	10.59%
Constant Growth Average	8.81%	9.81%	10.53%
<b>CAPM</b>			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.51%	12.55%	12.64%
Bloomberg Beta	11.58%	11.64%	11.80%
LT Avg. Beta	10.80%	10.88%	11.10%
<b>ECAPM</b>			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.81%	12.84%	12.90%
Bloomberg Beta	12.11%	12.15%	12.27%
LT Avg. Beta	11.52%	11.59%	11.75%
<b>Risk Premium</b>			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Results	9.67%	9.81%	10.18%
<b>Expected Earnings</b>			
	Mean	Median	
Expected Earnings Results	10.75%	10.76%	



PROXY GROUP SCREENING DATA AND RESULTS

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Dividends	S&P Credit Rating Between BBB- and AAA	Covered by More Than 1 Analyst	Positive Growth Rates from at least two sources (Value Line, Yahoo! First Call, and Zacks)	Own Generation Assets	Generation Assets Included in Rate Base	% Regulated Coal Generation Capacity > 5%	% Regulated Operating Income > 60%	% Regulated Electric Operating Income > 80%	Mean ROE (%) > 7.00%	Announced Merger
ALLETE, Inc.	ALE	Yes	BBB	Yes	Yes	Yes	49.92%	84.28%	97.40%	10.05%	No
Alliant Energy Corporation	LNT	Yes	A-	Yes	Yes	Yes	32.27%	96.01%	92.27%	8.41%	No
Ameren Corporation	AEE	Yes	BBB+	Yes	Yes	Yes	49.97%	100.00%	87.73%	9.70%	No
Duke Energy Corporation	DUK	Yes	BBB+	Yes	Yes	Yes	27.95%	100.00%	92.08%	9.66%	No
Entergy Corporation	ETR	Yes	BBB+	Yes	Yes	Yes	13.07%	100.00%	98.83%	8.27%	No
Evergy, Inc.	EVRG	Yes	A-	Yes	Yes	Yes	50.00%	100.00%	100.00%	10.04%	No
NextEra Energy, Inc.	NEE	Yes	A-	Yes	Yes	Yes	8.56%	68.66%	100.00%	10.91%	No
NorthWestern Corporation	NWE	Yes	BBB	Yes	Yes	Yes	32.54%	100.00%	82.80%	7.95%	No
OGE Energy Corporation	OGE	Yes	BBB+	Yes	Yes	Yes	37.97%	99.76%	100.00%	8.95%	No
Otter Tail Corporation	OTTR	Yes	BBB	Yes	Yes	Yes	66.95%	70.89%	100.00%	10.29%	No
Pinnacle West Capital Corporation	PNW	Yes	A-	Yes	Yes	Yes	25.20%	100.00%	100.00%	8.15%	No
Portland General Electric Company	POR	Yes	BBB+	Yes	Yes	Yes	20.81%	100.00%	100.00%	11.48%	No
Xcel Energy Inc.	XEL	Yes	A-	Yes	Yes	Yes	32.85%	100.00%	86.98%	8.75%	No

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional
- [3] Source: Yahoo! Finance and Zacks
- [4] Source: Yahoo! Finance, Value Line Investment Survey, and Zacks
- [5] to [7] Source: SNL Financial
- [8] to [9] Source: Form 10-Ks for 2019, 2018 & 2017
- [10] See Schedule 4 - Constant DCF column [10]
- [11] SNL Financial News Releases

30-DAY CONSTANT GROWTH DCF -- I&M PROXY GROUP

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	All Proxy Group	
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	\$2.52	\$70.03	3.60%	3.71%	6.00%	7.00%	6.00%	6.33%	9.71%	10.05%	10.72%
Alliant Energy Corporation	LNT	\$1.61	\$56.78	2.84%	2.91%	5.50%	5.50%	5.50%	5.50%	8.41%	8.41%	8.41%
Ameren Corporation	AEE	\$2.20	\$84.32	2.61%	2.70%	6.00%	7.70%	7.30%	7.00%	8.69%	9.70%	10.41%
Duke Energy Corporation	DUK	\$3.86	\$101.08	3.82%	3.93%	7.00%	5.00%	5.20%	5.73%	8.91%	9.66%	10.95%
Entergy Corporation	ETR	\$3.80	\$106.82	3.56%	3.64%	3.00%	5.80%	5.10%	4.63%	6.61%	8.27%	9.46%
Evergy, Inc.	EVRG	\$2.14	\$63.02	3.40%	3.51%	8.00%	5.80%	5.80%	6.53%	9.29%	10.04%	11.53%
NextEra Energy, Inc.	NEE	\$1.54	\$75.18	2.05%	2.14%	10.50%	8.01%	7.80%	8.77%	9.93%	10.91%	12.66%
NorthWestern Corporation	NWE	\$2.48	\$66.12	3.75%	3.83%	3.00%	4.46%	4.90%	4.12%	6.81%	7.95%	8.74%
OGE Energy Corporation	OGE	\$1.61	\$33.62	4.79%	4.89%	4.00%	3.80%	4.40%	4.07%	8.68%	8.95%	9.29%
Otter Tail Corporation	OTTR	\$1.56	\$47.60	3.28%	3.39%	7.00%	9.00%	4.70%	6.90%	8.05%	10.29%	12.43%
Pinnacle West Capital Corporation	PNW	\$3.32	\$84.99	3.91%	3.99%	5.00%	3.50%	4.00%	4.17%	7.47%	8.15%	9.00%
Portland General Electric Company	POR	\$1.63	\$49.69	3.28%	3.41%	8.50%	7.10%	8.60%	8.07%	10.50%	11.48%	12.02%
Xcel Energy Inc.	XEL	\$1.83	\$71.08	2.57%	2.65%	6.00%	6.20%	6.10%	6.10%	8.65%	8.75%	8.85%
Mean				3.34%	3.44%	6.12%	6.07%	5.80%	5.99%	8.59%	9.43%	10.35%
Median				3.40%	3.51%	6.00%	5.80%	5.50%	6.10%	8.68%	9.66%	10.41%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals 30-day average as of May 31, 2021
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Source: Value Line
- [6] Source: Yahoo! Finance
- [7] Source: Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

90-DAY CONSTANT GROWTH DCF -- I&M PROXY GROUP

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	All Proxy Group		
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE	
ALLETE, Inc.	ALE	\$2.52	\$67.46	3.74%	3.85%	6.00%	7.00%	6.00%	6.33%	9.85%	10.19%	10.87%	
Alliant Energy Corporation	LNT	\$1.61	\$52.75	3.05%	3.14%	5.50%	5.50%	5.50%	5.50%	8.64%	8.64%	8.64%	
Ameren Corporation	AEE	\$2.20	\$78.93	2.79%	2.88%	6.00%	7.70%	7.30%	7.00%	8.87%	9.88%	10.59%	
Duke Energy Corporation	DUK	\$3.86	\$95.48	4.04%	4.16%	7.00%	5.00%	5.20%	5.73%	9.14%	9.89%	11.18%	
Entergy Corporation	ETR	\$3.80	\$99.47	3.82%	3.91%	3.00%	5.80%	5.10%	4.63%	6.88%	8.54%	9.73%	
Evergy, Inc.	EVRG	\$2.14	\$58.85	3.64%	3.76%	8.00%	5.80%	5.80%	6.53%	9.54%	10.29%	11.78%	
NextEra Energy, Inc.	NEE	\$1.54	\$76.84	2.00%	2.09%	10.50%	8.01%	7.80%	8.77%	9.88%	10.86%	12.61%	
NorthWestern Corporation	NWE	\$2.48	\$62.63	3.96%	4.04%	3.00%	4.46%	4.90%	4.12%	7.02%	8.16%	8.96%	
OGE Energy Corporation	OGE	\$1.61	\$32.36	4.97%	5.08%	4.00%	3.80%	4.40%	4.07%	8.87%	9.14%	9.48%	
Otter Tail Corporation	OTTR	\$1.56	\$44.92	3.47%	3.59%	7.00%	9.00%	4.70%	6.90%	8.25%	10.49%	12.63%	
Pinnacle West Capital Corporation	PNW	\$3.32	\$80.49	4.12%	4.21%	5.00%	3.50%	4.00%	4.17%	7.70%	8.38%	9.23%	
Portland General Electric Company	POR	\$1.63	\$46.53	3.50%	3.64%	8.50%	7.10%	8.60%	8.07%	10.73%	11.71%	12.25%	
Xcel Energy Inc.	XEL	\$1.83	\$66.23	2.76%	2.85%	6.00%	6.20%	6.10%	6.10%	8.85%	8.95%	9.05%	
Mean				3.53%	3.63%	6.12%	6.07%	5.80%	5.99%	8.79%	9.62%	10.54%	
Median				3.64%	3.76%	6.00%	5.80%	5.50%	6.10%	8.87%	9.88%	10.59%	

Notes:

- [1] Source: Bloomberg Professional  
[2] Source: Bloomberg Professional, equals 90-day average as of May 31, 2021  
[3] Equals [1] / [2]  
[4] Equals [3] x (1 + 0.50 x [8])  
[5] Source: Value Line  
[6] Source: Yahoo! Finance  
[7] Source: Zacks  
[8] Equals Average ([5], [6], [7])  
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])  
[10] Equals [4] + [8]  
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

180-DAY CONSTANT GROWTH DCF -- I&M PROXY GROUP

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	All Proxy Group		
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE	
ALLETE, Inc.	ALE	\$2.52	\$62.30	4.05%	4.17%	6.00%	7.00%	6.00%	6.33%	10.17%	10.51%	11.19%	
Alliant Energy Corporation	LNT	\$1.61	\$52.77	3.05%	3.13%	5.50%	5.50%	5.50%	5.50%	8.63%	8.63%	8.63%	
Ameren Corporation	AEE	\$2.20	\$78.96	2.79%	2.88%	6.00%	7.70%	7.30%	7.00%	8.87%	9.88%	10.59%	
Duke Energy Corporation	DUK	\$3.86	\$93.15	4.14%	4.26%	7.00%	5.00%	5.20%	5.73%	9.25%	10.00%	11.29%	
Entergy Corporation	ETR	\$3.80	\$101.01	3.76%	3.85%	3.00%	5.80%	5.10%	4.63%	6.82%	8.48%	9.67%	
Evergy, Inc.	EVRG	\$2.14	\$56.47	3.79%	3.91%	8.00%	5.80%	5.80%	6.53%	9.70%	10.45%	11.94%	
NextEra Energy, Inc.	NEE	\$1.54	\$75.80	2.03%	2.12%	10.50%	8.01%	7.80%	8.77%	9.91%	10.89%	12.64%	
NorthWestern Corporation	NWE	\$2.48	\$58.75	4.22%	4.31%	3.00%	4.46%	4.90%	4.12%	7.28%	8.43%	9.22%	
OGE Energy Corporation	OGE	\$1.61	\$32.07	5.02%	5.12%	4.00%	3.80%	4.40%	4.07%	8.92%	9.19%	9.53%	
Otter Tail Corporation	OTTR	\$1.56	\$42.60	3.66%	3.79%	7.00%	9.00%	4.70%	6.90%	8.45%	10.69%	12.83%	
Pinnacle West Capital Corporation	PNW	\$3.32	\$80.37	4.13%	4.22%	5.00%	3.50%	4.00%	4.17%	7.70%	8.38%	9.23%	
Portland General Electric Company	POR	\$1.63	\$43.27	3.77%	3.92%	8.50%	7.10%	8.60%	8.07%	11.00%	11.99%	12.53%	
Xcel Energy Inc.	XEL	\$1.83	\$67.54	2.71%	2.79%	6.00%	6.20%	6.10%	6.10%	8.79%	8.89%	8.99%	
Mean				3.62%	3.73%	6.12%	6.07%	5.80%	5.99%	8.88%	9.72%	10.64%	
Median				3.77%	3.91%	6.00%	5.80%	5.50%	6.10%	8.87%	9.88%	10.59%	

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals 180-day average as of May 31, 2021
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Source: Value Line
- [6] Source: Yahoo! Finance
- [7] Source: Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VL BETA

$$K = R_f + \beta \times (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
		Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm - Rf)	CAPM ROE (K)	ECAPM ROE (K)
Company	Ticker						
ALLETE, Inc.	ALE	2.30%	0.90	13.70%	11.39%	12.56%	12.84%
Alliant Energy Corporation	LNT	2.30%	0.85	13.70%	11.39%	11.99%	12.41%
Ameren Corporation	AEE	2.30%	0.80	13.70%	11.39%	11.42%	11.99%
Duke Energy Corporation	DUK	2.30%	0.85	13.70%	11.39%	11.99%	12.41%
Entergy Corporation	ETR	2.30%	0.95	13.70%	11.39%	13.13%	13.27%
Evergy, Inc.	EVRG	2.30%	0.95	13.70%	11.39%	13.13%	13.27%
NextEra Energy, Inc.	NEE	2.30%	0.90	13.70%	11.39%	12.56%	12.84%
NorthWestern Corporation	NWE	2.30%	0.95	13.70%	11.39%	13.13%	13.27%
OGE Energy Corporation	OGE	2.30%	1.05	13.70%	11.39%	14.27%	14.12%
Otter Tail Corporation	OTTR	2.30%	0.85	13.70%	11.39%	11.99%	12.41%
Pinnacle West Capital Corporation	PNW	2.30%	0.90	13.70%	11.39%	12.56%	12.84%
Portland General Electric Company	POR	2.30%	0.90	13.70%	11.39%	12.56%	12.84%
Xcel Energy Inc.	XEL	2.30%	0.80	13.70%	11.39%	11.42%	11.99%
Mean						12.51%	12.81%

Notes:

[1] Source: Bloomberg Professional, as of May 31, 2021

[2] Source: Value Line

[3] Source: Schedule 5 CAPM 3

[4] Equals [3] - [1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & VL BETA

$$K = R_f + \beta \times (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
		Near-term projected 30-year U.S. Treasury bond yield (Q3 2021 - Q3 2022)	Beta ( $\beta$ )	Market Return ( $R_m$ )	Market Risk Premium ( $R_m - R_f$ )	CAPM ROE (K)	ECAPM ROE (K)
Company	Ticker						
ALLETE, Inc.	ALE	2.64%	0.90	13.70%	11.06%	12.59%	12.87%
Alliant Energy Corporation	LNT	2.64%	0.85	13.70%	11.06%	12.04%	12.45%
Ameren Corporation	AEE	2.64%	0.80	13.70%	11.06%	11.49%	12.04%
Duke Energy Corporation	DUK	2.64%	0.85	13.70%	11.06%	12.04%	12.45%
Entergy Corporation	ETR	2.64%	0.95	13.70%	11.06%	13.14%	13.28%
Evergy, Inc.	EVRG	2.64%	0.95	13.70%	11.06%	13.14%	13.28%
NextEra Energy, Inc.	NEE	2.64%	0.90	13.70%	11.06%	12.59%	12.87%
NorthWestern Corporation	NWE	2.64%	0.95	13.70%	11.06%	13.14%	13.28%
OGE Energy Corporation	OGE	2.64%	1.05	13.70%	11.06%	14.25%	14.11%
Otter Tail Corporation	OTTR	2.64%	0.85	13.70%	11.06%	12.04%	12.45%
Pinnacle West Capital Corporation	PNW	2.64%	0.90	13.70%	11.06%	12.59%	12.87%
Portland General Electric Company	POR	2.64%	0.90	13.70%	11.06%	12.59%	12.87%
Xcel Energy Inc.	XEL	2.64%	0.80	13.70%	11.06%	11.49%	12.04%
Mean						12.55%	12.84%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 2  
[2] Source: Value Line  
[3] Source: Schedule 5 CAPM 3  
[4] Equals [3] - [1]  
[5] Equals [1] + [2] x [4]  
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])



CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & VL BETA

$$K = R_f + \beta \times (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m) + 0.75 \times \beta \times (R_m - R_f)$$

Company	Ticker	[1]	[2]	[3]	[4]		[5]	[6]
		Projected 30-year U.S. Treasury bond yield (2023 - 2027)	Beta ( $\beta$ )	Market Return (Rm)	Market Risk Premium (Rm - Rf)	CAPM ROE (K)	ECAPM ROE (K)	
ALLETE, Inc.	ALE	3.50%	0.90	13.70%	10.20%	12.68%	12.93%	
Alliant Energy Corporation	LNT	3.50%	0.85	13.70%	10.20%	12.17%	12.55%	
Ameren Corporation	AEE	3.50%	0.80	13.70%	10.20%	11.66%	12.17%	
Duke Energy Corporation	DUK	3.50%	0.85	13.70%	10.20%	12.17%	12.55%	
Entergy Corporation	ETR	3.50%	0.95	13.70%	10.20%	13.19%	13.31%	
Evergy, Inc.	EVRG	3.50%	0.95	13.70%	10.20%	13.19%	13.31%	
NextEra Energy, Inc.	NEE	3.50%	0.90	13.70%	10.20%	12.68%	12.93%	
NorthWestern Corporation	NWE	3.50%	0.95	13.70%	10.20%	13.19%	13.31%	
OGE Energy Corporation	OGE	3.50%	1.05	13.70%	10.20%	14.21%	14.08%	
Otter Tail Corporation	OTTR	3.50%	0.85	13.70%	10.20%	12.17%	12.55%	
Pinnacle West Capital Corporation	PNW	3.50%	0.90	13.70%	10.20%	12.68%	12.93%	
Portland General Electric Company	POR	3.50%	0.90	13.70%	10.20%	12.68%	12.93%	
Xcel Energy Inc.	XEL	3.50%	0.80	13.70%	10.20%	11.66%	12.17%	
<b>Mean</b>							<b>12.64%</b>	<b>12.90%</b>

Notes:

[1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 14

[2] Source: Value Line

[3] Source: Schedule 5 CAPM 3

[4] Equals [3] - [1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & BLOOMBERG BETA

$$K = R_f + \beta \times (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
		Current 30-day average of 30-year U.S. Treasury bond yield	Beta ( $\beta$ )	Market Return ( $R_m$ )	Market Risk Premium ( $R_m - R_f$ )	CAPM ROE (K)	ECAPM ROE (K)
Company	Ticker						
ALLETE, Inc.	ALE	2.30%	0.84	13.70%	11.39%	11.87%	12.33%
Alliant Energy Corporation	LNT	2.30%	0.80	13.70%	11.39%	11.39%	11.97%
Ameren Corporation	AEE	2.30%	0.74	13.70%	11.39%	10.78%	11.51%
Duke Energy Corporation	DUK	2.30%	0.71	13.70%	11.39%	10.37%	11.20%
Entergy Corporation	ETR	2.30%	0.84	13.70%	11.39%	11.85%	12.31%
Evergy, Inc.	EVRG	2.30%	0.79	13.70%	11.39%	11.26%	11.87%
NextEra Energy, Inc.	NEE	2.30%	0.77	13.70%	11.39%	11.11%	11.75%
NorthWestern Corporation	NWE	2.30%	0.91	13.70%	11.39%	12.62%	12.89%
OGE Energy Corporation	OGE	2.30%	0.93	13.70%	11.39%	12.93%	13.12%
Otter Tail Corporation	OTTR	2.30%	0.87	13.70%	11.39%	12.24%	12.60%
Pinnacle West Capital Corporation	PNW	2.30%	0.84	13.70%	11.39%	11.84%	12.30%
Portland General Electric Company	POR	2.30%	0.81	13.70%	11.39%	11.58%	12.11%
Xcel Energy Inc.	XEL	2.30%	0.73	13.70%	11.39%	10.65%	11.41%
Mean						11.58%	12.11%

Notes:

- [1] Source: Bloomberg Professional, as of May 31, 2021  
[2] Source: Bloomberg Professional, as of May 31, 2021  
[3] Source: Schedule 5 CAPM 3  
[4] Equals [3] - [1]  
[5] Equals [1] + [2] x [4]  
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

$$K = R_f + \beta \times (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m) + 0.75 \times \beta \times (R_m - R_f)$$

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]
		Near-term projected 30-year U.S. Treasury bond yield (Q2 2021 - Q2 2022)	Beta ( $\beta$ )	Market Return ( $R_m$ )	Market Risk Premium ( $R_m - R_f$ )	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	2.64%	0.84	13.70%	11.06%	11.92%	12.37%
Alliant Energy Corporation	LNT	2.64%	0.80	13.70%	11.06%	11.46%	12.02%
Ameren Corporation	AEE	2.64%	0.74	13.70%	11.06%	10.87%	11.57%
Duke Energy Corporation	DUK	2.64%	0.71	13.70%	11.06%	10.47%	11.28%
Entergy Corporation	ETR	2.64%	0.84	13.70%	11.06%	11.91%	12.35%
Evergy, Inc.	EVRG	2.64%	0.79	13.70%	11.06%	11.33%	11.92%
NextEra Energy, Inc.	NEE	2.64%	0.77	13.70%	11.06%	11.18%	11.81%
NorthWestern Corporation	NWE	2.64%	0.91	13.70%	11.06%	12.65%	12.91%
OGE Energy Corporation	OGE	2.64%	0.93	13.70%	11.06%	12.95%	13.14%
Otter Tail Corporation	OTTR	2.64%	0.87	13.70%	11.06%	12.28%	12.63%
Pinnacle West Capital Corporation	PNW	2.64%	0.84	13.70%	11.06%	11.89%	12.34%
Portland General Electric Company	POR	2.64%	0.81	13.70%	11.06%	11.64%	12.16%
Xcel Energy Inc.	XEL	2.64%	0.73	13.70%	11.06%	10.74%	11.48%
Mean						11.64%	12.15%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 2  
[2] Source: Bloomberg Professional, as of May 31, 2021  
[3] Source: Schedule 5 CAPM 3  
[4] Equals [3] - [1]  
[5] Equals [1] + [2] x [4]  
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

$$K = R_f + \beta \times (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m) + 0.75 \times \beta \times (R_m - R_f)$$

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]
		Projected 30-year U.S. Treasury bond yield (2022 - 2026)	Beta ( $\beta$ )	Market Return (Rm)	Market Risk Premium (Rm - Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	3.50%	0.84	13.70%	10.20%	12.06%	12.47%
Alliant Energy Corporation	LNT	3.50%	0.80	13.70%	10.20%	11.64%	12.15%
Ameren Corporation	AEE	3.50%	0.74	13.70%	10.20%	11.09%	11.74%
Duke Energy Corporation	DUK	3.50%	0.71	13.70%	10.20%	10.72%	11.47%
Entergy Corporation	ETR	3.50%	0.84	13.70%	10.20%	12.04%	12.46%
Evergy, Inc.	EVRG	3.50%	0.79	13.70%	10.20%	11.51%	12.06%
NextEra Energy, Inc.	NEE	3.50%	0.77	13.70%	10.20%	11.38%	11.96%
NorthWestern Corporation	NWE	3.50%	0.91	13.70%	10.20%	12.73%	12.97%
OGE Energy Corporation	OGE	3.50%	0.93	13.70%	10.20%	13.01%	13.18%
Otter Tail Corporation	OTTR	3.50%	0.87	13.70%	10.20%	12.39%	12.72%
Pinnacle West Capital Corporation	PNW	3.50%	0.84	13.70%	10.20%	12.03%	12.45%
Portland General Electric Company	POR	3.50%	0.81	13.70%	10.20%	11.80%	12.28%
Xcel Energy Inc.	XEL	3.50%	0.73	13.70%	10.20%	10.97%	11.65%
<b>Mean</b>						<b>11.80%</b>	<b>12.27%</b>

Notes:

[1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 14

[2] Source: Bloomberg Professional, as of May 31, 2021

[3] Source: Schedule 5 CAPM 3

[4] Equals [3] - [1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM AVERAGE BETA

$$CAPM: K = R_f + \beta (R_m - R_f) / ECAPM: K = R_f + 0.25(R_m - R_f) + 0.75\beta (R_m - R_f)$$

	[4]	[5]	[6]	[7]	[8]	[9]
	Risk-Free Rate ( $R_f$ )	Beta ( $\beta$ )	Market Return ( $R_m$ )	Market Risk Premium ( $R_m - R_f$ )	CAPM ( $K$ )	ECAPM ( $K$ )
Current 30-day average of 30-year U.S. Treasury bond yield [1]	2.30%	0.745	13.70%	11.39%	10.80%	11.52%
Near-term projected 30-year U.S. Treasury bond yield (Q3 2021 - Q3 2022) [2]	2.64%	0.745	13.70%	11.06%	10.88%	11.59%
Projected 30-year U.S. Treasury bond yield (2023 - 2027) [3]	3.50%	0.745	13.70%	10.20%	11.10%	11.75%
				<b>Average:</b>	<b>10.93%</b>	<b>11.62%</b>

Notes:

- [1] Source: Bloomberg Professional, as of May 31, 2021  
[2] Source: Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 2  
[3] Source: Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 14  
[4] See Notes [1], [2], and [3]  
[5] Source: Schedule AEB-D6  
[6] Source: Schedule AEB-D7  
[7] Equals [6] - [4]  
[8] Equals [4] + [5] x [7]  
[9] Equals [4] + 0.25 x ([7]) + 0.75 x ([5] x [7])

MARKET RISK PREMIUM DERIVED FROM S&P 500 INDEX

[1] Estimate of the S&P 500 Dividend Yield	1.46%
[2] Estimate of the S&P 500 Growth Rate	12.15%
[3] S&P 500 Estimated Required Market Return	13.70%

Notes:

- [1] Sum of [6]  
[2] Sum of [8]  
[3] Equals  $((1) \times (1 + 0.5 \times [2])) + [2]$

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Weight in Index	[5] Current Dividend Yield	[6] Cap-Weighted Dividend Yield	[7] Value Line Long-Term Growth Est.	[8] Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	0.11%	4.01%	0.00%	0.00%	0.00%
American Express Co	AXP	0.38%	1.07%	0.00%	6.00%	0.02%
Verizon Communications Inc	VZ	0.68%	4.44%	0.03%	3.50%	0.02%
Broadcom Inc	AVGO	0.56%	3.05%	0.02%	27.00%	0.15%
Boeing Co/The	BA	0.00%	n/a	n/a	0.00%	0.00%
Caterpillar Inc	CAT	0.39%	1.71%	0.01%	8.50%	0.03%
JPMorgan Chase & Co	JPM	1.45%	2.19%	0.03%	6.50%	0.09%
Chevron Corp	CVX	0.59%	5.16%	0.03%	23.50%	0.14%
Coca-Cola Co/The	KO	0.70%	3.04%	0.02%	6.50%	0.05%
AbbVie Inc	ABBV	0.58%	4.59%	0.03%	6.50%	0.04%
Walt Disney Co/The	DIS	0.95%	n/a	n/a	14.00%	0.13%
FleetCor Technologies Inc	FLT	0.07%	n/a	n/a	11.00%	0.01%
Extra Space Storage Inc	EXR	0.06%	2.67%	0.00%	3.50%	0.00%
Exxon Mobil Corp	XOM	0.72%	5.96%	0.04%	2.50%	0.02%
Phillips 66	PSX	0.11%	4.27%	0.00%	20.00%	0.02%
General Electric Co	GE	0.36%	0.28%	0.00%	4.00%	0.01%
HP Inc	HPQ	0.11%	2.65%	0.00%	14.00%	0.01%
Home Depot Inc/The	HD	0.99%	2.07%	0.02%	8.00%	0.08%
Monolithic Power Systems Inc	MPWR	0.05%	0.70%	0.00%	17.50%	0.01%
International Business Machines Corp	IBM	0.38%	4.56%	0.02%	1.50%	0.01%
Johnson & Johnson	JNJ	1.30%	2.51%	0.03%	10.00%	0.13%
McDonald's Corp	MCD	0.51%	2.21%	0.01%	10.00%	0.05%
Merck & Co Inc	MRK	0.54%	3.59%	0.02%	8.00%	0.04%
3M Co	MMM	0.34%	2.92%	0.01%	4.50%	0.02%
American Water Works Co Inc	AWK	0.08%	1.55%	0.00%	8.50%	0.01%
Bank of America Corp	BAC	1.06%	1.70%	0.02%	4.50%	0.05%
Baker Hughes Co	BKR	0.00%	2.95%	0.00%	0.00%	0.00%
Pfizer Inc	PFE	0.63%	4.03%	0.03%	9.50%	0.06%
Procter & Gamble Co/The	PG	0.96%	2.58%	0.02%	7.00%	0.07%
AT&T Inc	T	0.61%	7.07%	0.04%	2.50%	0.02%
Travelers Cos Inc/The	TRV	0.12%	2.20%	0.00%	8.00%	0.01%
Raytheon Technologies Corp	RTX	0.39%	2.30%	0.01%	1.00%	0.00%
Analog Devices Inc	ADI	0.18%	1.68%	0.00%	8.50%	0.02%
Walmart Inc	WMT	1.17%	1.55%	0.02%	6.00%	0.07%
Cisco Systems Inc/Delaware	CSCO	0.65%	2.80%	0.02%	6.00%	0.04%
Intel Corp	INTC	0.67%	2.43%	0.02%	7.00%	0.05%

General Motors Co	GM	0.25%	n/a	n/a	11.00%	0.03%
Microsoft Corp	MSFT	5.49%	0.90%	0.05%	15.00%	0.82%
Dollar General Corp	DG	0.14%	0.83%	0.00%	10.50%	0.01%
Cigna Corp	CI	0.26%	1.55%	0.00%	11.00%	0.03%
Kinder Morgan Inc	KMI	0.12%	5.89%	0.01%	19.00%	0.02%
Citigroup Inc	C	0.48%	2.59%	0.01%	5.00%	0.02%
American International Group Inc	AIG	0.13%	2.42%	0.00%	28.50%	0.04%
Altria Group Inc	MO	0.27%	6.99%	0.02%	6.50%	0.02%
HCA Healthcare Inc	HCA	0.21%	0.89%	0.00%	10.50%	0.02%
Under Armour Inc	UA	0.01%	n/a	n/a	11.00%	0.00%
International Paper Co	IP	0.07%	3.25%	0.00%	6.50%	0.00%
Hewlett Packard Enterprise Co	HPE	0.06%	3.01%	0.00%	6.50%	0.00%
Abbott Laboratories	ABT	0.61%	1.54%	0.01%	11.50%	0.07%
Aflac Inc	AFL	0.11%	2.33%	0.00%	7.00%	0.01%
Air Products and Chemicals Inc	APD	0.19%	2.00%	0.00%	12.00%	0.02%
Royal Caribbean Cruises Ltd	RCL	0.00%	n/a	n/a	0.00%	0.00%
Hess Corp	HES	0.00%	1.19%	0.00%	0.00%	0.00%
Archer-Daniels-Midland Co	ADM	0.11%	2.22%	0.00%	7.50%	0.01%
Automatic Data Processing Inc	ADP	0.24%	1.90%	0.00%	9.00%	0.02%
Verisk Analytics Inc	VRSK	0.08%	0.67%	0.00%	7.50%	0.01%
AutoZone Inc	AZO	0.09%	n/a	n/a	14.50%	0.01%
Avery Dennison Corp	AVY	0.05%	1.23%	0.00%	9.50%	0.01%
Enphase Energy Inc	ENPH	0.06%	n/a	n/a	40.00%	0.02%
MSCI Inc	MSCI	0.11%	0.67%	0.00%	16.00%	0.02%
Ball Corp	BLL	0.08%	0.73%	0.00%	20.00%	0.02%
Carrier Global Corp	CARR	0.00%	1.05%	0.00%	0.00%	0.00%
Bank of New York Mellon Corp/The	BK	0.13%	2.38%	0.00%	3.00%	0.00%
Otis Worldwide Corp	OTIS	0.00%	1.23%	0.00%	0.00%	0.00%
Baxter International Inc	BAX	0.12%	1.36%	0.00%	8.50%	0.01%
Becton Dickinson and Co	BDX	0.21%	1.37%	0.00%	7.50%	0.02%
Berkshire Hathaway Inc	BRK/B	0.00%	n/a	n/a	0.00%	0.00%
Best Buy Co Inc	BBY	0.08%	2.41%	0.00%	8.50%	0.01%
Boston Scientific Corp	BSX	0.18%	n/a	n/a	17.50%	0.03%
Bristol-Myers Squibb Co	BMJ	0.43%	2.98%	0.01%	12.50%	0.05%
Fortune Brands Home & Security Inc	FBHS	0.04%	1.01%	0.00%	10.00%	0.00%
Brown-Forman Corp	BF/B	0.00%	0.89%	0.00%	0.00%	0.00%
Cabot Oil & Gas Corp	COG	0.02%	2.68%	0.00%	14.50%	0.00%
Campbell Soup Co	CPB	0.04%	3.04%	0.00%	5.00%	0.00%
Kansas City Southern	KSU	0.08%	0.73%	0.00%	12.50%	0.01%
Hilton Worldwide Holdings Inc	HLT	0.00%	n/a	n/a	0.00%	0.00%
Carnival Corp	CCL	0.00%	n/a	n/a	0.00%	0.00%
Qorvo Inc	QRVO	0.06%	n/a	n/a	18.00%	0.01%
Lumen Technologies Inc	LUMN	0.04%	7.23%	0.00%	2.50%	0.00%
UDR Inc	UDR	0.04%	3.04%	0.00%	6.00%	0.00%
Clorox Co/The	CLX	0.06%	2.51%	0.00%	6.50%	0.00%
Paycom Software Inc	PAYC	0.06%	n/a	n/a	19.50%	0.01%
CMS Energy Corp	CMS	0.05%	2.77%	0.00%	7.50%	0.00%
Newell Brands Inc	NWL	0.00%	3.21%	0.00%	0.00%	0.00%
Colgate-Palmolive Co	CL	0.21%	2.15%	0.00%	5.00%	0.01%
Comerica Inc	CMA	0.03%	3.47%	0.00%	2.50%	0.00%
IPG Photonics Corp	IPGP	0.03%	n/a	n/a	18.50%	0.01%
Conagra Brands Inc	CAG	0.05%	2.89%	0.00%	5.00%	0.00%
Consolidated Edison Inc	ED	0.08%	4.01%	0.00%	4.00%	0.00%
Corning Inc	GLW	0.11%	2.20%	0.00%	20.00%	0.02%
Cummins Inc	CMI	0.11%	2.10%	0.00%	7.50%	0.01%
Caesars Entertainment Inc	CZR	0.00%	n/a	n/a	0.00%	0.00%
Danaher Corp	DHR	0.53%	0.33%	0.00%	18.00%	0.10%
Target Corp	TGT	0.33%	1.20%	0.00%	13.00%	0.04%

Deere & Co	DE	0.33%	1.00%	0.00%	14.00%	0.05%
Dominion Energy Inc	D	0.18%	3.31%	0.01%	12.00%	0.02%
Dover Corp	DOV	0.06%	1.32%	0.00%	6.50%	0.00%
Alliant Energy Corp	LNT	0.04%	2.82%	0.00%	5.50%	0.00%
Duke Energy Corp	DUK	0.23%	3.85%	0.01%	7.00%	0.02%
Regency Centers Corp	REG	0.03%	3.68%	0.00%	10.00%	0.00%
Eaton Corp PLC	ETN	0.17%	2.09%	0.00%	5.50%	0.01%
Ecolab Inc	ECL	0.18%	0.89%	0.00%	6.00%	0.01%
PerkinElmer Inc	PKI	0.05%	0.19%	0.00%	11.00%	0.01%
Emerson Electric Co	EMR	0.17%	2.11%	0.00%	9.50%	0.02%
EOG Resources Inc	EOG	0.14%	2.05%	0.00%	12.50%	0.02%
Aon PLC	AON	0.17%	0.81%	0.00%	7.00%	0.01%
Entergy Corp	ETR	0.06%	3.61%	0.00%	3.00%	0.00%
Equifax Inc	EFX	0.08%	0.66%	0.00%	5.50%	0.00%
IQVIA Holdings Inc	IQV	0.13%	n/a	n/a	14.00%	0.02%
Gartner Inc	IT	0.06%	n/a	n/a	15.50%	0.01%
FedEx Corp	FDX	0.24%	0.83%	0.00%	8.50%	0.02%
FMC Corp	FMC	0.04%	1.65%	0.00%	8.50%	0.00%
Ford Motor Co	F	0.17%	n/a	n/a	46.00%	0.08%
NextEra Energy Inc	NEE	0.42%	2.10%	0.01%	10.50%	0.04%
Franklin Resources Inc	BEN	0.05%	3.27%	0.00%	11.50%	0.01%
Freeport-McMoRan Inc	FCX	0.18%	0.70%	0.00%	32.50%	0.06%
Gap Inc/The	GPS	0.04%	1.43%	0.00%	25.00%	0.01%
Dexcom Inc	DXCM	0.00%	n/a	n/a	0.00%	0.00%
General Dynamics Corp	GD	0.16%	2.51%	0.00%	5.00%	0.01%
General Mills Inc	GIS	0.11%	3.25%	0.00%	3.50%	0.00%
Genuine Parts Co	GPC	0.06%	2.49%	0.00%	7.00%	0.00%
Atmos Energy Corp	ATO	0.04%	2.52%	0.00%	7.00%	0.00%
WW Grainger Inc	GWV	0.07%	1.40%	0.00%	7.50%	0.01%
Halliburton Co	HAL	0.06%	0.80%	0.00%	7.00%	0.00%
L3Harris Technologies Inc	LHX	0.00%	1.87%	0.00%	0.00%	0.00%
Healthpeak Properties Inc	PEAK	0.05%	3.59%	0.00%	-13.00%	-0.01%
Catalent Inc	CTLT	0.05%	n/a	n/a	21.00%	0.01%
Fortive Corp	FTV	0.07%	0.39%	0.00%	6.00%	0.00%
Hershey Co/The	HSY	0.07%	1.86%	0.00%	5.50%	0.00%
Synchrony Financial	SYF	0.08%	1.86%	0.00%	4.50%	0.00%
Hormel Foods Corp	HRL	0.08%	2.02%	0.00%	9.00%	0.01%
Arthur J Gallagher & Co	AJG	0.09%	1.31%	0.00%	12.50%	0.01%
Mondelez International Inc	MDLZ	0.26%	1.98%	0.01%	8.00%	0.02%
CenterPoint Energy Inc	CNP	0.04%	2.53%	0.00%	8.00%	0.00%
Humana Inc	HUM	0.16%	0.64%	0.00%	11.00%	0.02%
Willis Towers Watson PLC	WLTW	0.10%	1.09%	0.00%	11.50%	0.01%
Illinois Tool Works Inc	ITW	0.21%	1.97%	0.00%	11.00%	0.02%
CDW Corp/DE	CDW	0.07%	0.97%	0.00%	11.00%	0.01%
Trane Technologies PLC	TT	0.00%	1.27%	0.00%	0.00%	0.00%
Interpublic Group of Cos Inc/The	IPG	0.04%	3.21%	0.00%	12.00%	0.00%
International Flavors & Fragrances Inc	IFF	0.10%	2.17%	0.00%	7.50%	0.01%
Jacobs Engineering Group Inc	J	0.05%	0.59%	0.00%	12.50%	0.01%
Generac Holdings Inc	GNRC	0.06%	n/a	n/a	19.50%	0.01%
NXP Semiconductors NV	NXPI	0.17%	1.06%	0.00%	11.00%	0.02%
Hanesbrands Inc	HBI	0.02%	3.07%	0.00%	6.50%	0.00%
Kellogg Co	K	0.07%	3.54%	0.00%	3.00%	0.00%
Broadridge Financial Solutions Inc	BR	0.05%	1.44%	0.00%	10.50%	0.01%
Perrigo Co PLC	PRGO	0.02%	2.08%	0.00%	-2.00%	0.00%
Kimberly-Clark Corp	KMB	0.13%	3.49%	0.00%	5.50%	0.01%
Kimco Realty Corp	KIM	0.03%	3.19%	0.00%	-2.00%	0.00%
Oracle Corp	ORCL	0.66%	1.63%	0.01%	9.50%	0.06%
Kroger Co/The	KR	0.08%	1.95%	0.00%	5.00%	0.00%



Leggett & Platt Inc	LEG	0.02%	3.05%	0.00%	10.00%	0.00%
Lennar Corp	LEN	0.08%	1.01%	0.00%	7.00%	0.01%
Eli Lilly & Co	LLY	0.56%	1.70%	0.01%	9.00%	0.05%
L Brands Inc	LB	0.06%	0.86%	0.00%	28.50%	0.02%
Charter Communications Inc	CHTR	0.38%	n/a	n/a	26.50%	0.10%
Lincoln National Corp	LNC	0.04%	2.41%	0.00%	9.00%	0.00%
Loews Corp	L	0.04%	0.43%	0.00%	12.00%	0.01%
Lowe's Cos Inc	LOW	0.40%	1.64%	0.01%	15.50%	0.06%
IDEX Corp	IEX	0.05%	0.97%	0.00%	7.50%	0.00%
Marsh & McLennan Cos Inc	MMC	0.21%	1.34%	0.00%	9.50%	0.02%
Masco Corp	MAS	0.04%	1.56%	0.00%	7.50%	0.00%
S&P Global Inc	SPGI	0.27%	0.81%	0.00%	8.50%	0.02%
Medtronic PLC	MDT	0.50%	1.99%	0.01%	7.00%	0.03%
Viatris Inc	VTRS	0.00%	2.89%	0.00%	0.00%	0.00%
CVS Health Corp	CVS	0.33%	2.31%	0.01%	6.00%	0.02%
DuPont de Nemours Inc	DD	0.00%	1.42%	0.00%	0.00%	0.00%
Micron Technology Inc	MU	0.28%	n/a	n/a	12.50%	0.03%
Motorola Solutions Inc	MSI	0.10%	1.38%	0.00%	7.00%	0.01%
Choe Global Markets Inc	CBOE	0.03%	1.51%	0.00%	12.00%	0.00%
Laboratory Corp of America Holdings	LH	0.08%	n/a	n/a	9.50%	0.01%
Newmont Corp	NEM	0.17%	2.99%	0.01%	14.50%	0.02%
NIKE Inc	NKE	0.51%	0.81%	0.00%	24.00%	0.12%
NiSource Inc	NI	0.03%	3.45%	0.00%	9.50%	0.00%
Norfolk Southern Corp	NSC	0.21%	1.41%	0.00%	9.00%	0.02%
Principal Financial Group Inc	PFJ	0.05%	3.73%	0.00%	5.50%	0.00%
Eversource Energy	ES	0.08%	2.97%	0.00%	5.50%	0.00%
Northrop Grumman Corp	NOC	0.17%	1.72%	0.00%	7.00%	0.01%
Wells Fargo & Co	WFC	0.56%	0.86%	0.00%	5.00%	0.03%
Nucor Corp	NUE	0.09%	1.58%	0.00%	8.00%	0.01%
PVH Corp	PVH	0.02%	n/a	n/a	12.50%	0.00%
Occidental Petroleum Corp	OXY	0.07%	0.15%	0.00%	36.50%	0.03%
Omnicom Group Inc	OMC	0.05%	3.40%	0.00%	6.00%	0.00%
ONEOK Inc	OKE	0.07%	7.09%	0.00%	9.50%	0.01%
Raymond James Financial Inc	RJF	0.05%	1.18%	0.00%	6.50%	0.00%
Parker-Hannifin Corp	PH	0.12%	1.34%	0.00%	13.00%	0.02%
Rollins Inc	ROL	0.05%	0.94%	0.00%	11.50%	0.01%
PPL Corp	PPL	0.07%	5.70%	0.00%	3.00%	0.00%
ConocoPhillips	COP	0.22%	3.09%	0.01%	10.50%	0.02%
PulteGroup Inc	PHM	0.04%	0.97%	0.00%	7.00%	0.00%
Pinnacle West Capital Corp	PNW	0.03%	3.93%	0.00%	5.00%	0.00%
PNC Financial Services Group Inc/The	PNC	0.24%	2.36%	0.01%	3.00%	0.01%
PPG Industries Inc	PPG	0.12%	1.20%	0.00%	3.00%	0.00%
Progressive Corp/The	PGR	0.17%	0.40%	0.00%	5.00%	0.01%
Public Service Enterprise Group Inc	PEG	0.09%	3.28%	0.00%	3.50%	0.00%
Robert Half International Inc	RHI	0.03%	1.71%	0.00%	7.50%	0.00%
Edison International	EIX	0.00%	4.74%	0.00%	0.00%	0.00%
Schlumberger NV	SLB	0.13%	1.60%	0.00%	8.50%	0.01%
Charles Schwab Corp/The	SCHW	0.39%	0.97%	0.00%	7.50%	0.03%
Sherwin-Williams Co/The	SHW	0.22%	0.78%	0.00%	10.00%	0.02%
West Pharmaceutical Services Inc	WST	0.07%	0.20%	0.00%	17.00%	0.01%
J M Smucker Co/The	SJM	0.04%	2.70%	0.00%	4.00%	0.00%
Snap-on Inc	SNA	0.04%	1.93%	0.00%	5.00%	0.00%
AMETEK Inc	AME	0.09%	0.59%	0.00%	10.00%	0.01%
Southern Co/The	SO	0.20%	4.13%	0.01%	5.00%	0.01%
Truist Financial Corp	TFC	0.24%	2.91%	0.01%	5.50%	0.01%
Southwest Airlines Co	LUV	0.11%	n/a	n/a	1.50%	0.00%
W R Berkley Corp	WRB	0.04%	0.62%	0.00%	14.50%	0.01%
Stanley Black & Decker Inc	SWK	0.10%	1.29%	0.00%	6.00%	0.01%

Public Storage	PSA	0.14%	2.83%	0.00%	2.50%	0.00%
Arista Networks Inc	ANET	0.08%	n/a	n/a	4.50%	0.00%
Sysco Corp	SYT	0.12%	2.32%	0.00%	11.50%	0.01%
Corteva Inc	CTVA	0.00%	1.14%	0.00%	0.00%	0.00%
Texas Instruments Inc	TXN	0.51%	2.15%	0.01%	5.50%	0.03%
Textron Inc	TXT	0.05%	0.12%	0.00%	7.50%	0.00%
Thermo Fisher Scientific Inc	TMO	0.54%	0.22%	0.00%	13.00%	0.07%
TJX Cos Inc/The	TJX	0.24%	1.54%	0.00%	12.00%	0.03%
Globe Life Inc	GL	0.03%	0.75%	0.00%	8.00%	0.00%
Johnson Controls International plc	JCI	0.14%	1.62%	0.00%	8.50%	0.01%
Ulta Beauty Inc	ULTA	0.06%	n/a	n/a	12.50%	0.01%
Union Pacific Corp	UNP	0.44%	1.90%	0.01%	10.00%	0.04%
Keysight Technologies Inc	KEYS	0.08%	n/a	n/a	17.00%	0.01%
UnitedHealth Group Inc	UNH	1.14%	1.21%	0.01%	12.00%	0.14%
Unum Group	UNM	0.02%	3.87%	0.00%	3.50%	0.00%
Marathon Oil Corp	MRO	0.00%	1.32%	0.00%	0.00%	0.00%
Bio-Rad Laboratories Inc	BIO	0.04%	n/a	n/a	11.50%	0.00%
Ventas Inc	VTR	0.06%	3.25%	0.00%	4.50%	0.00%
VF Corp	VFC	0.09%	2.46%	0.00%	5.50%	0.01%
Vornado Realty Trust	VNO	0.03%	4.48%	0.00%	-18.50%	0.00%
Vulcan Materials Co	VMC	0.07%	0.81%	0.00%	10.00%	0.01%
Weyerhaeuser Co	WY	0.08%	1.79%	0.00%	20.50%	0.02%
Whirlpool Corp	WHR	0.04%	2.36%	0.00%	5.50%	0.00%
Williams Cos Inc/The	WMB	0.09%	6.23%	0.01%	12.00%	0.01%
WEC Energy Group Inc	WEC	0.09%	2.89%	0.00%	6.50%	0.01%
Adobe Inc	ADBE	0.70%	n/a	n/a	14.50%	0.10%
AES Corp/The	AES	0.05%	2.37%	0.00%	24.00%	0.01%
Amgen Inc	AMGN	0.40%	2.96%	0.01%	6.00%	0.02%
Apple Inc	AAPL	6.07%	0.71%	0.04%	14.50%	0.88%
Autodesk Inc	ADSK	0.00%	n/a	n/a	0.00%	0.00%
Cintas Corp	CTAS	0.11%	0.85%	0.00%	13.00%	0.01%
Comcast Corp	CMCSA	0.77%	1.74%	0.01%	8.00%	0.06%
Molson Coors Beverage Co	TAP	0.03%	n/a	n/a	41.00%	0.01%
KLA Corp	KLAC	0.14%	1.14%	0.00%	17.50%	0.02%
Marriott International Inc/MD	MAR	0.14%	n/a	n/a	17.50%	0.02%
McCormick & Co Inc/MD	MKC	0.06%	1.53%	0.00%	5.50%	0.00%
PACCAR Inc	PCAR	0.09%	1.49%	0.00%	5.50%	0.01%
Costco Wholesale Corp	COST	0.49%	0.84%	0.00%	9.50%	0.05%
First Republic Bank/CA	FRC	0.10%	0.46%	0.00%	12.50%	0.01%
Stryker Corp	SYK	0.28%	0.99%	0.00%	11.00%	0.03%
Tyson Foods Inc	TSN	0.07%	2.24%	0.00%	6.50%	0.00%
Lamb Weston Holdings Inc	LW	0.04%	1.14%	0.00%	2.50%	0.00%
Applied Materials Inc	AMAT	0.37%	0.69%	0.00%	9.00%	0.03%
American Airlines Group Inc	AAL	0.05%	n/a	n/a	-3.50%	0.00%
Cardinal Health Inc	CAH	0.05%	3.50%	0.00%	12.00%	0.01%
Cerner Corp	CERN	0.07%	1.12%	0.00%	9.00%	0.01%
Cincinnati Financial Corp	CINF	0.06%	2.07%	0.00%	13.50%	0.01%
ViacomCBS Inc	VIAC	0.08%	2.26%	0.00%	8.00%	0.01%
DR Horton Inc	DHI	0.10%	0.84%	0.00%	10.50%	0.01%
Electronic Arts Inc	EA	0.12%	0.48%	0.00%	9.00%	0.01%
Expeditors International of Washington Inc	EXPD	0.06%	0.92%	0.00%	8.50%	0.01%
Fastenal Co	FAST	0.09%	2.11%	0.00%	8.00%	0.01%
M&T Bank Corp	MTB	0.06%	2.74%	0.00%	4.00%	0.00%
Xcel Energy Inc	XEL	0.11%	2.58%	0.00%	6.00%	0.01%
Fiserv Inc	FISV	0.22%	n/a	n/a	13.00%	0.03%
Fifth Third Bancorp	FITB	0.09%	2.56%	0.00%	7.00%	0.01%
Gilead Sciences Inc	GILD	0.24%	4.30%	0.01%	3.50%	0.01%
Hasbro Inc	HAS	0.04%	2.83%	0.00%	12.50%	0.00%

Huntington Bancshares Inc/OH	HBAN	0.05%	3.78%	0.00%	6.00%	0.00%
Welltower Inc	WELL	0.09%	3.26%	0.00%	3.50%	0.00%
Biogen Inc	BIIB	0.12%	n/a	n/a	7.00%	0.01%
Northern Trust Corp	NTRS	0.07%	2.31%	0.00%	7.00%	0.01%
Packaging Corp of America	PKG	0.04%	2.69%	0.00%	5.00%	0.00%
Paychex Inc	PAYX	0.11%	2.61%	0.00%	6.50%	0.01%
People's United Financial Inc	PBCT	0.02%	3.86%	0.00%	2.50%	0.00%
QUALCOMM Inc	QCOM	0.44%	2.02%	0.01%	16.50%	0.07%
Roper Technologies Inc	ROP	0.14%	0.50%	0.00%	10.00%	0.01%
Ross Stores Inc	ROST	0.13%	0.90%	0.00%	14.00%	0.02%
IDEXX Laboratories Inc	IDXX	0.14%	n/a	n/a	13.50%	0.02%
Starbucks Corp	SBUX	0.39%	1.58%	0.01%	16.00%	0.06%
KeyCorp	KEY	0.07%	3.21%	0.00%	9.50%	0.01%
Fox Corp	FOXA	0.00%	1.23%	0.00%	0.00%	0.00%
Fox Corp	FOX	0.00%	1.27%	0.00%	0.00%	0.00%
State Street Corp	STT	0.09%	2.39%	0.00%	6.50%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	0.00%	n/a	n/a	0.00%	0.00%
US Bancorp	USB	0.26%	2.76%	0.01%	4.50%	0.01%
A O Smith Corp	AOS	0.03%	1.46%	0.00%	5.00%	0.00%
NortonLifeLock Inc	NLOK	0.05%	1.81%	0.00%	7.00%	0.00%
T Rowe Price Group Inc	TROW	0.13%	2.26%	0.00%	8.00%	0.01%
Waste Management Inc	WM	0.17%	1.63%	0.00%	6.00%	0.01%
Constellation Brands Inc	STZ	0.12%	1.27%	0.00%	6.50%	0.01%
Xilinx Inc	XLNX	0.09%	n/a	n/a	7.50%	0.01%
DENTSPLY SIRONA Inc	XRAY	0.04%	0.66%	0.00%	5.50%	0.00%
Zions Bancorp NA	ZION	0.03%	2.35%	0.00%	7.00%	0.00%
Alaska Air Group Inc	ALK	0.00%	n/a	n/a	0.00%	0.00%
Invesco Ltd	IVZ	0.04%	2.38%	0.00%	12.00%	0.00%
Linde PLC	LIN	0.00%	1.41%	0.00%	0.00%	0.00%
Intuit Inc	INTU	0.35%	0.54%	0.00%	14.50%	0.05%
Morgan Stanley	MS	0.49%	1.54%	0.01%	8.50%	0.04%
Microchip Technology Inc	MCHP	0.13%	1.05%	0.00%	9.00%	0.01%
Chubb Ltd	CB	0.22%	1.88%	0.00%	10.00%	0.02%
Hologic Inc	HOLX	0.05%	n/a	n/a	25.00%	0.01%
Citizens Financial Group Inc	CFG	0.06%	3.13%	0.00%	12.00%	0.01%
O'Reilly Automotive Inc	ORLY	0.11%	n/a	n/a	11.00%	0.01%
Allstate Corp/The	ALL	0.12%	2.37%	0.00%	5.00%	0.01%
Equity Residential	EQR	0.08%	3.11%	0.00%	2.00%	0.00%
BorgWarner Inc	BWA	0.04%	1.33%	0.00%	5.50%	0.00%
Host Hotels & Resorts Inc	HST	0.04%	n/a	n/a	8.00%	0.00%
Incyte Corp	INCY	0.00%	n/a	n/a	0.00%	0.00%
Simon Property Group Inc	SPG	0.12%	4.05%	0.00%	-0.50%	0.00%
Eastman Chemical Co	EMN	0.05%	2.20%	0.00%	5.00%	0.00%
Twitter Inc	TWTR	0.14%	n/a	n/a	29.00%	0.04%
AvalonBay Communities Inc	AVB	0.08%	3.07%	0.00%	1.00%	0.00%
Prudential Financial Inc	PRU	0.12%	4.30%	0.01%	4.50%	0.01%
United Parcel Service Inc	UPS	0.45%	1.90%	0.01%	10.50%	0.05%
Walgreens Boots Alliance Inc	WBA	0.13%	3.55%	0.00%	6.00%	0.01%
STERIS PLC	STE	0.05%	0.84%	0.00%	10.00%	0.00%
McKesson Corp	MCK	0.09%	0.87%	0.00%	9.00%	0.01%
Lockheed Martin Corp	LMT	0.31%	2.72%	0.01%	7.50%	0.02%
AmerisourceBergen Corp	ABC	0.07%	1.53%	0.00%	6.50%	0.00%
Capital One Financial Corp	COF	0.21%	1.00%	0.00%	5.50%	0.01%
Waters Corp	WAT	0.06%	n/a	n/a	6.00%	0.00%
Dollar Tree Inc	DLTR	0.07%	n/a	n/a	9.50%	0.01%
Darden Restaurants Inc	DRI	0.05%	2.46%	0.00%	14.50%	0.01%
Domino's Pizza Inc	DPZ	0.05%	0.88%	0.00%	13.00%	0.01%
NVR Inc	NVR	0.05%	n/a	n/a	8.00%	0.00%

NetApp Inc	NTAP	0.05%	2.48%	0.00%	6.00%	0.00%
Citrix Systems Inc	CTXS	0.04%	1.29%	0.00%	9.00%	0.00%
DXC Technology Co	DXC	0.03%	n/a	n/a	2.50%	0.00%
Old Dominion Freight Line Inc	ODFL	0.09%	0.30%	0.00%	9.00%	0.01%
DaVita Inc	DVA	0.04%	n/a	n/a	15.00%	0.01%
Hartford Financial Services Group Inc/The	HIG	0.07%	2.14%	0.00%	8.50%	0.01%
Iron Mountain Inc	IRM	0.04%	5.68%	0.00%	7.50%	0.00%
Estee Lauder Cos Inc/The	EL	0.21%	0.69%	0.00%	11.00%	0.02%
Cadence Design Systems Inc	CDNS	0.10%	n/a	n/a	9.50%	0.01%
Tyler Technologies Inc	TYL	0.05%	n/a	n/a	8.00%	0.00%
Universal Health Services Inc	UHS	0.04%	0.50%	0.00%	10.00%	0.00%
Skyworks Solutions Inc	SWKS	0.08%	1.18%	0.00%	11.50%	0.01%
NOV Inc	NOV	0.00%	n/a	n/a	0.00%	0.00%
Quest Diagnostics Inc	DGX	0.05%	1.88%	0.00%	7.00%	0.00%
Activision Blizzard Inc	ATVI	0.22%	0.48%	0.00%	14.50%	0.03%
Rockwell Automation Inc	ROK	0.09%	1.62%	0.00%	6.50%	0.01%
Kraft Heinz Co/The	KHC	0.16%	3.67%	0.01%	1.50%	0.00%
American Tower Corp	AMT	0.34%	1.99%	0.01%	10.00%	0.03%
HollyFrontier Corp	HFC	0.02%	4.31%	0.00%	2.50%	0.00%
Regeneron Pharmaceuticals Inc	REGN	0.15%	n/a	n/a	12.50%	0.02%
Amazon.com Inc	AMZN	4.75%	n/a	n/a	28.50%	1.35%
Jack Henry & Associates Inc	JKHY	0.03%	1.19%	0.00%	10.50%	0.00%
Ralph Lauren Corp	RL	0.02%	2.22%	0.00%	6.00%	0.00%
Boston Properties Inc	BXP	0.05%	3.33%	0.00%	1.50%	0.00%
Amphenol Corp	APH	0.12%	0.86%	0.00%	11.00%	0.01%
Howmet Aerospace Inc	HWM	0.04%	n/a	n/a	12.00%	0.01%
Pioneer Natural Resources Co	PXD	0.11%	1.47%	0.00%	17.50%	0.02%
Valero Energy Corp	VLO	0.10%	4.88%	0.00%	2.00%	0.00%
Synopsys Inc	SNPS	0.11%	n/a	n/a	12.50%	0.01%
Western Union Co/The	WU	0.03%	3.84%	0.00%	6.00%	0.00%
Etsy Inc	ETSY	0.06%	n/a	n/a	27.00%	0.02%
CH Robinson Worldwide Inc	CHRW	0.04%	2.10%	0.00%	8.00%	0.00%
Accenture PLC	ACN	0.52%	1.25%	0.01%	9.50%	0.05%
TransDigm Group Inc	TDG	0.10%	n/a	n/a	9.50%	0.01%
Yum! Brands Inc	YUM	0.10%	1.67%	0.00%	10.50%	0.01%
Prologis Inc	PLD	0.25%	2.14%	0.01%	8.50%	0.02%
FirstEnergy Corp	FE	0.06%	4.12%	0.00%	11.50%	0.01%
VeriSign Inc	VRSN	0.07%	n/a	n/a	9.50%	0.01%
Quanta Services Inc	PWR	0.04%	0.25%	0.00%	12.50%	0.00%
Henry Schein Inc	HSIC	0.03%	n/a	n/a	6.50%	0.00%
Ameren Corp	AEE	0.06%	2.61%	0.00%	6.00%	0.00%
ANSYS Inc	ANSS	0.09%	n/a	n/a	8.00%	0.01%
NVIDIA Corp	NVDA	1.18%	0.10%	0.00%	14.50%	0.17%
Sealed Air Corp	SEE	0.03%	1.41%	0.00%	13.50%	0.00%
Cognizant Technology Solutions Corp	CTSH	0.11%	1.34%	0.00%	6.50%	0.01%
SVB Financial Group	SIVB	0.09%	n/a	n/a	8.00%	0.01%
Intuitive Surgical Inc	ISRG	0.29%	n/a	n/a	15.00%	0.04%
Take-Two Interactive Software Inc	TTWO	0.06%	n/a	n/a	15.50%	0.01%
Republic Services Inc	RSG	0.10%	1.56%	0.00%	7.50%	0.01%
eBay Inc	EBAY	0.12%	1.18%	0.00%	16.50%	0.02%
Goldman Sachs Group Inc/The	GS	0.37%	1.34%	0.00%	7.00%	0.03%
SBA Communications Corp	SBAC	0.10%	0.78%	0.00%	43.50%	0.04%
Sempra Energy	SRE	0.12%	3.25%	0.00%	10.00%	0.01%
Moody's Corp	MCO	0.18%	0.74%	0.00%	9.00%	0.02%
Booking Holdings Inc	BKNG	0.28%	n/a	n/a	14.00%	0.04%
F5 Networks Inc	FFIV	0.03%	n/a	n/a	7.00%	0.00%
Akamai Technologies Inc	AKAM	0.05%	n/a	n/a	9.50%	0.01%
Charles River Laboratories International Inc	CRL	0.05%	n/a	n/a	7.00%	0.00%

MarketAxess Holdings Inc	MKTX	0.05%	0.57%	0.00%	15.00%	0.01%
Devon Energy Corp	DVN	0.00%	1.66%	0.00%	0.00%	0.00%
Alphabet Inc	GOOGL	0.00%	n/a	n/a	0.00%	0.00%
Teleflex Inc	TFX	0.05%	0.34%	0.00%	14.50%	0.01%
Allegion plc	ALLE	0.04%	1.03%	0.00%	9.00%	0.00%
Netflix Inc	NFLX	0.65%	n/a	n/a	23.50%	0.15%
Agilent Technologies Inc	A	0.12%	0.56%	0.00%	11.00%	0.01%
Trimble Inc	TRMB	0.06%	n/a	n/a	14.50%	0.01%
Anthem Inc	ANTM	0.28%	1.14%	0.00%	12.50%	0.04%
CME Group Inc	CME	0.23%	1.65%	0.00%	8.00%	0.02%
Juniper Networks Inc	JNPR	0.03%	3.04%	0.00%	5.50%	0.00%
BlackRock Inc	BLK	0.39%	1.88%	0.01%	9.50%	0.04%
DTE Energy Co	DTE	0.08%	3.15%	0.00%	6.00%	0.00%
Celanese Corp	CE	0.05%	1.64%	0.00%	5.50%	0.00%
Nasdaq Inc	NDAQ	0.08%	1.29%	0.00%	5.00%	0.00%
Philip Morris International Inc	PM	0.44%	4.98%	0.02%	5.00%	0.02%
Ingersoll Rand Inc	IR	0.00%	n/a	n/a	0.00%	0.00%
salesforce.com Inc	CRM	0.64%	n/a	n/a	39.50%	0.25%
Huntington Ingalls Industries Inc	HII	0.03%	2.11%	0.00%	7.00%	0.00%
MetLife Inc	MET	0.17%	2.94%	0.00%	6.50%	0.01%
Under Armour Inc	UA	0.00%	n/a	n/a	0.00%	0.00%
Tapestry Inc	TPR	0.04%	n/a	n/a	1.50%	0.00%
CSX Corp	CSX	0.22%	1.12%	0.00%	8.50%	0.02%
Edwards Lifesciences Corp	EW	0.17%	n/a	n/a	13.00%	0.02%
Ameriprise Financial Inc	AMP	0.09%	1.74%	0.00%	13.00%	0.01%
Zebra Technologies Corp	ZBRA	0.08%	n/a	n/a	11.00%	0.01%
Zimmer Biomet Holdings Inc	ZBH	0.10%	0.57%	0.00%	8.50%	0.01%
CBRE Group Inc	CBRE	0.09%	n/a	n/a	8.50%	0.01%
Mastercard Inc	MA	1.03%	0.49%	0.01%	12.50%	0.13%
CarMax Inc	KMX	0.05%	n/a	n/a	11.00%	0.01%
Intercontinental Exchange Inc	ICE	0.19%	1.17%	0.00%	8.00%	0.01%
Fidelity National Information Services Inc	FIS	0.27%	1.05%	0.00%	28.00%	0.08%
Chipotle Mexican Grill Inc	CMG	0.11%	n/a	n/a	18.50%	0.02%
Wynn Resorts Ltd	WYNN	0.04%	n/a	n/a	27.00%	0.01%
Live Nation Entertainment Inc	LYV	0.00%	n/a	n/a	0.00%	0.00%
Assurant Inc	AIZ	0.03%	1.64%	0.00%	11.50%	0.00%
NRG Energy Inc	NRG	0.02%	4.04%	0.00%	-1.50%	0.00%
Monster Beverage Corp	MNST	0.15%	n/a	n/a	11.50%	0.02%
Regions Financial Corp	RF	0.07%	2.65%	0.00%	9.00%	0.01%
Mosaic Co/The	MOS	0.04%	0.83%	0.00%	30.00%	0.01%
Expedia Group Inc	EXPE	0.00%	n/a	n/a	0.00%	0.00%
Evergy Inc	EVRG	0.04%	3.45%	0.00%	8.00%	0.00%
Discovery Inc	DISCA	0.02%	n/a	n/a	15.50%	0.00%
CF Industries Holdings Inc	CF	0.03%	2.26%	0.00%	14.50%	0.00%
APA Corp	APA	0.00%	0.48%	0.00%	0.00%	0.00%
Leidos Holdings Inc	LDOS	0.04%	1.32%	0.00%	9.50%	0.00%
Alphabet Inc	GOOG	2.28%	n/a	n/a	15.00%	0.34%
Cooper Cos Inc/The	COO	0.06%	0.02%	0.00%	14.50%	0.01%
TE Connectivity Ltd	TEL	0.13%	1.47%	0.00%	8.00%	0.01%
Discover Financial Services	DFS	0.10%	1.50%	0.00%	5.50%	0.01%
Visa Inc	V	1.12%	0.56%	0.01%	12.00%	0.13%
Mid-America Apartment Communities Inc	MAA	0.05%	2.55%	0.00%	0.50%	0.00%
Xylem Inc/NY	XYL	0.06%	0.95%	0.00%	10.50%	0.01%
Marathon Petroleum Corp	MPC	0.12%	3.75%	0.00%	3.50%	0.00%
Advanced Micro Devices Inc	AMD	0.28%	n/a	n/a	24.00%	0.07%
Tractor Supply Co	TSCO	0.06%	1.14%	0.00%	9.50%	0.01%
ResMed Inc	RMD	0.09%	0.76%	0.00%	8.50%	0.01%
Mettler-Toledo International Inc	MTD	0.09%	n/a	n/a	11.50%	0.01%

Copart Inc	CPRT	0.09%	n/a	n/a	10.00%	0.01%
Fortinet Inc	FTNT	0.10%	n/a	n/a	19.00%	0.02%
Albemarle Corp	ALB	0.06%	0.93%	0.00%	4.00%	0.00%
Essex Property Trust Inc	ESS	0.06%	2.83%	0.00%	1.00%	0.00%
Realty Income Corp	O	0.07%	4.12%	0.00%	6.00%	0.00%
Westrock Co	WRK	0.05%	1.65%	0.00%	6.50%	0.00%
IHS Markit Ltd	INFO	0.12%	0.76%	0.00%	11.50%	0.01%
Westinghouse Air Brake Technologies Corp	WAB	0.05%	0.58%	0.00%	9.50%	0.00%
Pool Corp	POOL	0.05%	0.73%	0.00%	15.00%	0.01%
Western Digital Corp	WDC	0.07%	n/a	n/a	1.00%	0.00%
PepsiCo Inc	PEP	0.60%	2.91%	0.02%	6.00%	0.04%
Diamondback Energy Inc	FANG	0.04%	2.00%	0.00%	0.50%	0.00%
Maxim Integrated Products Inc	MXIM	0.08%	n/a	n/a	8.00%	0.01%
ServiceNow Inc	NOW	0.27%	n/a	n/a	44.50%	0.12%
Church & Dwight Co Inc	CHD	0.06%	1.18%	0.00%	8.00%	0.00%
Duke Realty Corp	DRE	0.05%	2.20%	0.00%	-2.50%	0.00%
Federal Realty Investment Trust	FRT	0.03%	3.71%	0.00%	-2.00%	0.00%
MGM Resorts International	MGM	0.06%	0.02%	0.00%	25.00%	0.02%
American Electric Power Co Inc	AEP	0.13%	3.44%	0.00%	6.50%	0.01%
PTC Inc	PTC	0.00%	n/a	n/a	0.00%	0.00%
JB Hunt Transport Services Inc	JBHT	0.05%	0.70%	0.00%	8.00%	0.00%
Lam Research Corp	LRCX	0.27%	0.80%	0.00%	12.50%	0.03%
Mohawk Industries Inc	MHK	0.04%	n/a	n/a	6.50%	0.00%
Pentair PLC	PNR	0.03%	1.16%	0.00%	5.50%	0.00%
Vertex Pharmaceuticals Inc	VRTX	0.16%	n/a	n/a	28.50%	0.04%
Amcor PLC	AMCR	0.00%	3.98%	0.00%	0.00%	0.00%
Facebook Inc	FB	2.30%	n/a	n/a	15.50%	0.36%
T-Mobile US Inc	TMUS	0.52%	n/a	n/a	8.50%	0.04%
United Rentals Inc	URI	0.07%	n/a	n/a	7.50%	0.01%
Alexandria Real Estate Equities Inc	ARE	0.08%	2.45%	0.00%	13.00%	0.01%
Honeywell International Inc	HON	0.47%	1.61%	0.01%	8.00%	0.04%
ABIOMED Inc	ABMD	0.04%	n/a	n/a	10.00%	0.00%
Delta Air Lines Inc	DAL	0.09%	n/a	n/a	49.00%	0.04%
United Airlines Holdings Inc	UAL	0.00%	n/a	n/a	0.00%	0.00%
Seagate Technology Holdings PLC	STX	0.06%	2.80%	0.00%	4.00%	0.00%
News Corp	NWS	0.00%	0.78%	0.00%	0.00%	0.00%
Centene Corp	CNC	0.13%	n/a	n/a	9.50%	0.01%
Martin Marietta Materials Inc	MLM	0.07%	0.63%	0.00%	6.00%	0.00%
Teradyne Inc	TER	0.06%	0.30%	0.00%	10.50%	0.01%
PayPal Holdings Inc	PYPL	0.89%	n/a	n/a	19.00%	0.17%
Tesla Inc	TSLA	0.00%	n/a	n/a	0.00%	0.00%
DISH Network Corp	DISH	0.04%	n/a	n/a	0.00%	0.00%
Alexion Pharmaceuticals Inc	ALXN	0.11%	n/a	n/a	19.50%	0.02%
Penn National Gaming Inc	PENN	0.04%	n/a	n/a	27.00%	0.01%
Dow Inc	DOW	0.00%	4.09%	0.00%	0.00%	0.00%
Everest Re Group Ltd	RE	0.03%	2.38%	0.00%	10.50%	0.00%
Teledyne Technologies Inc	TDY	0.06%	n/a	n/a	7.50%	0.00%
News Corp	NWSA	0.00%	0.74%	0.00%	0.00%	0.00%
Exelon Corp	EXC	0.13%	3.39%	0.00%	5.50%	0.01%
Global Payments Inc	GPN	0.17%	0.40%	0.00%	16.50%	0.03%
Crown Castle International Corp	CCI	0.24%	2.81%	0.01%	11.50%	0.03%
Aptiv PLC	APTIV	0.12%	n/a	n/a	15.50%	0.02%
Advance Auto Parts Inc	AAP	0.04%	2.11%	0.00%	11.00%	0.00%
Align Technology Inc	ALGN	0.14%	n/a	n/a	17.00%	0.02%
Illumina Inc	ILMN	0.17%	n/a	n/a	14.00%	0.02%
LKQ Corp	LKQ	0.04%	n/a	n/a	10.50%	0.00%
Nielsen Holdings PLC	NLSN	0.00%	0.88%	0.00%	0.00%	0.00%
Garmin Ltd	GRMN	0.08%	1.88%	0.00%	10.50%	0.01%

Zoetis Inc	ZTS	0.24%	0.57%	0.00%	10.00%	0.02%
Digital Realty Trust Inc	DLR	0.12%	3.06%	0.00%	7.00%	0.01%
Equinix Inc	EQIX	0.19%	1.56%	0.00%	14.50%	0.03%
Las Vegas Sands Corp	LVS	0.13%	n/a	n/a	19.00%	0.02%
Discovery Inc	DISCK	0.00%	n/a	n/a	0.00%	0.00%

Notes:

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[4] Source: Bloomberg Professional

[5] Source: Bloomberg Professional

[6] Equals [4] x [5]

[7] Source: Value Line

[8] Equals [4] x [7]

HISTORICAL BETA - 2011 - 2020

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
ALLETE, Inc.	ALE	0.70	0.70	0.75	0.80	0.80	0.75	0.80	0.65	0.65	0.85	0.75
Alliant Energy Corporation	LNT	0.75	0.70	0.75	0.80	0.80	0.70	0.70	0.60	0.60	0.85	0.73
Ameren Corporation	AEE	0.80	0.80	0.80	0.75	0.75	0.65	0.70	0.55	0.55	0.85	0.72
Duke Energy Corporation	DUK	0.65	0.60	0.65	0.60	0.65	0.60	0.60	0.50	0.50	0.85	0.62
Entergy Corporation	ETR	0.70	0.70	0.70	0.70	0.70	0.65	0.65	0.60	0.60	0.95	0.70
Energy, Inc.	EVRG								NMF	NMF	1.00	1.00
NextEra Energy, Inc.	NEE	0.75	0.70	0.70	0.70	0.75	0.65	0.65	0.55	0.55	0.90	0.69
NorthWestern Corporation	NWE	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.60	0.60	0.90	0.70
OGE Energy Corporation	OGE	0.80	0.75	0.85	0.90	0.95	0.90	0.95	0.85	0.75	1.10	0.88
Otter Tail Corporation	OTTR	0.90	0.90	0.95	0.90	0.85	0.85	0.90	0.75	0.70	0.85	0.86
Pinnacle West Capital Corporation	PNW	0.70	0.70	0.70	0.70	0.75	0.70	0.70	0.60	0.55	0.85	0.70
Portland General Electric Company	POR	0.75	0.75	0.75	0.80	0.80	0.70	0.70	0.60	0.60	0.85	0.73
Xcel Energy Inc.	XEL	0.65	0.65	0.65	0.70	0.65	0.60	0.60	0.55	0.50	0.80	0.64
Mean		0.74	0.72	0.75	0.75	0.76	0.70	0.72	0.62	0.60	0.89	0.75

Notes:

- [1] Value Line, dated November 4, 2011, November 25, 2011, and December 23, 2011.
- [2] Value Line, dated November 2, 2012, November 23, 2012, and December 21, 2012.
- [3] Value Line, dated November 1, 2013, November 22, 2013, and December 20, 2013.
- [4] Value Line, dated October 31, 2014, November 21, 2014, and December 19, 2014.
- [5] Value Line, dated October 30, 2015, November 20, 2015, and December 18, 2015.
- [6] Value Line, dated October 28, 2016, November 18, 2016, and December 16, 2016.
- [7] Value Line, dated October 27, 2017, November 17, 2017, and December 15, 2017.
- [8] Value Line, dated October 18, 2018, November 16, 2018, and December 14, 2018.
- [9] Value Line, dated October 25, 2019, November 15, 2019, and December 13, 2019.
- [10] Value Line, dated October 23, 2020, November 13, 2020, and December 11, 2020.
- [11] Average ([1] - [10])

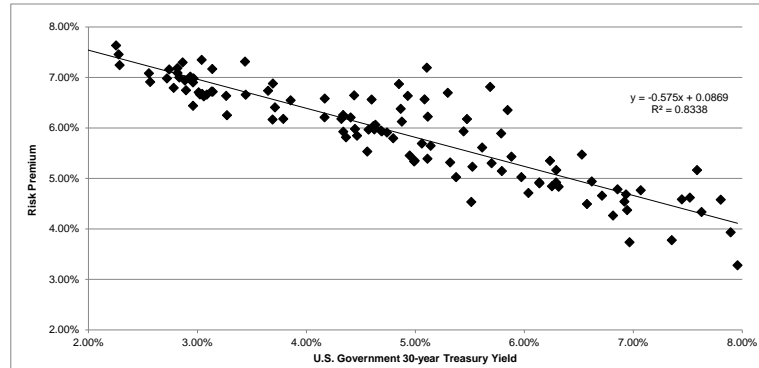


Risk Premium -- Vertically Integrated Electric Utilities

	[1]	[2]	[3]
	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
1992.1	12.38%	7.80%	4.58%
1992.2	11.83%	7.89%	3.93%
1992.3	12.03%	7.45%	4.59%
1992.4	12.14%	7.52%	4.62%
1993.1	11.84%	7.07%	4.77%
1993.2	11.64%	6.86%	4.79%
1993.3	11.15%	6.31%	4.84%
1993.4	11.04%	6.14%	4.90%
1994.1	11.07%	6.57%	4.49%
1994.2	11.13%	7.35%	3.78%
1994.3	12.75%	7.58%	5.17%
1994.4	11.24%	7.96%	3.28%
1995.1	11.96%	7.63%	4.34%
1995.2	11.32%	6.94%	4.37%
1995.3	11.37%	6.71%	4.66%
1995.4	11.58%	6.23%	5.35%
1996.1	11.46%	6.29%	5.17%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	6.96%	3.74%
1996.4	11.56%	6.62%	4.94%
1997.1	11.08%	6.81%	4.27%
1997.2	11.62%	6.93%	4.68%
1997.3	12.00%	6.53%	5.47%
1997.4	11.06%	6.14%	4.92%
1998.1	11.31%	5.88%	5.43%
1998.2	12.20%	5.85%	6.35%
1998.3	11.65%	5.47%	6.18%
1998.4	12.30%	5.10%	7.20%
1999.1	10.40%	5.37%	5.03%
1999.2	10.94%	5.79%	5.15%
1999.3	10.75%	6.04%	4.71%
1999.4	11.10%	6.25%	4.85%
2000.1	11.21%	6.29%	4.92%
2000.2	11.00%	5.97%	5.03%
2000.3	11.68%	5.79%	5.89%
2000.4	12.50%	5.69%	6.81%
2001.1	11.38%	5.44%	5.93%
2001.2	11.00%	5.70%	5.30%
2001.3	10.76%	5.52%	5.23%
2001.4	11.99%	5.30%	6.70%
2002.1	10.05%	5.51%	4.54%
2002.2	11.23%	5.61%	5.61%
2002.3	11.65%	5.08%	6.57%
2002.4	11.57%	4.93%	6.64%
2003.1	11.72%	4.85%	6.87%
2003.2	11.16%	4.60%	6.56%
2003.3	10.50%	5.11%	5.39%
2003.4	11.34%	5.11%	6.23%
2004.1	11.00%	4.88%	6.12%
2004.2	10.64%	5.32%	5.32%
2004.3	10.75%	5.06%	5.69%
2004.4	11.24%	4.86%	6.38%
2005.1	10.63%	4.69%	5.93%
2005.2	10.31%	4.47%	5.85%
2005.3	11.08%	4.44%	6.65%
2005.4	10.63%	4.68%	5.95%
2006.1	10.70%	4.63%	6.06%
2006.2	10.79%	5.14%	5.65%
2006.3	10.35%	4.99%	5.35%

Risk Premium -- Vertically Integrated Electric Utilities

	[1]	[2]	[3]
	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
2006.4	10.65%	4.74%	5.91%
2007.1	10.59%	4.80%	5.80%
2007.2	10.33%	4.99%	5.34%
2007.3	10.40%	4.95%	5.45%
2007.4	10.65%	4.61%	6.04%
2008.1	10.62%	4.41%	6.21%
2008.2	10.54%	4.57%	5.97%
2008.3	10.43%	4.44%	5.98%
2008.4	10.39%	3.65%	6.74%
2009.1	10.75%	3.44%	7.31%
2009.2	10.75%	4.17%	6.58%
2009.3	10.50%	4.32%	6.18%
2009.4	10.59%	4.34%	6.26%
2010.1	10.59%	4.62%	5.97%
2010.2	10.18%	4.36%	5.82%
2010.3	10.40%	3.86%	6.55%
2010.4	10.38%	4.17%	6.21%
2011.1	10.09%	4.56%	5.53%
2011.2	10.26%	4.34%	5.92%
2011.3	10.57%	3.69%	6.88%
2011.4	10.39%	3.04%	7.35%
2012.1	10.30%	3.14%	7.17%
2012.2	9.95%	2.93%	7.02%
2012.3	9.90%	2.74%	7.16%
2012.4	10.16%	2.86%	7.30%
2013.1	9.85%	3.13%	6.72%
2013.2	9.86%	3.14%	6.72%
2013.3	10.12%	3.71%	6.41%
2013.4	9.97%	3.79%	6.18%
2014.1	9.86%	3.69%	6.17%
2014.2	10.10%	3.44%	6.66%
2014.3	9.90%	3.26%	6.64%
2014.4	9.94%	2.96%	6.98%
2015.1	9.64%	2.55%	7.08%
2015.2	9.83%	2.88%	6.94%
2015.3	9.40%	2.96%	6.44%
2015.4	9.86%	2.96%	6.90%
2016.1	9.70%	2.72%	6.98%
2016.2	9.48%	2.57%	6.91%
2016.3	9.74%	2.28%	7.46%
2016.4	9.83%	2.83%	7.00%
2017.1	9.72%	3.04%	6.67%
2017.2	9.64%	2.90%	6.75%
2017.3	10.00%	2.82%	7.18%
2017.4	9.91%	2.82%	7.09%
2018.1	9.69%	3.02%	6.66%
2018.2	9.75%	3.09%	6.66%
2018.3	9.69%	3.06%	6.63%
2018.4	9.52%	3.27%	6.25%
2019.1	9.72%	3.01%	6.71%
2019.2	9.58%	2.78%	6.79%
2019.3	9.53%	2.29%	7.24%
2019.4	9.89%	2.25%	7.63%
2020.1	9.72%	1.89%	7.83%
2020.2	9.58%	1.38%	8.20%
2020.3	9.30%	1.37%	7.93%
2020.4	9.56%	1.62%	7.94%
2021.1	9.45%	2.07%	7.38%
2021.2	9.73%	2.30%	7.42%
AVERAGE	10.66%	4.65%	6.02%
MEDIAN	10.60%	4.66%	6.17%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.913124318
R Square	0.83379602
Adjusted R Square	0.832363227
Standard Error	0.00421811
Observations	118

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.010354094	0.010354094	581.9375601	5.0666E-47
Residual	116	0.002063924	1.77924E-05		
Total	117	0.012418018			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.086887704	0.0011735	74.04150347	1.6798E-99	0.084563439	0.08921197	0.084563439	0.089211968
U.S. Govt. 30-year Treasury	-0.574984531	0.023835154	-24.12338202	5.0666E-47	-0.622193057	-0.527776	-0.622193057	-0.527776004

	[7]	[8]	[9]
	U.S. Govt. 30-year Treasury	Risk Premium	ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	2.30%	7.37%	9.67%
Blue Chip Near-Term Projected Forecast (Q3 2021 - Q3 2022) [5]	2.64%	7.17%	9.81%
Blue Chip Long-Term Projected Forecast (2023-2027) [6]	3.50%	6.68%	10.18%
<b>AVERAGE</b>			<b>9.88%</b>

Notes:

- [1] Source: Regulatory Research Associates, rate cases through May 31, 2021
- [2] Source: Bloomberg Professional, quarterly bond yields are the average of each trading day in the quarter
- [3] Equals Column [1] - Column [2]
- [4] Source: Bloomberg Professional, 30-day average as of May 31, 2021
- [5] Source: Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 2
- [6] Source: Blue Chip Financial Forecasts, Vol. 40, No. 6, June 1, 2021, at 14
- [7] See notes [4], [5], & [6]
- [8] Equals  $0.086888 + (-0.574985 \times \text{Column [7]})$
- [9] Equals Column [7] + Column [8]

EXPECTED EARNINGS ANALYSIS

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Company	Ticker	Value Line ROE 2024-2026	Value Line Total Capital 2020	Value Line Common Equity Ratio 2020	Total Equity 2020	Value Line Total Capital 2024-2026	Value Line Common Equity Ratio 2024-2026	Total Equity 2024-2026	Compound Annual Growth Rate	Adjustment Factor	Adjusted Return on Common Equity
ALLETE, Inc.	ALE	9.00%	3,888	59.00%	2,294	4,725	57.00%	2,693	3.26%	1.016	9.14%
Alliant Energy Corporation	LNT	10.50%	11,362	45.70%	5,192	14,500	46.00%	6,670	5.14%	1.025	10.76%
Ameren Corporation	AEE	10.00%	20,158	44.30%	8,930	27,100	49.00%	13,279	8.26%	1.040	10.40%
Duke Energy Corporation	DUK	9.50%	103,589	44.40%	45,994	120,900	43.50%	52,592	2.72%	1.013	9.63%
Entergy Corporation	ETR	11.00%	32,386	33.70%	10,914	40,500	35.50%	14,378	5.67%	1.028	11.30%
Energy, Inc.	EVRG	9.00%	17,924	48.70%	8,729	21,500	48.50%	10,428	3.62%	1.018	9.16%
NextEra Energy, Inc.	NEE	12.00%	78,457	46.50%	36,483	113,700	47.00%	53,439	7.93%	1.038	12.46%
NorthWestern Corporation	NWE	8.50%	4,409	47.20%	2,081	5,075	50.50%	2,563	4.25%	1.021	8.68%
OGE Energy Corporation	OGE	13.00%	7,126	51.00%	3,634	8,375	51.00%	4,271	3.28%	1.016	13.21%
Otter Tail Corporation	OTTR	12.50%	1,495	58.20%	870	1,825	59.50%	1,086	4.52%	1.022	12.78%
Pinnacle West Capital Corporation	PNW	11.00%	11,948	47.20%	5,639	17,025	42.00%	7,151	4.86%	1.024	11.26%
Portland General Electric Company	POR	10.00%	5,628	46.40%	2,611	6,550	47.50%	3,111	3.56%	1.018	10.18%
Xcel Energy Inc.	XEL	10.50%	34,220	42.60%	14,578	45,100	42.00%	18,942	5.38%	1.026	10.77%
Mean											10.75%
Median											10.76%

Notes:

[1] Source: Value Line, dated March 12, 2021; April 23, 2021; and May 14, 2021.

[2] Source: Value Line, dated March 12, 2021; April 23, 2021; and May 14, 2021.

[3] Source: Value Line, dated March 12, 2021; April 23, 2021; and May 14, 2021.

[4] Equals [2] x [3]

[5] Source: Value Line, dated March 12, 2021; April 23, 2021; and May 14, 2021.

[6] Source: Value Line, dated March 12, 2021; April 23, 2021; and May 14, 2021.

[7] Equals [5] x [6]

[8] Equals (7) / [4] ^ (1/5) - 1

[9] Equals 2 x (1 + [8]) / (2 + [8])

[10] Equals [1] x [9]

FLOTATION COST ADJUSTMENT										
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	
Company	Date [i]	Shares Issued (000)	Offering Price	Under-writing Discount [ii]	Offering Expense (\$000)	Net Proceeds Per Share	Total Flotation Costs (\$000)	Gross Equity Issue Before Costs (\$000)	Net Proceeds (\$000)	Flotation Cost Percentage
American Electric Power Company	4/1/2009	69,000	\$ 24.50	\$ 0.74	\$ 400	\$ 23.76	\$ 51,115	\$ 1,690,500	\$ 1,639,385	3.02%
American Electric Power Company	2/27/2003	56,000	\$ 20.95	\$ 0.63	\$ 550	\$ 20.31	\$ 35,746	\$ 1,173,200	\$ 1,137,454	3.05%
							\$ 86,861	\$ 2,863,700	\$ 2,776,839	3.03%

Notes:

[i] Offering Completion Date

[ii] Underwriting discount was calculated as the market price minus the offering price when not explicitly given in the prospectus.

The flotation cost adjustment is derived by dividing the dividend yield by  $1 - F$  (where  $F$  = flotation costs expressed in percentage terms), or by 0.9697, and adding that result to the constant growth rate to determine the cost of equity. Using the formulas shown previously in my testimony, the Constant Growth DCF calculation is modified as follows to accommodate an adjustment for flotation costs:

$$k = \frac{D \times (1 + 0.5g)}{P \times (1 - F)} + g$$

Company	Ticker	[10] Annualized Dividend	[11] Stock Price	[12] Dividend Yield	[13] Expected Dividend Yield	[14] Expected Adjusted for Flotation Costs	[15] Value Line Earnings Growth	[16] Yahoo! Finance Earnings Growth	[17] Zacks Earnings Growth	[18] Average Earnings Growth	[19] ROE	[20] ROE Adjusted for Flotation Costs
ALLETE, Inc.	ALE	\$2.52	\$70.03	3.60%	3.71%	3.83%	6.00%	7.00%	6.00%	6.33%	10.05%	10.16%
Alliant Energy Corporation	LNT	\$1.61	\$56.78	2.84%	2.91%	3.00%	5.50%	5.50%	5.50%	5.50%	8.41%	8.50%
Ameren Corporation	AEE	\$2.20	\$84.32	2.61%	2.70%	2.78%	6.00%	7.70%	7.30%	7.00%	9.70%	9.78%
Duke Energy Corporation	DUK	\$3.86	\$101.08	3.82%	3.93%	4.05%	7.00%	5.00%	5.20%	5.73%	9.66%	9.78%
Energy Corporation	ETR	\$3.80	\$106.82	3.56%	3.64%	3.75%	3.00%	5.80%	5.10%	4.63%	8.27%	8.39%
Evergy, Inc.	EVRG	\$2.14	\$63.02	3.40%	3.51%	3.62%	8.00%	5.80%	5.80%	6.53%	10.04%	10.15%
NextEra Energy, Inc.	NEE	\$1.54	\$75.18	2.05%	2.14%	2.21%	10.50%	8.01%	7.80%	8.77%	10.91%	10.98%
NorthWestern Corporation	NWE	\$2.48	\$66.12	3.75%	3.83%	3.95%	3.00%	4.46%	4.90%	4.12%	7.95%	8.07%
OGE Energy Corporation	OGE	\$1.61	\$33.62	4.79%	4.89%	5.04%	4.00%	3.80%	4.40%	4.07%	8.95%	9.11%
Otter Tail Corporation	OTTR	\$1.56	\$47.60	3.28%	3.39%	3.50%	7.00%	9.00%	4.70%	6.90%	10.29%	10.40%
Pinnacle West Capital Corporation	PNW	\$3.32	\$84.99	3.91%	3.99%	4.11%	5.00%	3.50%	4.00%	4.17%	8.15%	8.28%
Portland General Electric Company	POR	\$1.63	\$49.69	3.28%	3.41%	3.52%	8.50%	7.10%	8.60%	8.07%	11.48%	11.59%
Xcel Energy Inc.	XEL	\$1.83	\$71.08	2.57%	2.65%	2.74%	6.00%	6.20%	6.10%	6.10%	8.75%	8.84%
Mean											9.43%	9.54%
Flotation Cost Adjustment [15]												0.11%

Notes:

[1]-[3] Source: Company prospecti

[4] Equals [7] - [8] - [1] x [3]

[5] Equals [8]/[1]

[6] Equals [4] + ([1] x [3])

[7] Equals [1] x [2]

[8] Source: Company prospecti

[9] Equals [6] / [7]

[10] Source: Bloomberg Professional

[11] Source: Bloomberg Professional, equals 30-day average as of May 31, 2021

[12] Equals [10] / [11]

[13] Equals [12] x (1 + 0.5 x [18])

[14] Equals [13] / (1 - Flotation Cost)

[15] Source: Value Line

[16] Source: Yahoo! Finance

[17] Source: Zacks

[18] Equals Average ([15], [16], [17])

[19] Equals [13] + [18]

[20] Equals [14] + [18]

COMPARISON OF I&M AND PROXY GROUP COMPANIES  
RISK ASSESSMENT

Proxy Group Company	Operating Subsidiary	Jurisdiction	Service	Forward Test Year	Year-End Rate Base	Decoupling	New Capital		New Capital Total			
							Generation Capacity	Generic Infrastructure				
ALLETE, Inc.	ALLETE (Minnesota Power)	Minnesota	Electric	Yes	No	No	No	No	No			
Alliant Energy Corporation	Interstate Power & Light Co.	Iowa	Electric	Yes	No	No	No	No	No			
	Interstate Power & Light Co.	Iowa	Gas	Yes	No	No	No	No	No			
	Wisconsin Power & Light Co.	Wisconsin	Electric	Yes	No	No	No	No	No			
Ameren Corporation	Wisconsin Power & Light Co.	Wisconsin	Gas	Yes	No	No	No	No	No			
	Union Electric Co.	Missouri	Electric	No	Yes	Partial	No	Yes	Yes			
	Union Electric Co.	Missouri	Gas	No	Yes	Partial	No	Yes	Yes			
Ameren Illinois Co.	Ameren Illinois Co.	Illinois	Electric	No	Yes	Partial	No	No	No			
	Ameren Illinois Co.	Illinois	Gas	Yes	No	Partial	No	Yes	Yes			
	Ameren Illinois Co.	Illinois	Gas	Yes	No	Partial	No	Yes	Yes			
Duke Energy Corporation	Duke Energy Florida LLC	Florida	Electric	Yes	No	No	Yes	No	Yes			
	Duke Energy Indiana LLC	Indiana	Electric	Yes	Yes	Partial	Yes	Yes	Yes			
	Duke Energy Kentucky Inc.	Kentucky	Electric	Yes	No	Partial	No	No	No			
Duke Energy Kentucky Inc.	Duke Energy Kentucky Inc.	Kentucky	Gas	Yes	No	Partial	No	No	No			
	Duke Energy Carolinas LLC/Duke Energy Progress LLC	North Carolina	Electric	No	Yes	No	No	No	No			
	Piedmont Natural Gas Co. Inc.	North Carolina	Gas	No	Yes	Full	No	Yes	Yes			
Duke Energy Ohio Inc.	Duke Energy Ohio Inc.	Ohio	Electric	No	Yes	Partial	No	Yes	Yes			
	Duke Energy Ohio Inc.	Ohio	Gas	Yes	Yes	SFV	No	Yes	Yes			
	Duke Energy Carolinas LLC/Duke Energy Progress LLC	South Carolina	Electric	No	Yes	No	No	No	No			
Piedmont Natural Gas Co. Inc.	Piedmont Natural Gas Co. Inc.	South Carolina	Gas	No	Yes	Partial	No	No	No			
	Piedmont Natural Gas Co. Inc.	Tennessee	Gas	Yes	No	Partial	No	Yes	Yes			
	Piedmont Natural Gas Co. Inc.	Tennessee	Gas	Yes	No	Partial	No	Yes	Yes			
Entergy Corporation	Entergy Arkansas LLC	Arkansas	Electric	Yes	No	Partial	Yes	Yes	Yes			
	Entergy New Orleans LLC	Louisiana-NOCC	Electric	Yes	Yes	Partial	Yes	No	Yes			
	Entergy New Orleans LLC	Louisiana-NOCC	Gas	Yes	Yes	No	No	No	No			
Entergy Louisiana LLC	Entergy Louisiana LLC	Louisiana	Electric	Yes	Yes	Partial	Yes	Yes	Yes			
	Entergy Mississippi LLC	Mississippi	Electric	Yes	No	Partial	No	No	No			
	Entergy Texas Inc.	Texas	Electric	No	Yes	No	No	Yes	Yes			
Eversys, Inc.	Eversys Kansas Central Inc./Eversys Kansas South Inc.	Kansas	Electric	No	Yes	Partial	No	No	No			
	Eversys Metro Inc.	Kansas	Electric	No	Yes	No	No	Yes	Yes			
	Eversys Metro Inc./Eversys Missouri West Inc.	Missouri	Electric	No	Yes	Partial	No	Yes	Yes			
NextEra Energy, Inc.	Florida Power & Light Co.	Florida	Electric	Yes	No	No	Yes	No	Yes			
	Gulf Power Co.	Florida	Electric	Yes	No	No	Yes	No	Yes			
	Florida Utility Holdings Inc.	Florida	Gas	Yes	No	No	No	Yes	Yes			
NorthWestern Corporation	Lone Star Transmission LLC	Texas	Electric	No	Yes	No	No	Yes	Yes			
	NorthWestern Corporation	Montana	Electric	No	No	No	No	No	No			
	NorthWestern Corporation	Montana	Gas	No	No	No	No	No	No			
NorthWestern Corporation	NorthWestern Corporation	Nebraska	Gas	No	Yes	No	No	No	No			
	NorthWestern Corporation	South Dakota	Electric	No	No	No	No	No	No			
	NorthWestern Corporation	South Dakota	Gas	No	No	No	No	No	No			
OGE Energy Corporation	Oklahoma Gas and Electric Co.	Arkansas	Electric	No	No	Partial	Yes	No	Yes			
	Oklahoma Gas and Electric Co.	Oklahoma	Electric	No	Yes	Partial	No	Yes	Yes			
	Otter Tail Power Co.	Minnesota	Electric	No	No	No	No	No	No			
Otter Tail Corporation	Otter Tail Power Co.	North Dakota	Electric	Yes	No	No	Yes	Yes	Yes			
	Otter Tail Power Co.	South Dakota	Electric	No	No	No	Yes	Yes	Yes			
	Otter Tail Power Co.	South Dakota	Electric	No	No	No	Yes	Yes	Yes			
Pinnacle West Capital Corporation	Arizona Public Service Co.	Arizona	Electric	No	Yes	Partial	No	No	No			
	Portland General Electric Company	Oregon	Electric	Yes	Yes	Partial	Yes	No	Yes			
	Portland General Electric Company	Oregon	Electric	Yes	Yes	Partial	Yes	No	Yes			
Xcel Energy Inc.	Public Service Co. of Colorado	Colorado	Electric	No	No	No	Yes	Yes	Yes			
	Public Service Co. of Colorado	Colorado	Gas	No	Yes	Partial	No	Yes	Yes			
	Northern States Power Co. -Minnesota	Minnesota	Electric	Yes	No	Partial	No	No	No			
Northern States Power Co. -Minnesota	Northern States Power Co. -Minnesota	Minnesota	Gas	Yes	No	No	No	Yes	Yes			
	Northern States Power Co. -Minnesota	Minnesota	Gas	Yes	No	No	No	Yes	Yes			
	Northern States Power Co. -Minnesota	Minnesota	Gas	Yes	No	No	No	Yes	Yes			
Southwestern Public Service Co.	Southwestern Public Service Co.	New Mexico	Electric	No	Yes	No	No	No	No			
	Southwestern Public Service Co.	New Mexico	Electric	No	Yes	No	No	No	No			
	Southwestern Public Service Co.	New Mexico	Electric	Yes	No	No	No	Yes	Yes			
Northern States Power Co. -Minnesota	Northern States Power Co. -Minnesota	North Dakota	Electric	Yes	No	No	No	Yes	Yes			
	Northern States Power Co. -Minnesota	North Dakota	Gas	Yes	No	SFV	No	No	No			
	Northern States Power Co. -Minnesota	North Dakota	Gas	Yes	No	SFV	No	No	No			
Northern States Power Co. -Minnesota	Northern States Power Co. -Minnesota	South Dakota	Electric	No	No	Partial	Yes	Yes	Yes			
	Northern States Power Co. -Minnesota	South Dakota	Gas	No	No	Partial	Yes	Yes	Yes			
	Northern States Power Co. -Minnesota	South Dakota	Gas	No	No	Partial	Yes	Yes	Yes			
Southwestern Public Service Co.	Southwestern Public Service Co.	Texas	Electric	No	Yes	No	No	Yes	Yes			
	Southwestern Public Service Co.	Texas	Electric	Yes	No	No	No	No	No			
	Southwestern Public Service Co.	Texas	Electric	Yes	No	No	No	No	No			
Northern States Power Co. -Wisconsin	Northern States Power Co. -Wisconsin	Wisconsin	Electric	Yes	No	No	No	No	No			
	Northern States Power Co. -Wisconsin	Wisconsin	Gas	Yes	No	No	No	No	No			
	Northern States Power Co. -Wisconsin	Wisconsin	Gas	Yes	No	No	No	No	No			
Proxy Group Average				Forward	29	25	SFV	2	Yes	13	24	30
				Historical	27	31	Full	1	No	43	32	26
							Partial	22				
						No	31					
				Forward	51.8%	44.6%	RDM	44.6%	Yes	23.2%	42.9%	53.6%

Notes:

[1] - [2] Source: Regulatory Research Associates, effective as of May 31, 2021.

[3] - [5] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries not covered in this report were excluded from this exhibit.

[6] "Yes" if either column [4] or column [5] listed as "Yes", otherwise "No."

CAPITAL STRUCTURE ANALYSIS

Proxy Group Company	Ticker	COMMON EQUITY RATIO [1]								
		2021Q1	2020Q4	2020Q3	2020Q2	2020Q1	2019Q4	2019Q3	2019Q2	Average
ALLETE, Inc.	ALE	56.69%	58.05%	54.37%	55.82%	58.34%	59.55%	59.30%	60.87%	57.88%
Alliant Energy Corporation	LNT	51.51%	50.53%	50.88%	50.12%	50.84%	49.95%	50.45%	49.61%	50.49%
Ameren Corporation	AEE	52.15%	52.63%	53.04%	52.20%	50.80%	51.05%	51.63%	51.14%	51.83%
Duke Energy Corporation	DUK	52.51%	52.05%	52.42%	51.82%	51.37%	52.24%	52.13%	51.77%	52.04%
Entergy Corporation	ETR	44.94%	46.00%	47.68%	47.65%	47.31%	48.03%	47.55%	46.74%	46.99%
Evergy, Inc.	EVRG		58.26%	58.71%	56.61%	56.48%	57.92%	58.44%	56.35%	57.54%
NextEra Energy, Inc.	NEE	60.68%	58.13%	60.08%	62.57%	58.70%	56.64%	58.24%	59.90%	59.37%
NorthWestern Corporation	NWE	46.04%	46.12%	47.15%	47.49%	47.78%	47.59%	47.80%	48.07%	47.26%
OGE Energy Corporation	OGE	53.10%	53.04%	52.78%	53.09%	55.28%	55.15%	54.96%	53.47%	53.86%
Otter Tail Corporation	OTTR	52.34%	53.60%	52.72%	52.84%	50.85%	51.12%	52.11%	52.67%	52.28%
Pinnacle West Capital Corporation	PNW	50.67%	51.35%	51.58%	50.91%	51.65%	52.80%	54.24%	52.51%	51.96%
Portland General Electric Company	POR	46.17%	44.88%	45.94%	47.04%	49.90%	49.85%	51.78%	51.39%	48.37%
Xcel Energy Inc.	XEL	53.44%	53.79%	54.19%	52.76%	53.84%	54.04%	53.99%	54.19%	53.78%
MEAN		51.69%	52.19%	52.42%	52.38%	52.55%	52.76%	53.28%	52.97%	52.59%
LOW		44.94%	44.88%	45.94%	47.04%	47.31%	47.59%	47.55%	46.74%	46.99%
HIGH		60.68%	58.26%	60.08%	62.57%	58.70%	59.55%	59.30%	60.87%	59.37%

Company Name	Ticker	COMMON EQUITY RATIO - UTILITY OPERATING COMPANIES [2]								
		2021Q1	2020Q4	2020Q3	2020Q2	2020Q1	2019Q4	2019Q3	2019Q2	Average
ALLETE (Minnesota Power)	ALE	56.68%	58.12%	54.30%	55.80%	58.32%	59.59%	59.33%	60.94%	57.89%
Superior Water, Light and Power Company	ALE	56.91%	55.60%	57.22%	56.66%	59.14%	58.08%	58.03%	58.38%	57.50%
Interstate Power and Light Company	LNT	50.73%	50.92%	50.68%	48.89%	49.75%	48.74%	48.56%	50.11%	49.80%
Wisconsin Power and Light Company	LNT	52.65%	49.96%	51.18%	51.95%	52.41%	51.71%	53.30%	48.92%	51.51%
Ameren Illinois Company	AEE	53.90%	54.68%	54.57%	55.46%	53.49%	52.22%	51.81%	52.17%	53.54%
Union Electric Company	AEE	50.57%	50.81%	51.59%	49.16%	48.36%	49.98%	51.47%	50.22%	50.27%
Duke Energy Carolinas, LLC	DUK	51.66%	51.30%	51.93%	51.30%	50.26%	52.05%	51.69%	51.17%	51.42%
Duke Energy Florida, LLC	DUK	51.98%	51.88%	51.86%	50.29%	50.16%	49.91%	51.38%	49.64%	50.89%
Duke Energy Indiana, LLC	DUK	54.32%	52.96%	52.58%	50.12%	50.22%	52.66%	51.52%	53.76%	52.27%
Duke Energy Kentucky, Inc.	DUK	47.71%	47.09%	47.96%	48.48%	46.90%	46.44%	45.44%	49.43%	47.43%
Duke Energy Ohio, Inc.	DUK	61.17%	61.55%	61.71%	61.73%	62.24%	62.67%	62.90%	63.12%	62.14%
Duke Energy Progress, LLC	DUK	50.59%	49.89%	50.65%	51.51%	51.18%	51.10%	50.63%	49.73%	50.66%
Entergy Arkansas, Inc.	ETR	46.62%	45.94%	44.42%	47.93%	47.46%	47.90%	47.72%	46.49%	46.81%
Entergy Louisiana, LLC	ETR	43.54%	45.62%	48.23%	46.62%	46.00%	47.47%	47.13%	46.32%	46.37%
Entergy Mississippi, Inc.	ETR	45.91%	48.19%	47.91%	47.09%	48.92%	48.60%	48.35%	44.93%	47.49%
Entergy New Orleans, LLC	ETR	43.23%	42.79%	46.69%	50.33%	49.02%	48.00%	47.91%	47.37%	46.92%
Entergy Texas, Inc.	ETR	47.26%	46.68%	51.82%	50.71%	50.08%	49.93%	48.13%	50.79%	49.43%
Kansas City Power & Light Company	EVRG		48.69%	48.77%	46.87%	45.82%	48.42%	49.70%	47.49%	47.97%
Kansas Gas and Electric Company	EVRG		82.66%	82.55%	82.18%	82.03%	81.96%	81.84%	81.49%	82.10%
KCP&L Greater Missouri Operations Company	EVRG		47.22%	49.89%	46.95%	45.68%	47.14%	47.94%	47.32%	47.45%
Westar Energy (KPL)	EVRG		56.66%	56.97%	54.25%	55.10%	56.04%	56.24%	53.34%	55.51%
Florida Power & Light Company	NEE	60.70%	57.81%	59.99%	63.02%	59.82%	57.82%	59.04%	59.95%	59.77%
Gulf Power Company	NEE	60.51%	60.94%	60.84%	58.47%	48.83%	45.12%	50.20%	59.36%	55.53%
NorthWestern Corporation	NWE	46.04%	46.12%	47.15%	47.49%	47.78%	47.59%	47.80%	48.07%	47.26%
Oklahoma Gas and Electric Company	OGE	53.10%	53.04%	52.78%	53.09%	55.28%	55.15%	54.96%	53.47%	53.86%
Otter Tail Corporation	OTTR	52.34%	53.60%	52.72%	52.84%	50.85%	51.12%	52.11%	52.67%	52.28%
Arizona Public Service Company	PNW	50.67%	51.35%	51.58%	50.91%	51.65%	52.80%	54.24%	52.51%	51.96%
Portland General Electric Company	POR	46.17%	44.88%	45.94%	47.04%	49.90%	49.85%	51.78%	51.39%	48.37%
Northern States Power Company - MN	XEL	51.37%	52.44%	52.20%	50.13%	52.55%	52.06%	51.78%	52.47%	51.87%
Northern States Power Company - WI	XEL	54.48%	53.34%	53.13%	52.61%	52.69%	52.32%	51.56%	52.01%	52.77%
Public Service Company of Colorado	XEL	54.91%	55.97%	56.26%	54.56%	55.67%	56.10%	56.31%	56.16%	55.74%
Southwestern Public Service Company	XEL	54.27%	52.03%	54.06%	54.22%	52.75%	54.14%	54.21%	54.14%	53.73%

Notes:

[1] Ratios are weighted by actual common capital, preferred capital, long-term debt, and short-term debt of Operating Subsidiaries.

[2] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

CAPITAL STRUCTURE ANALYSIS

Proxy Group Company	Ticker	LONG-TERM DEBT RATIO [1]								
		2021Q1	2020Q4	2020Q3	2020Q2	2020Q1	2019Q4	2019Q3	2019Q2	Average
ALLETE, Inc.	ALE	43.17%	41.79%	45.56%	44.10%	41.66%	40.45%	40.70%	39.13%	42.07%
Alliant Energy Corporation	LNT	45.62%	45.70%	46.28%	47.80%	45.77%	46.72%	47.67%	48.46%	46.75%
Ameren Corporation	AEE	44.55%	46.52%	44.79%	45.91%	47.22%	46.32%	44.66%	45.41%	45.67%
Duke Energy Corporation	DUK	45.90%	46.24%	47.05%	47.25%	47.38%	47.16%	46.93%	45.69%	46.70%
Entergy Corporation	ETR	54.96%	53.89%	52.21%	52.24%	52.57%	51.84%	52.32%	53.26%	52.91%
Entergy, Inc.	EVRG		40.35%	40.59%	40.97%	38.02%	38.92%	39.37%	37.42%	39.38%
NextEra Energy, Inc.	NEE	37.57%	38.04%	39.47%	36.74%	39.51%	38.77%	40.22%	37.84%	38.52%
NorthWestern Corporation	NWE	53.96%	51.66%	50.55%	50.20%	52.22%	52.41%	52.20%	51.93%	51.89%
OGE Energy Corporation	OGE	41.38%	46.96%	47.22%	46.91%	44.72%	44.85%	45.04%	46.53%	45.45%
Otter Tail Corporation	OTTR	44.03%	45.35%	47.28%	47.16%	49.15%	48.88%	41.90%	45.31%	46.13%
Pinnacle West Capital Corporation	PNW	47.72%	48.65%	48.42%	47.21%	44.60%	47.20%	45.74%	44.00%	46.69%
Portland General Electric Company	POR	50.38%	52.54%	50.08%	50.29%	49.73%	50.15%	48.22%	48.27%	49.96%
Xcel Energy Inc.	XEL	46.50%	44.33%	45.57%	47.21%	44.83%	45.50%	45.75%	43.88%	45.45%
MEAN		46.31%	46.31%	46.54%	46.46%	45.95%	46.09%	45.44%	45.16%	45.97%
LOW		37.57%	38.04%	39.47%	36.74%	38.02%	38.77%	39.37%	37.42%	38.52%
HIGH		54.96%	53.89%	52.21%	52.24%	52.57%	52.41%	52.32%	53.26%	52.91%

Company Name	Ticker	LONG-TERM DEBT RATIO - UTILITY OPERATING COMPANIES [2]								
		2021Q1	2020Q4	2020Q3	2020Q2	2020Q1	2019Q4	2019Q3	2019Q2	Average
ALLETE (Minnesota Power)	ALE	43.32%	41.88%	45.70%	44.20%	41.68%	40.41%	40.67%	39.06%	42.11%
Superior Water, Light and Power Company	ALE	37.49%	38.21%	39.86%	39.90%	40.86%	41.92%	41.97%	41.62%	40.23%
Interstate Power and Light Company	LNT	46.57%	46.38%	46.60%	48.30%	47.32%	48.28%	48.44%	46.70%	47.32%
Wisconsin Power and Light Company	LNT	44.23%	44.70%	45.79%	47.06%	43.52%	44.45%	46.51%	50.90%	45.89%
Ameren Illinois Company	AEE	42.16%	44.41%	41.90%	43.30%	45.00%	46.31%	43.32%	44.34%	43.84%
Union Electric Company	AEE	46.70%	48.39%	47.52%	48.34%	49.25%	46.33%	45.87%	46.36%	47.35%
Duke Energy Carolinas, LLC	DUK	46.39%	46.73%	48.07%	48.19%	49.74%	47.84%	48.11%	45.48%	47.57%
Duke Energy Florida, LLC	DUK	46.13%	46.77%	47.68%	48.08%	47.62%	50.09%	45.89%	46.65%	47.37%
Duke Energy Indiana, LLC	DUK	45.68%	45.59%	46.48%	49.88%	49.78%	46.99%	48.48%	44.29%	47.15%
Duke Energy Kentucky, Inc.	DUK	47.15%	47.96%	49.36%	45.92%	46.77%	47.62%	54.56%	43.77%	47.89%
Duke Energy Ohio, Inc.	DUK	35.95%	37.00%	37.57%	38.27%	32.63%	33.43%	34.02%	34.81%	35.46%
Duke Energy Progress, LLC	DUK	48.54%	48.52%	48.46%	47.12%	47.58%	48.54%	48.93%	49.56%	48.41%
Entergy Arkansas, Inc.	ETR	53.38%	54.06%	55.58%	52.07%	52.54%	52.10%	52.28%	53.51%	53.19%
Entergy Louisiana, LLC	ETR	56.46%	54.38%	51.77%	53.38%	54.00%	52.53%	52.87%	53.68%	53.63%
Entergy Mississippi, Inc.	ETR	54.09%	51.81%	52.09%	52.91%	51.08%	51.40%	51.65%	55.07%	52.51%
Entergy New Orleans, LLC	ETR	56.77%	57.21%	53.31%	49.67%	50.98%	52.00%	52.09%	52.63%	53.08%
Entergy Texas, Inc.	ETR	51.98%	52.55%	47.32%	48.41%	49.03%	49.08%	50.84%	49.21%	49.80%
Kansas City Power & Light Company	EVRG	51.31%	51.23%	52.59%	45.88%	47.83%	48.86%	48.21%	49.42%	
Kansas Gas and Electric Company	EVRG	17.34%	17.45%	17.82%	17.97%	18.04%	18.16%	18.51%	17.90%	
KCP&L Greater Missouri Operations Company	EVRG	43.64%	44.41%	43.79%	44.74%	46.50%	45.72%	44.14%	44.71%	
Westar Energy (KPL)	EVRG	42.69%	43.03%	42.95%	40.03%	40.63%	41.29%	36.79%	41.06%	
Florida Power & Light Company	NEE	38.10%	38.47%	40.01%	36.76%	39.64%	38.17%	39.71%	37.85%	38.59%
Gulf Power Company	NEE	32.85%	34.17%	34.74%	36.59%	38.41%	44.58%	45.39%	37.72%	38.06%
NorthWestern Corporation	NWE	53.96%	51.66%	50.55%	50.20%	52.22%	52.41%	52.20%	51.93%	51.89%
Oklahoma Gas and Electric Company	OGE	41.38%	46.96%	47.22%	46.91%	44.72%	44.85%	45.04%	46.53%	45.45%
Otter Tail Corporation	OTTR	44.03%	45.35%	47.28%	47.16%	49.15%	48.88%	41.90%	45.31%	46.13%
Arizona Public Service Company	PNW	47.72%	48.65%	48.42%	47.21%	44.60%	47.20%	45.74%	44.00%	46.69%
Portland General Electric Company	POR	50.38%	52.54%	50.08%	50.29%	49.73%	50.15%	48.22%	48.27%	49.96%
Northern States Power Company - MN	XEL	48.62%	46.16%	47.79%	49.86%	47.44%	47.67%	48.20%	45.30%	47.63%
Northern States Power Company - WI	XEL	44.88%	45.71%	46.87%	47.39%	43.28%	44.16%	44.71%	45.22%	45.28%
Public Service Company of Colorado	XEL	45.03%	42.54%	43.22%	45.37%	42.72%	43.51%	43.61%	41.46%	43.43%
Southwestern Public Service Company	XEL	45.73%	44.03%	45.77%	45.78%	44.69%	45.86%	45.79%	45.86%	45.44%

Notes:

[1] Ratios are weighted by actual common capital, preferred capital, long-term debt, and short-term debt of Operating Subsidiaries.

[2] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.



CAPITAL STRUCTURE ANALYSIS

Proxy Group Company	Ticker	PREFERRED EQUITY RATIO [1]								Average
		2021Q1	2020Q4	2020Q3	2020Q2	2020Q1	2019Q4	2019Q3	2019Q2	
ALLETE, Inc.	ALE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Alliant Energy Corporation	LNT	1.61%	1.61%	1.63%	1.69%	1.74%	1.77%	1.80%	1.85%	1.71%
Ameren Corporation	AEE	0.65%	0.75%	0.80%	0.82%	0.85%	0.87%	0.89%	0.90%	0.82%
Duke Energy Corporation	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Corporation	ETR	0.10%	0.11%	0.11%	0.12%	0.12%	0.13%	0.13%	0.00%	0.10%
Evergy, Inc.	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NextEra Energy, Inc.	NEE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OGE Energy Corporation	OGE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Otter Tail Corporation	OTTR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pinnacle West Capital Corporation	PNW	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Xcel Energy Inc.	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MEAN		0.20%	0.19%	0.20%	0.20%	0.21%	0.21%	0.22%	0.21%	0.20%
LOW		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
HIGH		1.61%	1.61%	1.63%	1.69%	1.74%	1.77%	1.80%	1.85%	1.71%

Company Name	Ticker	PREFERRED EQUITY RATIO - UTILITY OPERATING COMPANIES [2]								Average
		2021Q1	2020Q4	2020Q3	2020Q2	2020Q1	2019Q4	2019Q3	2019Q2	
ALLETE (Minnesota Power)	ALE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Superior Water, Light and Power Company	ALE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Interstate Power and Light Company	LNT	2.71%	2.70%	2.72%	2.82%	2.93%	2.98%	2.99%	3.18%	2.88%
Wisconsin Power and Light Company	LNT	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ameren Illinois Company	AEE	0.52%	0.69%	0.72%	0.74%	0.77%	0.79%	0.81%	0.83%	0.73%
Union Electric Company	AEE	0.77%	0.80%	0.88%	0.90%	0.92%	0.95%	0.96%	0.97%	0.89%
Duke Energy Carolinas, LLC	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Florida, LLC	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Indiana, LLC	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Kentucky, Inc.	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Ohio, Inc.	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Progress, LLC	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Arkansas, Inc.	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Louisiana, LLC	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Mississippi, Inc.	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy New Orleans, LLC	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Texas, Inc.	ETR	0.76%	0.77%	0.86%	0.88%	0.89%	0.99%	1.03%	0.00%	0.77%
Kansas City Power & Light Company	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kansas Gas and Electric Company	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KCP&L Greater Missouri Operations Company	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Westar Energy (KPL)	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Florida Power & Light Company	NEE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gulf Power Company	NEE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Oklahoma Gas and Electric Company	OGE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Otter Tail Corporation	OTTR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Arizona Public Service Company	PNW	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Northern States Power Company - MN	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Northern States Power Company - WI	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Public Service Company of Colorado	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Southwestern Public Service Company	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Notes:

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