

MONTANA-DAKOTA UTILITIES CO.  
BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION  
DOCKET NO. NG23-\_\_\_\_  
PREPARED DIRECT TESTIMONY OF  
CHRISTOPHER M. WALL

1 **Q1. Please state your name and business address.**

2 A1. My name is Christopher M. Wall. My business address is One Beacon Street, Suite 2600,  
3 Boston, Massachusetts 02108. I am employed by The Brattle Group (“Brattle”) as a Senior  
4 Associate.

5 **Q2. Please describe your education and experience.**

6 A2. I hold a B.A. in Mathematics and Economics from Saint Peter’s College where I graduated  
7 Summa Cum Laude and a Master’s degree in Economics from Northeastern University. I  
8 have more than ten years of experience consulting in the energy industry and have been  
9 involved with numerous topics for rate regulated natural gas, water, and electric utilities in  
10 North America, including cost of capital, cost of service, demand forecasting, and rate  
11 design. The majority of my assignments over the past few years have focused on the  
12 determination of the cost of capital for ratemaking purposes. I have also included my  
13 resume and a summary of the testimony I have filed in other proceedings in Exhibit No.  
14 \_\_\_\_ (CMW-2), Schedule 1.

15 **Q3. On whose behalf are you submitting this testimony?**

16 A3. I am submitting this direct testimony before the South Dakota Public Utilities Commission  
17 (“Commission”) on behalf of Montana-Dakota Utilities Co. My testimony addresses the

1 regulated gas utility operations of Montana-Dakota Utilities Co. in South Dakota  
2 (“Montana-Dakota” or the “Company”).

3 **I. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY**

4 **Q4. Please describe the purpose of your testimony.**

5 A4. The purpose of my Direct Testimony is to present evidence and provide a recommendation  
6 regarding Montana-Dakota’s return on equity (“ROE”) for its natural gas utility operations  
7 in South Dakota to be used for ratemaking purposes. I also address the appropriateness of  
8 the Company’s proposed capital structure.

9 **Q5. Are you sponsoring any schedules in support of your Direct Testimony?**

10 A5. Yes. My analysis and recommendations are supported by the data presented in Exhibit No.  
11 \_\_\_\_(CMW-2), Schedules 2 through 13, which were prepared by me or under my direction.

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

13 A6. I have estimated the cost of equity by applying traditional estimation methodologies to a  
14 proxy group of comparable utilities, including the constant growth form of the Discounted  
15 Cash Flow (“DCF”) model, the Capital Asset Pricing Model (“CAPM”), the Empirical  
16 Capital Asset Pricing Model (“ECAPM”), and a Bond Yield Risk Premium (“BYRP” or  
17 “Risk Premium”) analysis. My recommendation also takes into consideration: (1) the  
18 Company’s small size relative to the proxy group; (2) flotation costs; (3) the Company’s  
19 anticipated capital expenditure requirements; and (4) the Company’s regulatory risk as  
20 compared with the proxy group. Finally, I considered the Company’s capital structure as  
21 compared with the capital structures of the proxy companies. While I do not make specific  
22 adjustments to my ROE recommendation for these factors, I did consider them in the

1 aggregate when determining where my recommended ROE falls within the range of the  
2 analytical results.

3 **Q7. How is the remainder of your testimony organized?**

4 A7. The remainder of my testimony is organized as follows:

- 5 • Section II provides a summary of my analyses and conclusions.
- 6 • Section III reviews the regulatory guidelines pertinent to the development of the  
7 cost of capital.
- 8 • Section IV discusses current and projected capital market conditions and the effect  
9 of those conditions the cost of equity.
- 10 • Section V explains my selection of the proxy group.
- 11 • Section VI describes my cost of equity estimates and the analytical basis for my  
12 recommendation of the appropriate ROE for Montana-Dakota.
- 13 • Section VII provides a discussion of specific regulatory, business, and financial  
14 risks that have a direct bearing on the ROE to be authorized for the Company in  
15 this case.
- 16 • Section VIII provides an assessment of the reasonableness of the Company's  
17 proposed capital structure relative to the proxy group.
- 18 • Section IX presents my conclusions and recommendations.

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

20 **Q8. Please summarize the key factors considered in your analyses and upon which you  
21 base your recommended ROE.**

22 A8. In developing my recommended ROE for Montana-Dakota, I considered the following:

- 23 • The United States Supreme Court's *Hope* and *Bluefield* decisions<sup>1</sup> established the  
24 standards for determining a fair and reasonable authorized ROE for public utilities,  
25 including consistency of the allowed return with the returns of other businesses having

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

1 similar risk, adequacy of the return to provide access to capital and support credit  
2 quality, and the requirement that the result lead to just and reasonable rates.

3 • The effect of current and projected capital market conditions on ROE estimation  
4 models and on investors' return requirements.

5 • The results of several analytical approaches that provide estimates of the Company's  
6 cost of equity. Because the Company's authorized ROE should be a forward-looking  
7 estimate over the period during which the rates will be in effect, these analyses rely on  
8 forward-looking inputs and assumptions (*e.g.*, projected analyst growth rates in the  
9 DCF model, forecasted risk-free rate and market risk premium in the CAPM analysis.)

10 • Although the companies in my proxy group are generally comparable to Montana-  
11 Dakota, each company is unique, and no two companies have the exact same business  
12 and financial risk profiles. Accordingly, I considered the Company's regulatory,  
13 business, and financial risks relative to the proxy group of comparable companies in  
14 determining where the Company's ROE should fall within the reasonable range of  
15 analytical results to appropriately account for any residual differences in risk.

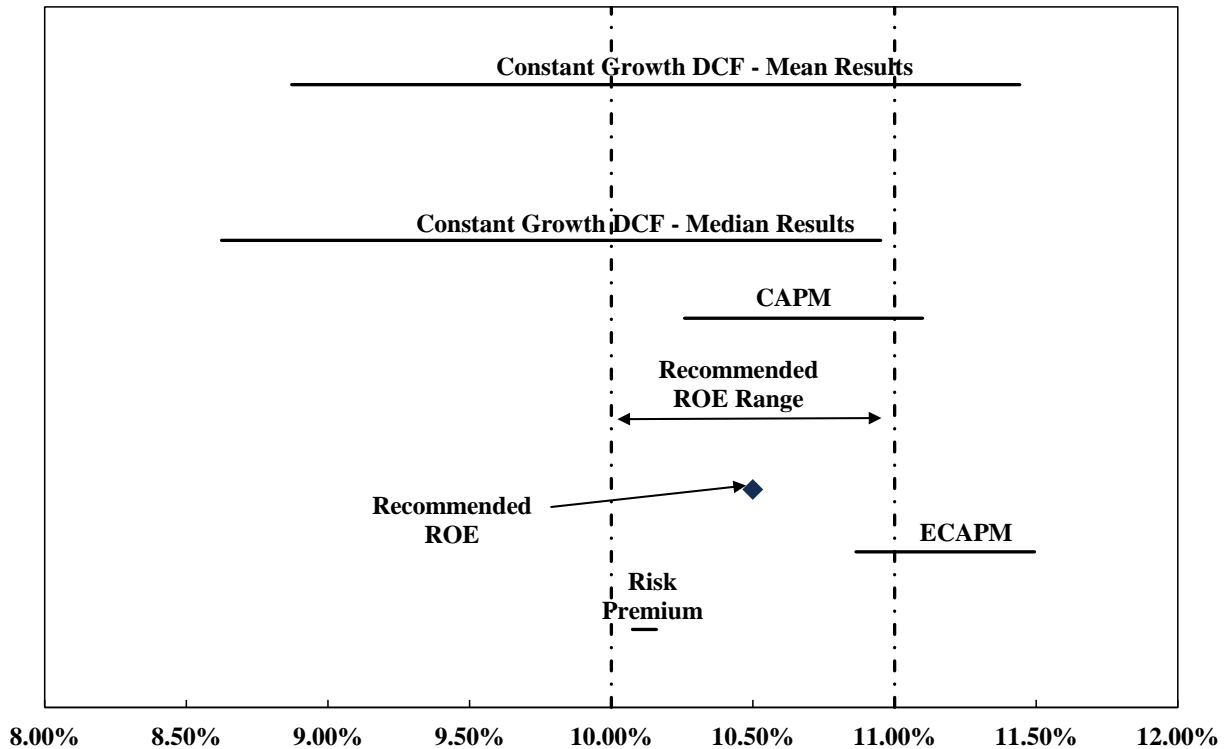
16 **Q9. What are the results of the models that you have used to estimate the cost of equity**  
17 **for Montana-Dakota?**

18 A9. Figure 1 summarizes the range of results produced by the constant growth DCF, CAPM,  
19 ECAPM, and Bond Yield Risk Premium analyses.<sup>2</sup>

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<sup>2</sup> The cost of equity model results are also summarized in Exhibit No. \_\_\_\_ (CMW-2), Schedule 2.

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**Figure 1: Summary of Cost of Equity Model Results**

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As shown in Figure 1 (and Exhibit No. \_\_\_\_(CMW-2), Schedule 2), the range of results produced by the cost of equity estimation models is wide. While it is common to consider multiple models to estimate the cost of equity, it is particularly important when the range of results varies considerably across methodologies. As a result, my ROE recommendation considers the range of results of the Constant Growth DCF model, as well as the results of the CAPM, ECAPM, and Bond Yield Plus Risk Premium analyses. My ROE recommendation also considers Montana-Dakota's company-specific risk factors and current and prospective capital market conditions.

1 **Q10. Why is it important to consider prospective capital market conditions in setting the**  
2 **ROE in this proceeding?**

3 A10. Capital market conditions are expected to affect the results of the cost of equity estimation  
4 models. Specifically:

- 5 • Inflation is expected to persist over the near-term, which increases the operating  
6 risk of the utility during the period in which rates will be in effect.
- 7 • Long-term interest rates have increased substantially in the past year and are  
8 expected to remain elevated at least over the next year in response to inflation.
- 9 • Since utility dividend yields are now less attractive than the risk-free rates of  
10 government bonds, and interest rates are expected to remain near current levels over  
11 the next year, it is likely that utility share prices will decline.
- 12 • Rating agencies have responded to the risks of the utility sector, with Moody's  
13 Investors Service ("Moody's") most recently indicating its outlook for the industry  
14 in 2023 is "negative," citing factors such as interest rates and inflation that create  
15 pressure for customer affordability and prompt rate recovery.
- 16 • Similarly, equity analysts have noted the increased risk for the utility sector as a  
17 result of rising interest rates and expect the sector to underperform over the near-  
18 term.
- 19 • Consequently, the results of the DCF model, which relies on current utility share  
20 prices, may understate the cost of equity during the period that the Company's rates  
21 will be in effect.

22 It is appropriate to consider all of these factors when estimating a reasonable range of the  
23 investor-required cost of equity and the recommended ROE for Montana-Dakota.

24 **Q11. What is your recommended ROE for Montana-Dakota in this proceeding?**

25 A11. Considering the analytical results presented in Figure 1, current and prospective capital  
26 market conditions, and the Company's regulatory, business, and financial risk relative to  
27 the proxy group, I conclude that an ROE in the range of 10.00 percent to 11.00 percent is  
28 reasonable, and within that range, I recommend an ROE of 10.50 percent.

1 **Q12. Is the Company's requested capital structure reasonable?**

2 A12. Yes. The Company's proposed equity ratio of 50.392 percent is well within the range of  
3 equity ratios for the utility operating subsidiaries of the proxy group companies. Further,  
4 the Company's proposed equity ratio is reasonable considering the credit rating agencies  
5 concerns regarding the negative effect on the cash flows and credit metrics associated with  
6 increasing interest rates, inflation and commodity costs, and the pressure that those factors  
7 place on customer affordability and utilities' prompt rate recovery.

8 **III. REGULATORY GUIDELINES**

9 **Q13. Please describe the guiding principles to be used in establishing the cost of equity for**  
10 **a regulated utility.**

11 A13. The United States Supreme Court's precedent-setting *Hope and Bluefield* cases established  
12 the standards for determining the fairness or reasonableness of a utility's allowed ROE.  
13 Among the standards established by the Court in those cases are: (1) consistency with other  
14 businesses having similar or comparable risks; (2) adequacy of the return to support credit  
15 quality and access to capital; and (3) the principle that the result reached, as opposed to the  
16 methodology employed, is the controlling factor in arriving at just and reasonable rates.<sup>3</sup>

17 **Q14. Has the Commission provided similar guidance in establishing the appropriate return**  
18 **on common equity?**

19 A14. Yes. In Docket No. EL11-019 for Northern State Power Company, the Commission stated  
20 that:

21 Determining a reasonable ROE rests primarily on sound judgment looking  
22 at the overall results of the analysis. Under SDCL 49-34A-8 and relevant

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<sup>3</sup> *Hope*, 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923).

1 case law, rates set in this proceeding must be just and reasonable. *Federal*  
2 *Power commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

3 The just and reasonable test focuses on whether the "total effect of the rate  
4 order [is] unreasonable." *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 310  
5 (1989). Under the just and reasonable test "it is the result reached, not the  
6 method employed that is controlling" and "the impact of the rate order  
7 which counts." *Hope, supra*, at 602. The South Dakota Supreme Court  
8 recognized that rates that do not yield a fair return are unreasonable. *In Re*  
9 *Northwestern Bell*, 43 N.W.2d 553, 555 (S.D. 1950). The rate of a return  
10 must be "commensurate with returns on other investments of corresponding  
11 risks" and "be sufficient ... to attract capital." *Northwestern Public Service*  
12 *v. Cities of Chamberlain et al*, 265 N.W.2d 867, 873 (S.D. 1978).

13 "The ratemaking process under the Act, i.e. the fixing of 'just and  
14 reasonable' rates, involves a balancing of the investor and the consumer  
15 interests." *Hope, supra*, at 603. "Regulation may, consistently with the  
16 Constitution, limit stringently the return recovered on investment, for  
17 investors' interests provide only one of the variables in the constitutional  
18 calculus of reasonableness." *Permian Basin Area Rate Cases*, 390 U.S. 747,  
19 769 (1968).<sup>4</sup>

20  
21 This guidance is in accordance with the *Hope* and *Bluefield* decisions and the principles  
22 that I employed to estimate the ROE for the Company, including the principle that an  
23 allowed rate of return must be sufficient to enable regulated companies like Montana-  
24 Dakota to attract capital on reasonable terms.

25 **Q15. Why is it important for a utility to be allowed the opportunity to earn an ROE that is**  
26 **adequate to attract capital at reasonable terms?**

27 A15. An ROE that is adequate to attract capital at reasonable terms enables the Company to  
28 continue to provide safe, reliable natural gas service while maintaining its financial  
29 integrity. That return should be commensurate with returns expected elsewhere in the  
30 market for investments of equivalent risk. If it is not, debt and equity investors will seek

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<sup>4</sup> South Dakota Public Utilities Commission, Docket No. EL11-019, Final Decision and Order, July 2, 2012, at 4.



1 alternative investment opportunities for which the expected return reflects the perceived  
2 risks, thereby inhibiting the Company's ability to attract capital at reasonable cost.

3 **Q16. Is a utility's ability to attract capital also affected by the ROEs authorized for other**  
4 **utilities?**

5 A16. Yes. Utilities compete directly for capital with other investments of similar risk, which  
6 include other electric, natural gas, and water utilities. Therefore, the ROE authorized for a  
7 utility sends an important signal to investors regarding whether there is regulatory support  
8 for financial integrity, dividends, growth, and fair compensation for business and financial  
9 risk. The cost of capital represents an opportunity cost to investors. If higher returns are  
10 available elsewhere for other investments of comparable risk over the same time-period,  
11 investors have an incentive to direct their capital to those alternative investments. Thus,  
12 an authorized ROE significantly below authorized ROEs for other electric, natural gas, and  
13 water utilities can inhibit the utility's ability to attract capital for investment.

14 While Montana-Dakota is committed to investing the required capital to provide safe and  
15 reliable service, because Montana-Dakota is a subsidiary of MDU Resources, the Company  
16 competes with the other MDU Resources subsidiaries for discretionary investment capital.  
17 In determining how to allocate its finite discretionary capital resources, it would be  
18 reasonable for MDU Resources to consider the authorized ROE of each of its subsidiaries.

19 **Q17. Is the regulatory framework and the authorized ROE and equity ratio important to**  
20 **the financial community?**

21 A17. Yes. The regulatory framework is one of the most important factors in debt and equity  
22 investors' assessments of risk. Specifically regarding debt investors, credit rating agencies

1 consider the authorized ROE and equity ratio for regulated utilities to be very important  
2 for two reasons: (1) they help determine the cash flows and credit metrics of the regulated  
3 utility; and (2) they provide an indication of the degree of regulatory support for credit  
4 quality in the jurisdiction. To the extent that the authorized returns in a jurisdiction are  
5 lower than the returns that have been authorized more broadly, credit rating agencies will  
6 consider this in the overall risk assessment of the regulatory jurisdiction in which the  
7 company operates. Not only do credit ratings affect the overall cost of borrowing, they  
8 also act as a signal to equity investors about the risk of investing in the equity of a company.

9 **Q18. What is the standard for setting the ROE in any jurisdiction?**

10 A18. The stand-alone ratemaking principle is the foundation of jurisdictional ratemaking. This  
11 principle requires that the rates that are charged in any operating jurisdiction be for the  
12 costs incurred in that jurisdiction. The stand-alone ratemaking principle ensures that  
13 customers in each jurisdiction only pay for the costs of the service provided in that  
14 jurisdiction, which is not influenced by the business operations in other operating  
15 companies. In order to maintain this principle, the cost of equity analysis is performed for  
16 an individual operating company as a stand-alone entity. As such, I have evaluated the  
17 investor-required return for the Montana-Dakota's natural gas operations in South Dakota.

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

19 A19. The ratemaking process is premised on the principle that, in order for investors and  
20 companies to commit the capital needed to provide safe and reliable utility services, a  
21 utility must have a reasonable opportunity to recover the return of, and the market-required  
22 return on, its invested capital. Accordingly, the Commission's order in this proceeding  
23 should establish rates that provide the Company with a reasonable opportunity to earn an

1 ROE that is: (1) adequate to attract capital at reasonable terms; (2) sufficient to ensure its  
2 financial integrity; and (3) commensurate with returns on investments in enterprises with  
3 similar risk. It is important for the ROE authorized in this proceeding to take into  
4 consideration current and projected capital market conditions, as well as investors'  
5 expectations and requirements for both risks and returns. Because utility operations are  
6 capital-intensive, regulatory decisions should enable the utility to attract capital at  
7 reasonable terms under a variety of economic and financial market conditions. Providing  
8 the opportunity to earn a market-based cost of capital supports the financial integrity of the  
9 Company, which is in the interest of both customers and shareholders.

#### 10 **IV. CAPITAL MARKET CONDITIONS**

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

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

20 Analysts and regulatory commissions recognize that current market conditions affect the  
21 results of the cost of equity estimation models. As a result, it is important to consider the  
22 effect of the market conditions on these models when determining an appropriate range for

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

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

8 A21. The cost of equity for regulated utility companies is affected by several factors in the  
9 current and prospective capital markets, including: (1) changes in monetary policy; (2)  
10 high inflation; and (3) increased interest rates that are expected to remain relatively high  
11 over the next few years. These factors affect the assumptions used in the cost of equity  
12 estimation models.

13 **Q22. What effect do current and prospective market conditions have on the cost of equity**  
14 **for Montana-Dakota?**

15 A22. As is discussed in more detail in the remainder of this section, the combination of  
16 persistently high inflation and the Federal Reserve's changes in monetary policy contribute  
17 to an expectation of increased market risk and an increase in the cost of the investor-  
18 required return. These factors must be considered in setting a forward-looking ROE.  
19 Inflation has recently been at some of the highest levels seen in approximately 40 years,  
20 and while inflation has declined from these recent peaks, it remains relatively high. Interest  
21 rates, which have increased from the pandemic lows seen in 2020 in direct response to the  
22 Federal Reserve's monetary policy, are expected to remain at near current levels over the  
23 next year. Since there is a strong historical inverse correlation between interest rates (i.e.,

1 yields on long-term government bonds) and the share prices of utility stocks (i.e., share  
2 prices of utility stocks typically fall when interest rates rise and vice versa) and the yields  
3 on long-term government bonds currently exceed the dividend yields of utilities when  
4 historically long-term government bond yields have been lower than the dividend yields of  
5 utilities, it is reasonable to expect that utility investors' required return is increasing.  
6 Therefore, as explained in further detail below, cost of equity estimates based solely on  
7 current market conditions will understate the cost of equity required by investors during  
8 the future period that the Company's rates determined in this proceeding will be in effect.

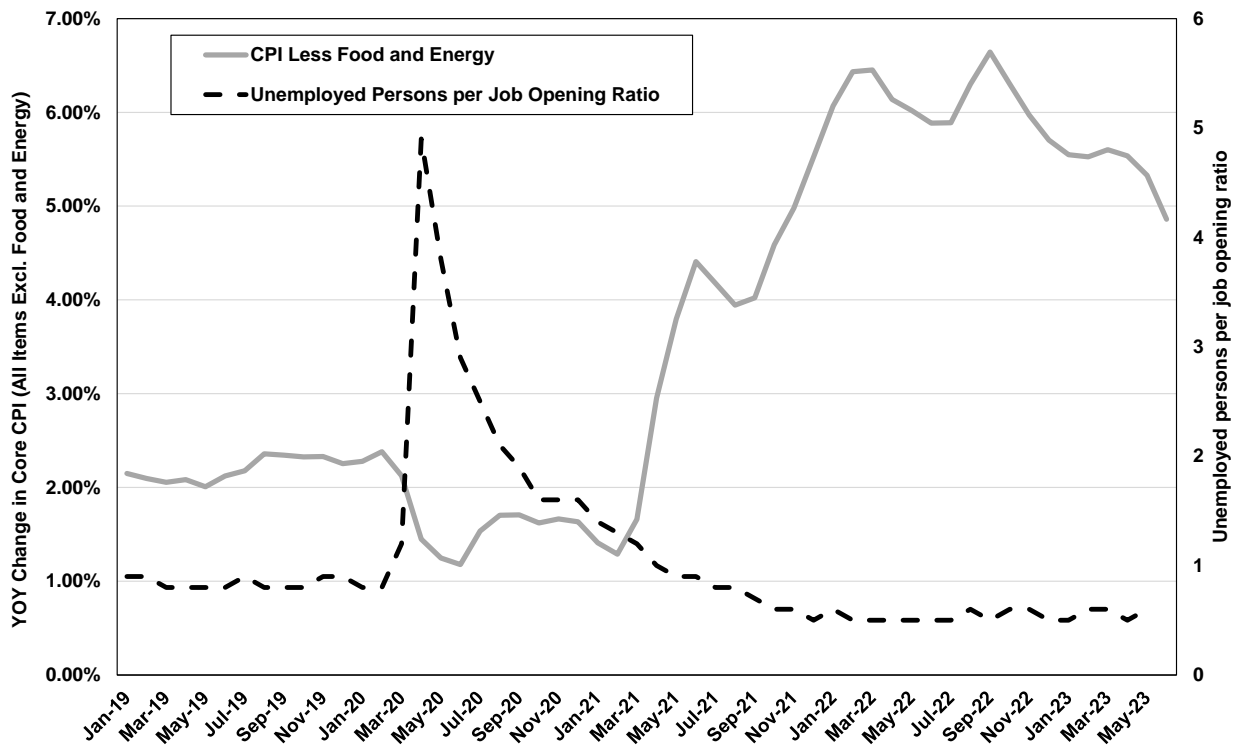
9 **A. Inflationary Expectations in Current and Projected Capital Market**  
10 **Conditions**

11 **Q23. Has inflation increased significantly over the past year?**

12 A23. Yes. Figure 2 presents the year-over-year ("YOY") change in core inflation as measured  
13 by the Consumer Price Index ("CPI") excluding food and energy prices as published by  
14 the Bureau of Labor Statistics. I considered core inflation because it is the preferred  
15 inflation indicator of the Federal Reserve for determining the direction of monetary policy.  
16 Core inflation is preferred by the Federal Reserve since it removes the effect of food and  
17 energy prices, which can be highly volatile. As shown in Figure 2, core inflation increased  
18 steadily beginning in early 2021, rising from 1.41 percent in January 2021 to a high of 6.64  
19 percent in September 2022, which was the largest 12-month increase since 1982. Since  
20 that time, while core inflation has declined in response to the Federal Reserve's monetary  
21 policy, core inflation continues to remain above the Federal Reserve's target level of 2.0  
22 percent.

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

8 **Figure 2: Core Inflation and Unemployed Persons-to-Job Openings,**  
 9 **January 2019 to June 2023<sup>5</sup>**



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<sup>5</sup> Bureau of Labor Statistics.

1 **Q24. What are the expectations for inflation over the near-term?**

2 A24. The Federal Reserve has indicated that it expects inflation will remain elevated above its  
3 target level over at least the next year and that monetary policy will remain restrictive in  
4 order to reduce inflation. For example, Federal Reserve Chair Powell at the Federal Open  
5 Market Committee (“FOMC”) meeting in July 2023 observed that while inflation is off of  
6 its recent highs, it remains significantly above the Federal Reserve’s long-term target and  
7 noted that further policy firming is possible including additional increases in the federal  
8 funds rate:

9 So, I'll just say again, the broader picture of what we want to see is we want  
10 to see easing of supply constraints and normalization of pandemic related  
11 distortions to demand and supply, we want to see economic growth running  
12 at moderate or modest levels to help ease inflationary pressures, we want to  
13 see continued restoration of supply and demand balance, particularly in the  
14 labor market, and all of that should lead to declining inflationary pressures.  
15 What we see is we see those pieces of the puzzle coming together and we're  
16 seeing evidence of those things now, but I would say that what our eyes are  
17 telling us is that policy has not been restrictive enough for long enough to  
18 have its full desired effects. So we intend, again, to keep policy restrictive  
19 until we're confident that inflation is coming down sustainably to our 2  
20 percent target, and we're prepared to further tighten if that is appropriate.  
21 And we think the process, you know, still probably has a long way to go.<sup>6</sup>

22 Chair Powell also continued to reiterate that “[r]educing inflation is likely to require a  
23 period of below-trend growth and some softening in labor market conditions.”<sup>7</sup>

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<sup>6</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, July 26, 2023, p 11.

<sup>7</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, July 26, 2023, p 3.

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

1                   **B. The Use of Monetary Policy to Address Inflation**  
2 **Q25. What policy actions has the Federal Reserve enacted to respond to increased**  
3 **inflation?**

4 A25. The dramatic increase in inflation has prompted the Federal Reserve to pursue an  
5 aggressive normalization of monetary policy, removing the accommodative policy  
6 programs used to mitigate the economic effects of COVID-19. Since the March 2022  
7 meeting, the Federal Reserve increased the target federal funds rate through a series of  
8 increases from 0.00 – 0.25 percent to 5.25 percent to 5.50 percent.<sup>8</sup> Further, as noted above,  
9 while the Federal Reserve acknowledges that inflation has declined from its peak, it still is  
10 well above the Federal Reserve’s target of 2 percent. Therefore, the Federal Reserve  
11 anticipates the continued need to maintain the federal funds rate at a restrictive level in  
12 order to achieve its goal of 2 percent inflation over the long-run.

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

13                   **C. The Effect of Inflation and Monetary Policy on Interest Rates and the**  
14                   **Investor-Required Return**  
15 **Q26. How have the yields on long-term government bonds increased in response to**  
16 **inflation and the Federal Reserve’s normalization of monetary policy?**

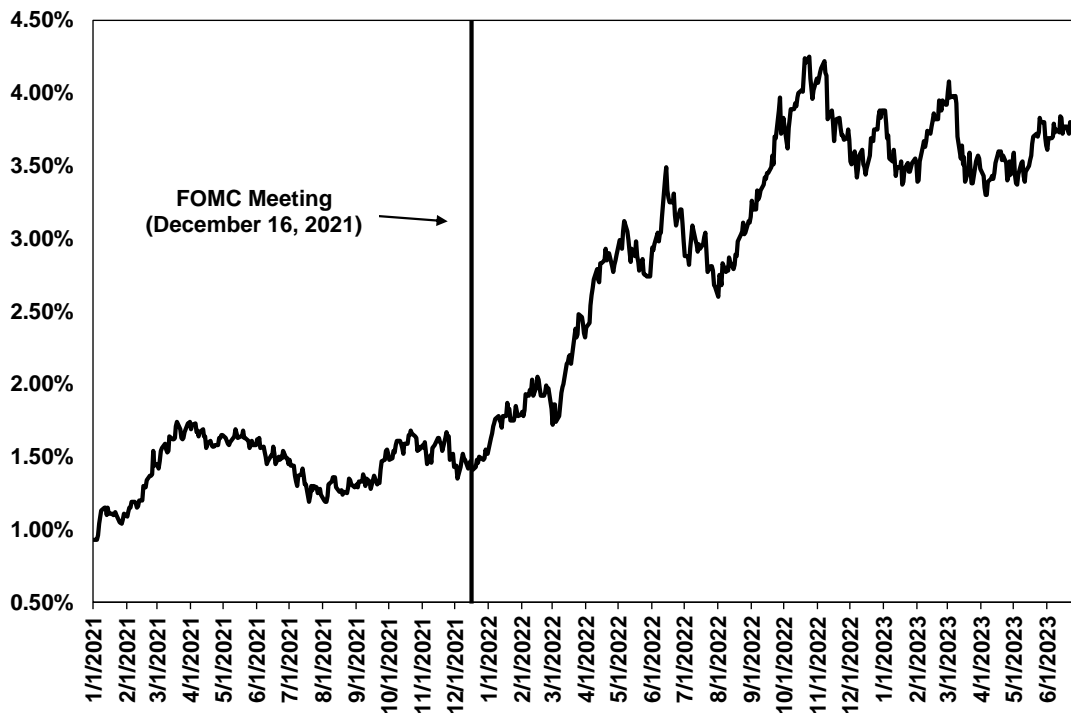
17 A26. As the Federal Reserve has substantially increased the federal funds rate in response to  
18 increased levels of inflation that have persisted for longer than originally projected, longer  
19 term interest rate have also increased. As shown in Figure 3, since the Federal Reserve’s  
20 December 2021 meeting, the yield on 10-year Treasury bonds has more than doubled,  
21 increasing from 1.47 percent on December 15, 2021 to 3.81 percent at the end of June 2023.

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<sup>8</sup> Federal Reserve, Press Releases, March 16, 2022, May 4, 2022, June 15, 2022, September 22, 2022, November 2, 2022, February 1, 2023, March 22, 2023, May 3, 2023, July 26, 2023. [Federal Reserve Board - Press Releases](#)



1 **Figure 3: 10-Year Treasury Bond Yield—January 2021 through June 30, 2023<sup>9</sup>**



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3 **Q27. What have equity analysts said about long-term government bond yields?**

4 A27. Leading equity analysts have noted that they expect the yields on long-term government  
 5 bonds to remain elevated through at least the end of 2024. According to the most recent  
 6 *Blue Chip Financial Forecasts* report, the consensus estimate of the average yield on the  
 7 10-year Treasury bond is approximately 3.50 percent through the fourth quarter of 2024.<sup>10</sup>  
 8 It is reasonable to expect that if government bond yields remain elevated the cost of equity  
 9 will be increasing above the levels experienced in the 2020 and 2021 lower interest rate  
 10 environment.

<sup>9</sup> S&P Capital IQ Pro.

<sup>10</sup> *Blue Chip Financial Forecasts*, Vol. 42, No. 7, June 30, 2023, p. 2.

1 **Q28. How have interest rates and inflation changed since the Company's last rate case?**

2 A28. As shown in Figure 4, when the Commission approved the settlement agreement in the  
3 Company's 2015 rate proceeding, interest rates (as measured by the 30-year Treasury bond  
4 yield) were 2.58 percent and core inflation was 2.26 percent. However, since the  
5 Company's last rate proceeding, long-term interest rates have increased by over 100 basis  
6 points, and inflation is significantly higher.

7 **Figure 4: Change in Market Conditions Since Montana-Dakota's Last Rate Case<sup>11</sup>**

<b>Docket</b>	<b>Decision Date</b>	<b>Federal Funds Rate</b>	<b>30-Day Average of 30-Year Treasury Bond Yield</b>	<b>Core Inflation Rate</b>
NG15-005	6/15/2016	0.37%	2.58%	2.26%
Current	6/30/2023	5.08%	3.89%	4.86%

8

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

11 **Q29. Are utility share prices correlated to changes in the yields on long-term government**  
12 **bonds?**

13 A29. Yes. Interest rates and utility share prices are inversely correlated, which means that  
14 increases in interest rates result in declines in the share prices of utilities and vice versa.  
15 For example, Goldman Sachs and Deutsche Bank examined the sensitivity of share prices  
16 of different industries to changes in interest rates over the past five years. Both Goldman  
17 Sachs and Deutsche Bank found that utilities had one of the strongest negative relationships

<sup>11</sup> St. Louis Federal Reserve Bank; Bureau of Labor Statistics.

1 with bond yields (*i.e.*, increases in bond yields resulted in the decline of utility share  
2 prices).<sup>12</sup>

3 **Q30. How do equity analysts expect the utility sector to perform in an increasing interest**  
4 **rate environment?**

5 A30. Equity analysts project that utilities will underperform the broader market given the  
6 increases in interest rates. Fidelity classifies the utility sector as underweight,<sup>13</sup> and  
7 Keybank Capital Markets analyst Sophie Karp recently noted she had a negative view of  
8 the sector in 2023 and expects a decline in the relative valuation of the utilities sector as  
9 compared to the S&P 500:

10 The utility sector's relative outperformance came on the back of the pre-  
11 recessionary environment in the U.S. in 2022, analyst Karp said. She noted  
12 that the sector now traded at a 2.8 times premium to the S&P 500 Index,  
13 which is relatively wide by historical standards.

14 *She said the utility sector is relatively overvalued and will see a mean*  
15 *reversion in 2023*, adding that the last time such a premium over the S&P  
16 500 Index happened was in 2004.

17 *"We are therefore negative on the sector overall going into 2023 and our*  
18 *OW picks grow fewer,"* Karp said

19 *There has been a surprising deterioration of the regulatory environment*  
20 *across multiple jurisdictions, including the historically stronger ones*, she  
21 noted. Some regulatory developments, according to the analyst, are driven  
22 by the regulator's desire to moderate the impact on customer bills. "Given  
23 that power and commodity prices remain elevated, we expect to continue  
24 seeing regulators getting 'creative' with assumptions and rate mechanisms  
25 to achieve that goal," she added.

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<sup>12</sup> Lee, Justina. "Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks." Bloomberg.com, March 11, 2021.

<sup>13</sup> Fidelity. "Third Quarter 2023 Investment Research Update." July 24, 2023.

1 Karp said she would focus on rate affordability, as inflationary pressures  
2 will likely be a factor for the foreseeable future.

3 “As we turn to 2023, we believe that the sector will find it difficult to defend  
4 this relative valuation position, particularly as macro headwinds persist and  
5 begin to take a toll on utility earnings,” she added.<sup>14</sup>

6 **Q31. Why do equity analysts expect the utility sector to underperform over the near-term?**

7 A31. While interest rates have increased substantially over the past year, the valuations of  
8 utilities have remained elevated and have not fully reflected the effect of the recent increase  
9 in interest rates. To illustrate this point, I examined the difference between the dividend  
10 yields of utility stocks and the yields on long-term government bonds from January 2010  
11 through June 2023 (“yield spread”). I selected the dividend yield on the S&P Utilities  
12 Index as the measure of the dividend yields for the utility sector and the yield on the 10-  
13 year Treasury bond as the estimate of the yield on long-term government bonds. As shown  
14 in Figure 5, the recent significant increase in long-term government bonds yields has  
15 resulted in the yield on long-term government bonds exceeding the dividend yields of  
16 utilities. The yield spread as of June 30, 2023 was negative 0.53 percent. However, the  
17 long-term average yield spread from 2010 to 2023 is 1.30 percent. Therefore, the current  
18 yield spread is well below the long-term average.

19 For further context as to how unlikely it is to have a yield spread of negative 0.53 percent,  
20 I calculated the z-score for the current yield spread, which measures the number of standard  
21 deviations from the mean. The current yield spread of negative 0.53 percent has a z-score  
22 of -2.05, a yield spread of negative 0.53 percent is over 2 standard deviations from the

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<sup>14</sup> Market Insider. “After A 'Good Run' For Utilities In 2022, Analyst Says 'Trade Is Over – For Now,' But Retains Bullish Bias On These Stocks”, January 17, 2023. (emphasis added)

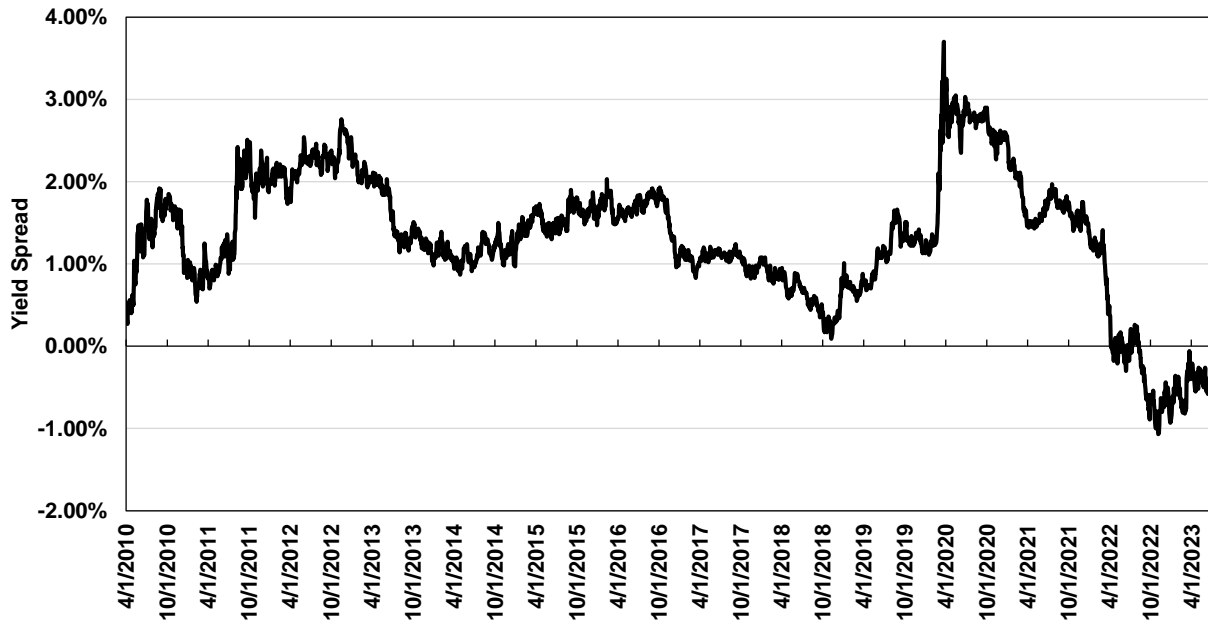
1 mean of 1.30 percent.<sup>15</sup> In other words, 95 percent of the daily yield spread observations  
2 from 2010 through June 2023 fall between -0.28 percent and 2.88 percent, with the current  
3 yield spread of negative 0.53 percent being outside of that range. Thus, the current yield  
4 spread is an outlier, which is why equity analysts do not expect this current level to hold.

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

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<sup>15</sup> The z-score is calculated as: (yield spread at June 30, 2023 minus average yield spread 2010 through June 2023)/standard deviation of yield spread from 2010 through June 2023. This equals: (-0.53 minus 1.30)/0.0079.

1 **Figure 5: Spread between the S&P Utilities Index Dividend Yield and the 10-year**  
 2 **Treasury Bond Yield, January 2010 – June 2023<sup>16</sup>**



3  
4 **E. Conclusion**

5 **Q32. What are your conclusions regarding the effect of current market conditions on the**  
 6 **cost of equity for the Company?**

7 A32. Investors expect long-term interest rates to remain relatively high through 2024 in response  
 8 to continued elevated levels of inflation and the Federal Reserve's normalization of  
 9 monetary policy. Because the share prices of utilities are inversely correlated to interest  
 10 rates, and government bond yields are already greater than utility stock dividend yields, the  
 11 share prices of utilities are likely to continue to decline, which is the reason a number of  
 12 equity analysts have classified the sector as either underperform or underweight. The  
 13 expected underperformance of utilities means that DCF models using recent historical data  
 14 likely underestimate investors' required return over the period that rates will be in effect.  
 15 Therefore, this expected change in market conditions supports consideration of the higher

<sup>16</sup> S&P Capital IQ Pro and Bloomberg Professional.

1 end of the range of cost of equity results produced by the DCF models. Moreover,  
2 prospective market conditions warrant consideration of forward-looking cost of equity  
3 estimation models such as the CAPM and ECAPM, which more directly reflect changes in  
4 interest rates and the investor-required return on equity.

## 5 V. PROXY GROUP SELECTION

### 6 Q33. Please provide a brief profile of Montana-Dakota.

7 A33. Montana-Dakota Utilities Co. is a wholly-owned subsidiary of MDU Resources Group,  
8 Inc. (“MDU”). MDU provides natural gas distribution service across eight states through  
9 the Company and its affiliates Cascade Natural Gas Corp. and Intermountain Gas Company.  
10 In total, MDU serves approximately 1.03 million natural gas customers. Specifically, the  
11 Company provides service to approximately 64,400 natural gas customers in South  
12 Dakota<sup>17</sup>, and the Company’s South Dakota natural gas operations accounted for  
13 approximately 6 percent of MDU’s total retail gas sales revenue in 2022.<sup>18</sup> The Company  
14 also provides vertically-integrated electric utility service in South Dakota, North Dakota,  
15 Montana, and Wyoming, serving approximately 144,500 customers. Montana-Dakota  
16 Utilities Co. currently has an investment-grade long-term rating of BBB+ (Outlook:  
17 Developing) from S&P<sup>19</sup> and BBB+ (Outlook: Stable) from Fitch.<sup>20</sup>

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<sup>17</sup> Company provided data.

<sup>18</sup> MDU Resources Group, Inc. Form 10-K for the fiscal year ended December 31,2022, at 15.

<sup>19</sup> Source: S&P Capital IQ Pro, (accessed July 14, 2023).

<sup>20</sup> Source: FitchRatings, (accessed July 14, 2023).

1 **Q34. Why have you used a group of proxy companies to estimate the cost of equity for the**  
2 **Company?**

3 A34. One of the purposes of this proceeding is to estimate the cost of equity for a utility company  
4 that is not itself publicly traded. Because the cost of equity is a market-based concept and  
5 Montana-Dakota's operations do not make up the entirety of a publicly traded entity, it is  
6 necessary to establish a group of companies that are both publicly traded and comparable  
7 to the Company in certain fundamental business and financial respects to serve as its  
8 "proxy" in the cost of equity estimation process.

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

15 **Q35. How did you select the companies included in your proxy group?**

16 A35. I began with the group of 10 publicly traded companies that *Value Line* classifies as Natural  
17 Gas Distribution Utilities and applied the following screening criteria to select companies  
18 that:

- 19 • pay consistent quarterly cash dividends that have not been reduced in the last three  
20 years, since companies that do not pay dividends cannot be analyzed using the  
21 constant growth DCF model;
- 22 • have investment grade long-term issuer ratings from both S&P and Moody's;
- 23 • are covered by more than one utility industry analyst;
- 24 • have positive long-term earnings growth forecasts from at least two equity analysts;



- 1           • derive more than 70.00 percent of their total operating income from regulated  
2 operations;
- 3           • derive more than 60.00 percent of regulated operating income from gas distribution  
4 operations; and,
- 5           • were not party to a merger or transformative transaction during the analytical period  
6 considered or had a material event that would have affected the market data for the  
7 company.

8 **Q36. What is the composition of your proxy group?**

9 A36. The screening criteria discussed above is shown in Exhibit No. \_\_\_\_ (CMW-2), Schedule 3,  
10 and resulted in a proxy group consisting of the companies shown Figure 6 below.

11 **Figure 6: Natural Gas Utility Proxy Group**

Company	Ticker
Atmos Energy Corporation	ATO
NiSource	NI
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
Spire, Inc.	SR

12

13 **VI. COST OF EQUITY ESTIMATION**

14 **Q37. Please briefly discuss the ROE in the context of the regulated rate of return.**

15 A37. The overall rate of return for a regulated utility is the weighted average cost of capital, in  
16 which the cost rates of the individual sources of capital are weighted by their respective  
17 book values. The ROE is the cost of common equity capital in the utility's capital structure  
18 for ratemaking purposes. While the costs of debt and preferred stock can be directly  
19 observed, the cost of equity is market-based and, therefore, must be estimated based on  
20 observable market data.

1 **Q38. How is the required cost of equity determined?**

2 A38. The required cost of equity is estimated by using analytical techniques that rely on market-  
3 based data to quantify investor expectations regarding equity returns, adjusted for certain  
4 incremental costs and risks. Informed judgment is then applied to determine where the  
5 company's cost of equity falls within the range of results produced by multiple analytical  
6 techniques. The key consideration in determining the cost of equity is to ensure that the  
7 methodologies employed reasonably reflect investors' views of the financial markets in  
8 general, as well as the subject company (in the context of the proxy group), in particular.

9 **Q39. What methods did you use to establish your recommended ROE in this proceeding**  
10 **ROE?**

11 A39. I considered the results of the Constant Growth DCF model, the CAPM, the ECAPM, and  
12 the Risk Premium analyses. As discussed in more detail below, a reasonable ROE estimate  
13 considers alternative methodologies, observable market data, and the reasonableness of  
14 their individual and collective results.

15 **A. Importance of Multiple Analytical Approaches**

16 **Q40. Is it important to use more than one analytical approach to estimate the cost of**  
17 **equity?**

18 A40. Yes. Because the cost of equity is not directly observable, it must be estimated based on  
19 both quantitative and qualitative information. When faced with the task of estimating the  
20 cost of equity, analysts and investors are inclined to gather and evaluate as much relevant  
21 data as reasonably can be analyzed. Several models have been developed to estimate the  
22 cost of equity, and we use multiple approaches to estimate the cost of equity. As a practical  
23 matter, however, all the models available for estimating the cost of equity are subject to

1 limiting assumptions or other methodological constraints. Consequently, many well-  
2 regarded finance texts recommend using multiple approaches when estimating the cost of  
3 equity. For example, Copeland, Koller, and Murrin<sup>21</sup> suggest using the CAPM and  
4 Arbitrage Pricing Theory model, while Brigham and Gapenski<sup>22</sup> recommend the CAPM,  
5 DCF, and BYRP approaches.

6 **Q41. Do current market conditions increase the importance of using more than one**  
7 **analytical approach?**

8 A41. Yes. As discussed previously, interest rates have increased substantially over the past year  
9 and are expected to remain elevated over at least the next year from the lows seen during  
10 the COVID-19 pandemic. The benefit of using multiple models is that each model relies  
11 on different assumptions, certain of which may better reflect current and projected market  
12 conditions at different times. As discussed previously, the CAPM, ECAPM, and BYRP  
13 analyses offer some balance through the use of projected interest rates since the effect of  
14 changes in interest rates, particularly the recent increase in interest rates, may not be  
15 captured as well in the DCF model at this time. Therefore, it is important to use multiple  
16 analytical approaches to ensure that the cost of equity results reflect market conditions that  
17 are expected during the period that the Company's rates will be in effect.

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<sup>21</sup> Copeland, Tom, Tim Koller and Jack Murrin. *Valuation: Measuring and Managing the Value of Companies*. New York, McKinsey & Company, Inc., 3rd Ed., 2000, at 214.

<sup>22</sup> Brigham, Eugene and Louis Gapenski. *Financial Management: Theory and Practice*. Orlando, Dryden Press, 1994, at 341.

1                    **B. Constant Growth DCF Model**

2   **Q42. Please describe the DCF approach.**

3   A42. The DCF approach is based on the theory that a stock's current price represents the present  
4   value of all expected future cash flows. In its most general form, the DCF model is  
5   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 dividends, and  
8    $k$  is the discount rate, or required ROE. Equation [1] is a standard present value calculation  
9   that can be simplified and rearranged into the following form:

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

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

13   **Q43. What assumptions are required for the constant growth DCF model?**

14   A43. The constant growth DCF model requires the following four assumptions: (1) a constant  
15   growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant  
16   price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To  
17   the extent that any of these assumptions are violated, considered judgment and/or specific  
18   adjustments should be applied to the results.

1 **Q44. What market data did you use to calculate the dividend yield in your constant growth**  
2 **DCF model?**

3 A44. The dividend yield in my constant growth DCF model is based on the proxy group  
4 companies' current annual dividend and average closing stock prices over the 30-, 90-, and  
5 180-trading days ended June 30, 2023.

6 **Q45. Why did you use 30-, 90-, and 180-day averaging periods?**

7 A45. I use an average of recent trading days to calculate the term  $P_0$  in the DCF model to reflect  
8 current market data while also ensuring that the result of the model is not skewed by  
9 anomalous events that may affect stock prices on any given trading day.

10 **Q46. Did you make any adjustments to the dividend yield to account for periodic growth**  
11 **in dividends?**

12 A46. Yes. Because utility companies tend to increase their quarterly dividends at different times  
13 throughout the year, it is reasonable to assume that dividend increases will be evenly  
14 distributed over calendar quarters. Given that assumption, it is reasonable to apply one-  
15 half of the expected annual dividend growth rate for purposes of calculating the expected  
16 dividend yield component of the DCF model. This adjustment ensures that the expected  
17 first-year dividend yield is, on average, representative of the coming twelve-month period,  
18 and does not overstate the aggregated dividends to be paid during that time.

19 **Q47. Why is it important to select appropriate measures of long-term growth in applying**  
20 **the DCF model?**

21 A47. In its constant growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth  
22 estimate in perpetuity. To reduce the long-term growth rate to a single measure, one must

1 assume that the payout ratio remains constant and that earnings per share, dividends per  
2 share and book value per share all grow at the same constant rate. Over the long run,  
3 however, dividend growth can only be sustained by earnings growth. Therefore, it is  
4 important to incorporate a variety of sources of long-term earnings growth rates into the  
5 constant growth DCF model.

6 **Q48. Which sources of long-term earnings growth rates did you use?**

7 A48. My constant growth DCF model incorporates three sources of long-term earnings per share  
8 (“EPS”) growth rates: (1) *Zacks Investment Research* (“*Zacks*”); (2) Yahoo! Finance; and  
9 (3) *Value Line*.

10 **Q49. Why are EPS growth rates the appropriate growth rates to be relied on in the DCF**  
11 **model?**

12 A49. Earnings are the fundamental driver of a company’s ability to pay dividends; therefore,  
13 projected EPS growth is the appropriate measure of a company’s long-term growth. In  
14 contrast, changes in a company’s dividend payments are based on management decisions  
15 related to cash management and other factors. For example, a company may decide to  
16 retain earnings rather than pay out a portion of those earnings to shareholders through  
17 dividends. Therefore, dividend growth rates are less likely than earnings growth rates to  
18 reflect accurately investor perceptions of a company’s growth prospects.

19 **Q50. How did you calculate the range of results for the constant growth DCF models?**

20 A50. I calculated the low-end result for the constant growth DCF model using the minimum  
21 growth rate of the three sources (*i.e.*, the lowest of the *Zacks*, Yahoo Finance, and *Value*  
22 *Line* projected earnings growth rates) for each of the proxy group companies. I used a

1 similar approach to calculate a high-end result, using the maximum growth rate of the three  
 2 sources for each proxy group company. Lastly, I also calculated results using the average  
 3 growth rate from all three sources for each proxy group company.

4 **Q51. What were the results of your constant growth DCF analyses?**

5 A51. Figure 7 (see also Exhibit No. \_\_ (CMW-2), Schedule 4) summarizes the results of my  
 6 DCF analyses. As shown, the mean/median DCF results using the average growth rates  
 7 range from 9.94 percent to 10.16 percent, and the mean/median results using the maximum  
 8 growth rates range from 10.82 percent to 11.49 percent. While I also summarize the mean  
 9 DCF results using the minimum growth rates, given the expected underperformance of  
 10 utility stocks and thus the likelihood that the DCF model is understating the cost of equity,  
 11 I do not believe it is appropriate to consider these DCF results at this time.

12 **Figure 7: Constant Growth Discounted Cash Flow Results**

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean:			
30-Day Avg. Stock Price	8.92%	10.02%	11.49%
90-Day Avg. Stock Price	8.84%	9.94%	11.41%
180-Day Avg. Stock Price	8.85%	9.96%	11.42%
Average	8.87%	9.97%	11.44%
Median:			
30-Day Avg. Stock Price	8.75%	10.08%	11.13%
90-Day Avg. Stock Price	8.58%	10.12%	10.90%
180-Day Avg. Stock Price	8.55%	10.16%	10.82%
Average	8.62%	10.12%	10.95%

1 **Q52. Have regulatory commissions acknowledged that the DCF model might understate**  
 2 **the cost of equity given the current capital market conditions of relatively high**  
 3 **inflation and elevated interest rates?**

4 A52. Yes. For example, in its May 2022 decision establishing the cost of equity for Aqua  
 5 Pennsylvania, Inc., the Pennsylvania Public Utility Commission concluded that the current  
 6 capital market conditions of high inflation and increased interest rates has resulted in the  
 7 DCF model understating the utility cost of equity, and that weight should be placed on risk  
 8 premium models, such as the CAPM, in the determination of the ROE:

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

16 Therefore, our methodology for determining Aqua's ROE shall utilize both  
 17 I&E's DCF and CAPM methodologies. As noted above, the Commission  
 18 recognizes the importance of informed judgment and information provided  
 19 by other ROE models. In the 2012 PPL Order, the Commission considered  
 20 PPL's CAPM and RP methods, tempered by informed judgment, instead of  
 21 DCF-only results. We conclude that methodologies other than the DCF can  
 22 be used as a check upon the reasonableness of the DCF derived ROE  
 23 calculation. Historically, we have relied primarily upon the DCF  
 24 methodology in arriving at ROE determinations and have utilized the results  
 25 of the CAPM as a check upon the reasonableness of the DCF derived equity  
 26 return. As such, where evidence based on other methods suggests that the  
 27 DCF-only results may understate the utility's ROE, we will consider those  
 28 other methods, to some degree, in determining the appropriate range of  
 29 reasonableness for our equity return determination. In light of the above, we  
 30 shall determine an appropriate ROE for Aqua using informed judgement  
 31 based on I&E's DCF and CAPM methodologies.<sup>23</sup>

32 .....  
 33 We have previously determined, above, that we shall utilize I&E's DCF and  
 34 CAPM methodologies. I&E's DCF and CAPM produce a range of

---

<sup>23</sup> Pennsylvania Public Utility Commission, Docket Nos. R-2021-3027385 and R-2021-3027386, Opinion and Order, May 12, 2022, pp. 154–155.



1                   reasonableness for the ROE in this proceeding from 8.90% [DCF] to 9.89%  
2                   [CAPM]. Based upon our informed judgment, which includes consideration  
3                   of a variety of factors, including increasing inflation leading to increases in  
4                   interest rates and capital costs since the rate filing, we determine that a base  
5                   ROE of 9.75% is reasonable and appropriate for Aqua.<sup>24</sup>

6   **Q53. What are your conclusions about the results of the DCF models?**

7   A53. As discussed previously, one primary assumption of the DCF model is a constant price-to-  
8           earnings ratio, and that assumption is heavily influenced by the market price of utility  
9           stocks. Since utility stocks are expected to underperform the broader market over the near-  
10          term as interest rates remain elevated and yields on long-term government bonds exceed  
11          utility dividend yields, it is important to consider the results of the DCF model with caution.  
12          Therefore, while I have given weight to the results of the DCF model, my recommendation  
13          also gives weight to the results of other cost of equity estimation models.

14                   **C. CAPM Analysis**

15   **Q54. Please briefly describe the CAPM.**

16   A54. The CAPM is a risk premium approach that estimates the cost of equity for a given security  
17          as a function of a risk-free return plus a risk premium to compensate investors for the non-  
18          diversifiable, systematic risk of that security. Systematic risk is the risk inherent in the  
19          entire market or market segment, which cannot be diversified away using a portfolio of  
20          assets. Unsystematic risk is the risk of a specific company that can, theoretically, be  
21          mitigated through portfolio diversification.

22          The CAPM is defined by four components:

---

<sup>24</sup> *Id.*, pp. 177–178.

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

Where:

$K_e$  = the required market cost of equity;

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

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

$r_m$  = the required return on the market.

In this specification, the term  $(r_m - r_f)$  represents the market risk premium. According to the theory underlying the CAPM, because unsystematic risk can be diversified away, investors should only be concerned with systematic or non-diversifiable risk. Systematic risk is measured by beta, which is a measure of the volatility of a security as compared to the market as a whole. Beta is defined as:

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

The variance of the market return (*i.e.*,  $\text{Variance}(r_m)$ ) is a measure of the uncertainty of the general market, and the Covariance between the return on a specific security and the general market (*i.e.*,  $\text{Covariance}(r_e, r_m)$ ) reflects the extent to which the return on that security will respond to a given change in the general market return. Thus, beta represents the risk of the security relative to the general market.

**Q55. What risk-free rate do you use in your CAPM analysis?**

A55. I rely on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year Treasury bonds, which is 3.89 percent;<sup>25</sup> (2) the average projected 30-year Treasury bond yield for the fourth quarter of 2023 through the fourth quarter of 2024, which

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<sup>25</sup> Bloomberg Professional as of June 30, 2023.

1 is 3.84 percent;<sup>26</sup> and (3) the average projected 30-year Treasury bond yield for 2025  
2 through 2029, which is 3.80 percent.<sup>27</sup>

3 **Q56. What beta coefficients do you use in your CAPM analysis?**

4 A56. As shown Exhibit No. \_\_(CMW-2), Schedule 5, I use the beta coefficients for the proxy  
5 group companies as reported by Bloomberg and *Value Line*. The beta coefficients reported  
6 by Bloomberg are calculated using ten years of weekly returns relative to the S&P 500  
7 Index. The *Value Line* beta coefficients are calculated based on five years of weekly returns  
8 relative to the New York Stock Exchange Composite Index.

9 Additionally, as shown in shown Exhibit No. \_\_(CMW-2), Schedule 5, I also consider an  
10 additional CAPM analysis that relies on the long-term average utility beta coefficient for  
11 the companies in my proxy group. As shown in Exhibit No. \_\_ (CMW-2), Schedule 6,  
12 the long-term average utility Beta coefficient was calculated as an average of the *Value*  
13 *Line* beta coefficients for the companies in my proxy group from 2013 through 2022.

14 **Q57. How do you estimate the market risk premium in the CAPM?**

15 A57. I estimate the market risk premium as the difference between the implied expected equity  
16 market return and the risk-free rate. As shown in Exhibit No. \_\_(CMW-2), Schedule 7,  
17 the expected market return is calculated using the constant growth DCF model discussed  
18 previously as applied to the companies in the S&P 500 Index. Based on an estimated  
19 market capitalization-weighted dividend yield of 1.64 percent and a weighted long-term  
20 growth rate of 10.95 percent, the estimated required market return for the S&P 500 Index

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<sup>26</sup> *Blue Chip Financial Forecasts*, Vol. 42, No. 7, June 30, 2023, at 2.

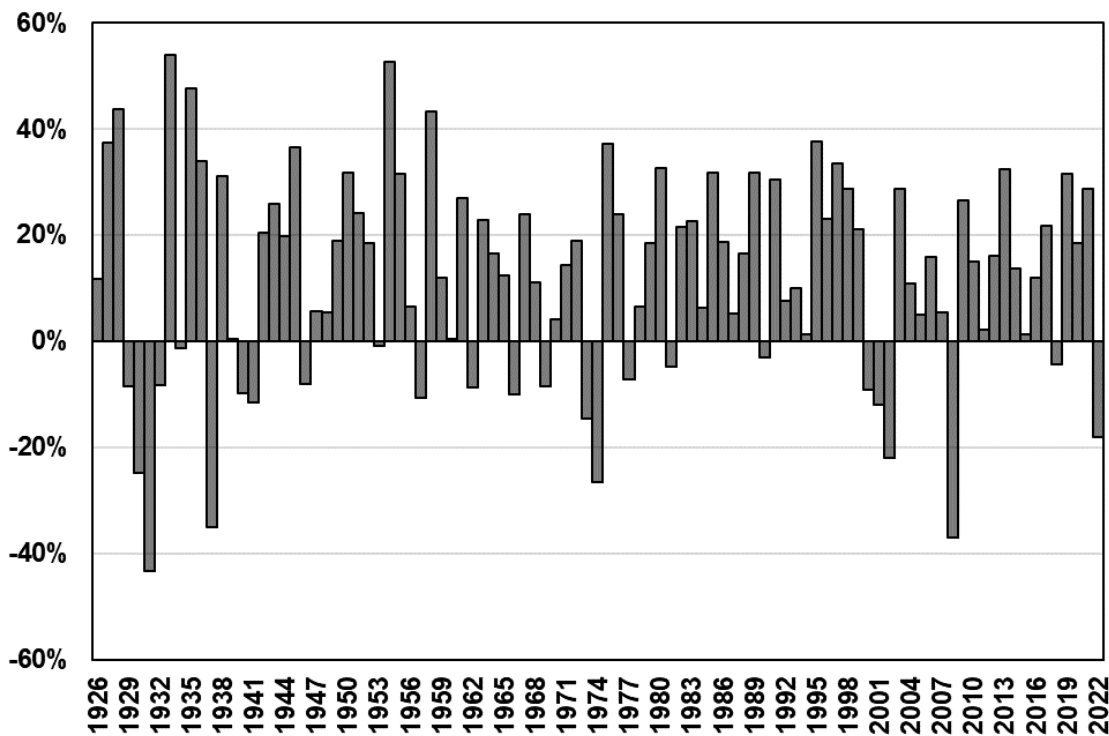
<sup>27</sup> *Blue Chip Financial Forecasts*, Vol. 42, No. 6, June 1, 2023, at 14.

1 as of June 30, 2023 is 12.68 percent. Based on the three risk-free rates considered, the  
 2 market risk premium ranges from 8.79 percent to 8.88 percent.

3 **Q58. How does the current expected market return compare to observed historical market**  
 4 **returns?**

5 A58. As shown in Figure 8, given the range of annual equity returns that have been observed  
 6 over the past century, a current expected market return of 12.68 percent is not unreasonable.  
 7 In 50 out of the past 97 years (or approximately 52 percent of observations), the realized  
 8 equity market return was at least 12.68 percent or greater.

9 **Figure 8: Realized U.S. equity market returns (1926-2022)<sup>28</sup>**



10

<sup>28</sup> Depicts total annual returns on large company stocks, as reported in the 2023 *Kroll S&P 500* Yearbook.

1 **Q59. Did you consider another form of the CAPM in your analysis?**

2 A59. Yes. I have also considered the results of an ECAPM in estimating the cost of equity for  
 3 the Company.<sup>29</sup> The ECAPM calculates the product of the adjusted beta coefficient and  
 4 the market risk premium and applies a weight of 75.00 percent to that result. The model  
 5 then applies a 25.00 percent weight to the market risk premium without any effect from the  
 6 beta coefficient. The results of the two calculations are summed, along with the risk-free  
 7 rate, to produce the ECAPM result, as noted in Equation [5] below:

$$8 \quad k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

9 Where:

10  $k_e$  = the required market cost of equity;

11  $\beta$  = Adjusted beta coefficient of an individual security;

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

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

14 The ECAPM addresses the tendency of the “traditional” CAPM to underestimate the cost  
 15 of equity for companies with low beta coefficients such as regulated utilities. In that regard,  
 16 the ECAPM is not redundant to the use of adjusted betas in the traditional CAPM, but  
 17 rather it recognizes the results of academic research indicating that the risk-return  
 18 relationship is different (in essence, flatter) than estimated by the CAPM, and that the  
 19 CAPM underestimates the “alpha,” or the constant return term.<sup>30</sup>

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<sup>29</sup> See, e.g., Morin, Roger A. *New Regulatory Finance. Public Utilities Reports, Inc.*, 2006, at 189.

<sup>30</sup> *Id.* at 191.

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

4 **Q60. What are the results of your CAPM analyses?**

5 A60. As shown in Figure 9 (see also Exhibit No. \_\_(CMW-2), Schedule 5), my traditional  
 6 CAPM analysis produces a range of returns from 10.26 percent to 11.10 percent. The  
 7 ECAPM analysis results range from 10.86 percent to 11.49 percent.

8 **Figure 9: CAPM and ECAPM Results**

	Current 30-Day Avg 30-Year Treasury Yield	Near-Term Projected 30-Year Treasury Yield	Longer-Term Projected 30-Year Treasury Yield
CAPM:			
Current <i>Value Line</i> Beta	11.10%	11.09%	11.08%
Current Bloomberg Beta	10.58%	10.57%	10.56%
Long-term Avg. <i>Value Line</i> Beta	10.28%	10.27%	10.26%
ECAPM:			
Current <i>Value Line</i> Beta	11.49%	11.49%	11.48%
Current Bloomberg Beta	11.11%	11.10%	11.09%
9 Long-term Avg. <i>Value Line</i> Beta	10.88%	10.87%	10.86%

10 **D. BYRP Analysis**

11 **Q61. Please describe the BYRP analysis.**

12 A61. In general terms, this approach is based on the fundamental principle that equity investors  
 13 bear the residual risk associated with equity ownership and therefore require a premium  
 14 over the return they would have earned as bondholders. In other words, because returns to  
 15 equity holders have greater risk than returns to bondholders, equity holders require a higher  
 16 return for that incremental risk. Thus, risk premium approaches estimate the cost of equity

1 as the sum of the equity risk premium and the yield on a particular class of bonds. In my  
2 analysis, I use actual authorized returns for natural gas utilities as the historical measure of  
3 the cost of equity to determine the risk premium.

4 **Q62. What is the fundamental relationship between the equity risk premium and interest**  
5 **rates?**

6 A62. It is important to recognize both academic literature and market evidence indicating that  
7 the equity risk premium (as used in this approach) is inversely related to the level of interest  
8 rates (*i.e.*, as interest rates increase, the equity risk premium decreases, and vice versa).  
9 Consequently, it is important to develop an analysis that: (1) reflects the inverse  
10 relationship between interest rates and the equity risk premium; and (2) relies on recent  
11 and expected market conditions. The analysis provided in Exhibit No. \_\_(CMW-2),  
12 Schedule 8 establishes that relationship using a regression of the risk premium as a function  
13 of Treasury bond yields. When the authorized ROEs serve as the measure of required  
14 equity returns and the yield on the long-term Treasury bond is defined as the relevant  
15 measure of interest rates, the risk premium is the difference between those two points.<sup>31</sup>

16 **Q63. Is the BYRP analysis relevant to investors?**

17 A63. Yes. Investors are aware of authorized ROEs in other jurisdictions, and they consider those  
18 awards as a benchmark for a reasonable level of equity returns for utilities of comparable  
19 risk operating in other jurisdictions. Because my BYRP analysis is based on authorized

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<sup>31</sup> See *e.g.*, Berry, S. Keith. "Interest Rate Risk and Utility Risk Premia during 1982-93." *Managerial and Decision Economics*, Vol. 19, No. 2, March, 1998 (the author used a similar methodology, including using authorized ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates). See also Harris, Robert S. "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return." *Financial Management*, Spring 1986, at 66.

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

4 **Q64. What did your BYRP analysis reveal?**

5 A64. As shown in Figure 10, from 1992 through June 2023, there was a strong negative  
6 relationship between risk premia and interest rates. To estimate that relationship, I  
7 conducted a regression analysis using the following equation:

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

9 Where:

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

12 a = intercept term

13 b = slope term

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

15 Data regarding authorized ROEs were derived from all natural gas utility rate cases from  
16 1992 through June 2023 as reported by Regulatory Research Associates (“RRA”).<sup>32</sup> This  
17 equation’s coefficients were statistically significant at the 99.00 percent level.

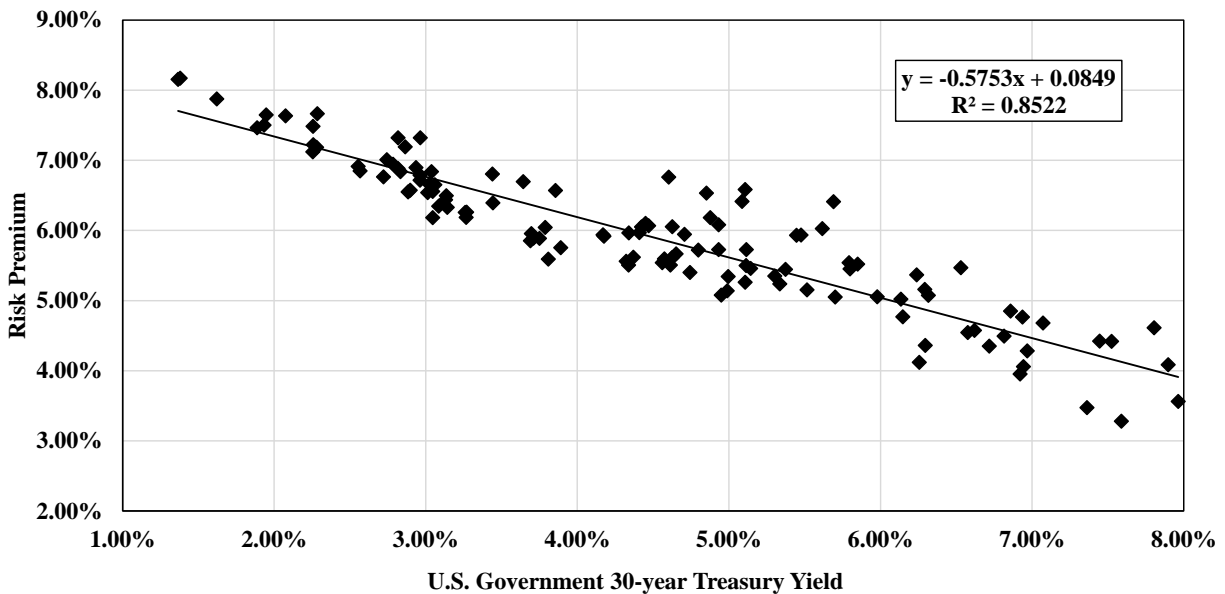
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<sup>32</sup> This analysis was screened to eliminate limited issue rider cases and cases that were silent with respect to the authorized ROE.



1

**Figure 10: Risk Premium Regression Analysis**



2

3 **Q65. What are the results of your BYRP analysis?**

4 A65. The results of my BYRP analysis are shown in Figure 11 (and on Exhibit No. \_\_\_\_(CMW-  
5 2), Schedule 8).

6

**Figure 11: Risk Premium Results**

	30-Year Treasury Bond Yield	Risk Premium	Cost of Equity
Current Risk-Free Rate	3.89%	6.25%	10.14%
Near-Term Projected Risk-Free Rate	3.84%	6.28%	10.12%
Longer-Term Projected Risk-Free Rate	3.80%	6.31%	10.11%
Average			10.12%

7

8 **Q66. How did the results of the BYRP analysis inform your recommended ROE for the**  
9 **Company?**

10 A66. I have considered the results of the BYRP analysis in setting my recommended ROE for  
11 Montana-Dakota’s natural gas operations in South Dakota. As noted above, investors

1 consider the ROE award of a company when assessing the risk of that company as  
2 compared to utilities of comparable risk operating in other jurisdictions.

3 **VII. REGULATORY AND BUSINESS RISKS**

4 **Q67. Taken alone, do the results of the cost of equity estimation models for the proxy group**  
5 **provide an appropriate estimate of the cost of equity for the Company?**

6 A67. No. These results provide only a range of the appropriate estimate of the Company's cost  
7 of equity. There are several additional factors that must be taken into consideration when  
8 determining where the Company's cost of equity falls within the range of results. These  
9 factors, which are discussed below, should be considered with respect to their overall effect  
10 on the Company's risk profile.

11 **A. Small Size Risk**

12 **Q68. Is there a risk to a firm associated with small size?**

13 A68. Yes. Both the financial and academic communities have long accepted the proposition that  
14 the cost of equity for small firms is subject to a "size effect." While empirical evidence of  
15 the size effect often is based on studies of industries other than regulated utilities, utility  
16 analysts also have noted the risk associated with small market capitalizations. Specifically,  
17 an analyst for Ibbotson Associates noted:

18 For small utilities, investors face additional obstacles, such as a smaller  
19 customer base, limited financial resources, and a lack of diversification  
20 across customers, energy sources, and geography. These obstacles imply a  
21 higher investor return.<sup>33</sup>

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<sup>33</sup> Annin, Michael. "Equity and the Small-Stock Effect." Public Utilities Fortnightly, October 15, 1995.

1 **Q69. How does the smaller size of a utility affect its business risk?**

2 A69. In general, smaller companies are less able to withstand adverse events that affect their  
3 revenues and expenses. The impact of weather variability, the loss of large customers to  
4 bypass opportunities, or the destruction of demand as a result of general macroeconomic  
5 conditions or fuel price volatility will have a proportionately greater impact on the earnings  
6 and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue  
7 producing investments, such as system maintenance and replacements, will put  
8 proportionately greater pressure on customer costs, potentially leading to customer attrition  
9 or demand reduction. Taken together, these risks affect the return required by investors for  
10 smaller companies.

11 **Q70. How do Montana-Dakota's natural gas operations in South Dakota compare in size  
12 to the proxy group companies?**

13 A70. Montana-Dakota's natural gas operations in South Dakota are substantially smaller than  
14 the median for the proxy group companies in terms of market capitalization. While  
15 Montana-Dakota is not publicly traded on a stand-alone basis, as shown on Exhibit No.  
16 \_\_\_\_(CMW-2), Schedule 9, I have estimated the implied market capitalization for the  
17 Company (*i.e.*, the market capitalization if the Company were a stand-alone publicly-traded  
18 entity) relative to the actual market capitalization for the proxy group companies.

19 Specifically, to estimate the size of the Company's implied market capitalization relative  
20 to the proxy group, I first calculated the equity component of the Company's capital  
21 structure by multiplying the Company's test year rate base of \$77.1 million by the  
22 Company's proposed common equity ratio in this proceeding of 50.39 percent. I then  
23 applied the median market-to-book ratio for the proxy group of 1.64 to the Company's

1 implied common equity balance to estimate an implied market capitalization, which is  
2 approximately \$63.8 million, or just 1.45 percent of the median market capitalization for  
3 the proxy group.

4 **Q71. How did you estimate the size premium for Montana-Dakota?**

5 A71. Given this relative size information, it is possible to estimate the impact of size on the cost  
6 of equity for the Company using *Kroll* Cost of Capital Navigator data that estimates the  
7 stock risk premia based on the size of a company's market capitalization.<sup>34</sup> As shown on  
8 Exhibit No. \_\_(CMW-2), Schedule 9, the median market capitalization of the proxy group  
9 is approximately \$4.41 billion, which corresponds to the fourth decile of *Kroll's* market  
10 capitalization data.<sup>35</sup> Based on *Kroll's* analysis, that decile corresponds to a size premium  
11 of 0.58 percent (*i.e.*, 58 basis points). In comparison, the Company's implied market  
12 capitalization of approximately \$63.8 million falls within the tenth decile, which  
13 corresponds to a size premium of 4.83 percent (*i.e.*, 483 basis points). The difference  
14 between the size premium for the Company and the size premium for the proxy group is  
15 425 basis points (*i.e.*, 4.83 percent minus 0.58 percent)

16 **Q72. Were utility companies included in the size premium study conducted by *Kroll*?**

17 A72. Yes. As shown in Exhibit 7.2 of the *Kroll* (formerly *Duff & Phelps*) 2019 Valuation  
18 Handbook, OGE Energy Corp. had the largest market capitalization of the companies

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<sup>34</sup> *Kroll* Cost of Capital Navigator – Size Premium; annual data as of December 31, 2022.

<sup>35</sup> *Id.*

1 contained in the fourth decile, which indicates that Kroll has included utility companies in  
2 its size risk premium study.<sup>36</sup>

3 **Q73. Is the size premium applicable to companies in regulated industries such as utilities?**

4 A73. Yes. For example, Zepp (2003) provided the results of two studies that showed evidence  
5 of the required risk premium for small water utilities. The first study, which was conducted  
6 by the Staff of the California Public Utilities Commission, computed proxies for beta risk  
7 using accounting data from 1981 through 1991 for 58 water utilities and concluded that  
8 smaller water utilities had greater risk and required higher returns on equity than larger  
9 water utilities.<sup>37</sup> The second study examined the differences in required returns over the  
10 period of 1987 through 1997 for two large and two small water utilities in California. As  
11 Zepp (2003) showed, the required return for the two small water utilities calculated using  
12 the DCF model was on average 99 basis points higher than the two larger water utilities.<sup>38</sup>  
13 Additionally, Chrétien and Coggins (2011) studied the CAPM and its ability to estimate  
14 the risk premium for the utility industry, and in particular subgroups of utilities.<sup>39</sup> The  
15 article considered the CAPM, the Fama-French three-factor model, and a model similar to  
16 the ECAPM, which as previously discussed, I have also considered in estimating the cost  
17 of equity for the Company. In the study, the Fama-French three-factor model explicitly  
18 included an adjustment to the CAPM for risk associated with size. As Chrétien and

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<sup>36</sup> Kroll. Valuation Handbook: Guide to Cost of Capital. 2019, Exhibit 7.2.

<sup>37</sup> Zepp, Thomas M. "Utility Stocks and the Size Effect—Revisited." *The Quarterly Review of Economics and Finance*, Vol. 43, No. 3, 2003, at 578–582.

<sup>38</sup> *Id.*

<sup>39</sup> Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." *Energy Studies Review*, Vol. 18, No. 2, 2011.

1 Coggins (2011) show, the beta coefficient on the size variable for the U.S. natural gas  
2 utility group was positive and statistically significant indicating that small size risk was  
3 relevant for regulated natural gas utilities.<sup>40</sup>

4 **Q74. Have regulators in other jurisdictions made a specific risk adjustment to the cost of**  
5 **equity results based on a company's small size?**

6 A74. Yes. For example, in Order No. 15, the Regulatory Commission of Alaska (“RCA”)  
7 concluded that Alaska Electric Light and Power Company (“AEL&P”) was riskier than the  
8 proxy group companies due to small size as well as other business risks. The RCA did  
9 “not believe that adopting the upper end of the range of ROE analyses in this case, without  
10 an explicit adjustment, would adequately compensate AEL&P for its greater risk.”<sup>41</sup> Thus,  
11 the RCA awarded AEL&P an ROE of 12.875 percent, which was 108 basis points above  
12 the highest cost of equity estimate from any model presented in the case.<sup>42</sup> Similarly, the  
13 RCA has also noted that small size, as well as other business risks such as structural  
14 regulatory lag, weather risk, alternative rate mechanisms, gas supply risk, geographic  
15 isolation and economic conditions, increased the risk of ENSTAR Natural Gas Company.<sup>43</sup>

16 Ultimately, the RCA concluded that:

17 Although we agree that the risk factors identified by ENSTAR increase its  
18 risk, we do not attempt to quantify the amount of that increase. Rather, we  
19 take the factors into consideration when evaluating the remainder of the  
20 record and the recommendations presented by the parties. After applying

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<sup>40</sup> *Id.*

<sup>41</sup> Regulatory Commission of Alaska, Docket No. U-10-29, Order No. 15, September 2, 2011, at 37.

<sup>42</sup> *Id.*, at 32 and 37.

<sup>43</sup> Regulatory Commission of Alaska, Docket No. U-16-066, Order No. 19, September 22, 2017, at 50-52.

1 our reasoned judgment to the record, we find that 11.875% represents a fair  
2 ROE for ENSTAR.<sup>44</sup>

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

6 The record in this case establishes a compelling basis for selecting an ROE  
7 above the mean average within the DCF range, given Otter Tail’s unique  
8 characteristics and circumstances relative to other utilities in the proxy  
9 group. These factors include the company’s relatively smaller size,  
10 geographically diffuse customer base, and the scope of the Company’s  
11 planned infrastructure investments.<sup>45</sup>

12 Finally, in Opinion Nos. 569 and 569-A, the Federal Energy Regulatory Commission  
13 (“FERC”) adopted a size premium adjustment in its CAPM estimates for electric utilities.

14 In those decisions, the FERC noted that “the size adjustment was necessary to correct for  
15 the CAPM’s inability to fully account for the impact of firm size when determining the  
16 cost of equity.”<sup>46</sup>

17 **Q75. How have you considered the smaller size of Montana-Dakota’s natural gas**  
18 **distribution operations in South Dakota in your recommended ROE?**

19 A75. While I have estimated the effect of the Company’s small size of its natural gas operations  
20 in South Dakota on the cost of equity, I am not proposing a specific adjustment for this risk  
21 factor. Rather, I believe it is important to consider the small size of the Company’s utility

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

<sup>45</sup> Minnesota Public Utilities Commission, Docket No. E017/GR-15-1033, Order, August 16, 2016, at 55.

<sup>46</sup> *Ass’n. of Businesses Advocating Tariff Equity, et. al., v. Midcontinent Indep. Sys. Operator, Inc., et. al.*, 171 FERC ¶ 61,154 (2020), at ¶ 75. The U.S. Court of Appeals recently vacated FERC Order No. 569 decisions that related to its risk premium model and remanded the case to FERC to reopen the proceedings. However, in its decision, the Court did not reject FERC’s inclusion of the size premium to estimate the CAPM. (*See*, United States Court of Appeals Case No. 16-1325, Decision No. 16-1325, August 9, 2022 at 20).

1 operations in the determination of where, within the range of analytical results, Montana-  
2 Dakota's required cost of equity falls. All else equal, the additional risk associated with  
3 the Company's small size supports an ROE toward the upper end of the range of results  
4 from the cost of equity estimation models.

## 5 **B. Flotation Cost**

### 6 **Q76. What are flotation costs?**

7 A76. Flotation costs are the costs associated with the sale of new issues of common stock. These  
8 costs include out-of-pocket expenditures for preparation, filing, underwriting, and other  
9 issuance costs.

### 10 **Q77. Why is it important to consider flotation costs in the authorized ROE?**

11 A77. A regulated utility must have the opportunity to earn an ROE that is both competitive and  
12 compensatory to attract and retain new investors. To the extent that a company is denied  
13 the opportunity to recover prudently incurred flotation costs, actual returns will fall short  
14 of expected (or required) returns, thereby diluting equity share value.

### 15 **Q78. Are flotation costs part of the utility's invested costs or part of the utility's expenses?**

16 A78. Flotation costs are part of the invested costs of the utility, which are properly reflected on  
17 the balance sheet under "paid in capital." They are not current expenses and, therefore, are  
18 not reflected on the income statement. Rather, like investments in rate base or the issuance  
19 costs of long-term debt, flotation costs are incurred over time. As a result, the great  
20 majority of a utility's flotation costs are incurred prior to the test year but remain part of  
21 the cost structure that exists during the test year and beyond, and as such, should be  
22 recognized for ratemaking purposes. Therefore, it is irrelevant whether an issuance occurs



1 during the test year or is planned for the test year because failure to allow recovery of past  
2 flotation costs may deny the Company the opportunity to earn its required rate of return in  
3 the future.

4 **Q79. Please provide an example of why a flotation cost adjustment is necessary to**  
5 **compensate investors for the capital they have invested.**

6 A79. Assume MDU issues stock with a value of \$100, and an equity investor invests \$100 in  
7 MDU in exchange for that stock. Further, suppose that after paying the flotation costs  
8 associated with the equity issuance, which include fees paid to underwriters and attorneys,  
9 among others, MDU ends up with only \$97 of issuance proceeds, rather than the \$100 the  
10 investor contributed. MDU invests that \$97 in plant used to serve its customers, which  
11 becomes part of rate base. Absent a flotation cost adjustment, the investor will thereafter  
12 earn a return on only the \$97 invested in rate base, even though she contributed \$100.  
13 Making a small flotation cost adjustment gives the investor a reasonable opportunity to  
14 earn the authorized return, rather than the lower return that results when the authorized  
15 return is applied to an amount less than what the investor contributed.

16 **Q80. Is the date of MDU's last issuance of common equity important in the determination**  
17 **of flotation costs?**

18 A80. No. As shown in Exhibit No. \_\_(CMW-2), Schedule 10, MDU closed on equity issuances  
19 of approximately \$58 million and \$54 million (for a total of 4.7 million shares of common  
20 stock) in November 2002 and February 2004, respectively. The vintage of the issuance,  
21 however, is not particularly important because the investor suffers a shortfall in every year  
22 that he should have a reasonable opportunity to earn a return on the full amount of capital  
23 that he has contributed. Returning to my earlier example, the investor who contributed

1 \$100 is entitled to a reasonable opportunity to earn a return on \$100 not only in the first  
2 year after the investment, but in every subsequent year in which he has the \$100 invested.  
3 Leaving aside depreciation, which is dealt with separately, there is no basis to conclude  
4 that the investor is entitled to earn a return on \$100 in the first year after issuance, but  
5 thereafter is entitled to earn a return on only \$97. As long as the \$100 is invested, the  
6 investor should have a reasonable opportunity to earn a return on the entire amount.

7 **Q81. Is the need to consider flotation costs eliminated because Montana-Dakota is a**  
8 **wholly-owned subsidiary of MDU?**

9 A81. No, it is not. Although the Company is a wholly-owned subsidiary of MDU, it is  
10 appropriate to consider flotation costs. Wholly-owned subsidiaries receive equity capital  
11 from their parent and provide returns on the capital that roll up to the parent, which is  
12 designated to attract and raise capital based upon the returns of those subsidiaries. To deny  
13 recovery of issuance costs associated with the capital that is invested in the subsidiaries  
14 ultimately penalizes the investors that fund utility operations and inhibits the utility's  
15 ability to obtain new equity capital at a reasonable cost. This is particularly important in  
16 the current circumstance given that the Company is planning significant capital  
17 expenditures in the near term.

18 **Q82. Is the need to consider flotation costs recognized by the academic and financial**  
19 **communities?**

20 A82. Yes. The need to reimburse shareholders for the lost returns associated with equity  
21 issuance costs is recognized by the academic and financial communities in the same spirit  
22 that investors are reimbursed for the costs of issuing debt. This treatment is consistent with  
23 the philosophy of a fair rate of return. According to Dr. Shannon Pratt:

1 Flotation costs occur when new issues of stock or debt are sold to the public.  
 2 The firm usually incurs several kinds of flotation or transaction costs, which  
 3 reduce the actual proceeds received by the firm. Some of these are direct  
 4 out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and  
 5 prospectus preparation costs. Because of this reduction in proceeds, the  
 6 firm's required returns on these proceeds equate to a higher return to  
 7 compensate for the additional costs. Flotation costs can be accounted for  
 8 either by amortizing the cost, thus reducing the cash flow to discount, or by  
 9 incorporating the cost into the cost of capital. Because flotation costs are  
 10 not typically applied to operating cash flow, one must incorporate them into  
 11 the cost of capital.<sup>47</sup>

12 **Q83. Has the Commission found that flotation cost adjustments for the recovery of equity**  
 13 **issuance costs are appropriate?**

14 A83. Yes, it has. The Commission has allowed flotation costs in recent cases. For example, the  
 15 Commission determined that the recovery of flotation costs was appropriate in both its  
 16 2012 decision for Northern State Power Company<sup>48</sup> and its 2019 decision for Otter Tail  
 17 Power Company.<sup>49</sup>

18 **Q84. Have you estimated what a reasonable flotation cost adjustment would be for**  
 19 **Montana-Dakota?**

20 A84. Yes. My flotation cost is estimated on the costs of issuing equity that were incurred by  
 21 MDU in its two most recent common equity issuances. As shown in Exhibit No. \_\_\_\_  
 22 CMW-2), Schedule 10, based on the flotation costs of those two issuances, the impact on  
 23 the proxy group's cost of equity amounts to 10 basis points (i.e., 0.10 percent) based on the  
 24 median and 15 basis points (i.e., 0.15 percent) based on the mean.

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<sup>47</sup> Pratt, Shannon P. Cost of Capital Estimation and Applications. Second Edition, at 220-21.

<sup>48</sup> Docket No. EL11-019, The Matter of the Application of Northern States Power Company DBA Xcel Energy for Authority to Increase its Electric Rates, Final Decision and Order, (Jul. 2, 2012), at 6.

<sup>49</sup> Docket No. EL18-021, In The Matter of the Application of Otter Tail Power Company for Authority to Increase its Electric Rates, Final Decision and Order, (May 30, 2019), at 8.

1 **Q85. Do your final cost of equity model results include an adjustment for flotation cost**  
2 **recovery?**

3 A85. No, I did not make an explicit adjustment for flotation costs to any of the quantitative  
4 results of my cost of equity models. Rather, the incremental cost associated with stock  
5 issuance supports my recommended ROE.

6 **C. Capital Expenditures**

7 **Q86. Please summarize the capital expenditure requirements for Montana-Dakota's**  
8 **natural gas distribution operations in South Dakota.**

9 A86. As of December 31, 2022, the Company had net utility plant of approximately \$68.19  
10 million, and the Company currently projects capital expenditures for 2024 through 2027 of  
11 approximately \$63 million.<sup>50</sup> Therefore, the Company's projected capital expenditures  
12 represent approximately 92 percent of its net utility plant as of December 31, 2022.

13 **Q87. How is the Company's risk profile affected by its capital expenditure requirements?**

14 A87. As with any utility faced with substantial capital expenditure requirements, the Company's  
15 risk profile may be adversely affected in two significant and related ways: (1) the  
16 heightened level of investment increases the risk of under-recovery or delayed recovery of  
17 the invested capital; and (2) an inadequate return would put downward pressure on key  
18 credit metrics.

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<sup>50</sup> Data provided by the Company.

1 **Q88. Do credit rating agencies recognize the risks associated with elevated levels of capital**  
2 **expenditures?**

3 A88. Yes, they do. From a credit perspective, the additional pressure on cash flows associated  
4 with high levels of capital expenditures exerts corresponding pressure on credit metrics  
5 and, therefore, credit ratings. To that point, S&P explains the importance of regulatory  
6 support for large capital projects:

7           When applicable, a jurisdiction’s willingness to support large capital  
8 projects with cash during construction is an important aspect of our analysis.  
9 This is especially true when the project represents a major addition to rate  
10 base and entails long lead times and technological risks that make it  
11 susceptible to construction delays. Broad support for all capital spending is  
12 the most credit-sustaining. Support for only specific types of capital  
13 spending, such as specific environmental projects or system integrity plans,  
14 is less so, but still favorable for creditors. Allowance of a cash return on  
15 construction work-in-progress or similar ratemaking methods historically  
16 were extraordinary measures for use in unusual circumstances, but when  
17 construction costs are rising, cash flow support could be crucial to maintain  
18 credit quality through the spending program. Even more favorable are those  
19 jurisdictions that present an opportunity for a higher return on capital  
20 projects as an incentive to investors.<sup>51</sup>

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

25 **Q89. How do Montana-Dakota’s capital expenditure requirements compare to those of the**  
26 **proxy group companies?**

27 A89. As shown in Exhibit No. \_\_(CMW-2), Schedule 11, I calculated the ratio of expected  
28 capital expenditures to net utility plant for the Company and each of the companies in the

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<sup>51</sup> S&P Global Ratings, “Assessing U.S. Investor-Owned Utility Regulatory Environments,” August 10, 2016, at 7.

1 proxy group by dividing each company's projected capital expenditures for the period from  
2 2024 through 2027 by its total net utility plant as of December 31, 2022. As shown in  
3 Exhibit No. \_\_(CMW-2), Schedule 11, the Company's ratio of capital expenditures as a  
4 percentage of net utility plant is 91.96 percent, which is greater than the median for the  
5 proxy group companies of 50.87 percent. This result indicates a risk level for Montana-  
6 Dakota that is higher than the proxy group companies.

7 **Q90. Does Montana-Dakota have a capital tracking mechanism to recover the costs**  
8 **associated with its capital expenditures between rate cases?**

9 A90. No. Montana-Dakota currently has not requested approval to recover capital investment  
10 costs between rate cases utilizing a capital tracking mechanism. Therefore, Montana-  
11 Dakota depends entirely on rate case filings for capital cost recovery. However, significant  
12 programs like Montana-Dakota's that drive capital expenditure requirements generally  
13 receive cost recovery through infrastructure and capital trackers. As shown in Exhibit  
14 No.\_\_(CMW-2), Schedule 12, 71.40 percent of the companies in the proxy group have  
15 some form of capital cost recovery mechanisms in place. Since Montana-Dakota does not  
16 currently have a capital tracking mechanism, Montana-Dakota's risk relative to the proxy  
17 group is significantly increased.

18 **Q91. What are your conclusions regarding the effect of the Company's capital spending**  
19 **requirements on its risk profile and cost of capital?**

20 A91. The Company's capital expenditure requirements as a percentage of net utility plant are  
21 significant and will continue over the next few years. Additionally, unlike a number of the  
22 operating subsidiaries of the proxy group, Montana-Dakota does not have a comprehensive  
23 capital tracking mechanism to recover the Company's projected capital expenditures.

1 Therefore, Montana-Dakota's capital expenditures plan and limited ability to recover the  
2 capital investment on an as incurred basis results in a risk profile that is greater than that  
3 of the proxy group and supports an ROE toward the higher end of the reasonable range of  
4 ROEs.

#### 5 **D. Regulatory Risk**

##### 6 **Q92. How does the regulatory environment affect investors' risk assessments?**

7 A92. The ratemaking process is premised on the principle that, for investors and companies to  
8 commit the capital needed to provide safe and reliable utility services, the subject utility  
9 must have the opportunity to recover invested capital and the market-required return on  
10 such capital. Regulatory commissions recognize that because utility operations are capital  
11 intensive, regulatory decisions should enable the utility to attract capital at reasonable terms,  
12 which balances the long-term interests of investors and customers. In that respect, the  
13 regulatory framework in which a utility operates is one of the most important factors  
14 considered in both debt and equity investors' risk assessments.

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

1 From the perspective of equity investors, the authorized return must be adequate to provide  
2 a risk-comparable return on the equity portion of the Company's capital investments.  
3 Because equity investors are the residual claimants on the Company's cash flows (that is,  
4 debt interest must be paid prior to any equity dividends), equity investors are particularly  
5 concerned with the regulatory framework in which a utility operates and its effect on future  
6 earnings and cash flows.

7 **Q93. How do credit rating agencies consider regulatory risk in establishing a company's**  
8 **credit rating?**

9 A93. Both S&P and Moody's consider the overall regulatory framework in establishing credit  
10 ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory  
11 framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4)  
12 financial strength, liquidity, and key financial metrics. Of these criteria, regulatory  
13 framework and the ability to recover costs and earn returns are each given a broad rating  
14 factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00 percent  
15 weighting in the overall assessment of business and financial risk for regulated utilities.<sup>52</sup>

16 S&P also identifies the regulatory framework as an important factor in credit ratings for  
17 regulated utilities, stating: "One significant aspect of regulatory risk that influences credit  
18 quality is the regulatory environment in the jurisdictions in which a utility operates."<sup>53</sup>

19 S&P identifies four specific factors that it uses to assess the credit implications of the  
20 regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2)

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<sup>52</sup> Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 4.

<sup>53</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.



1 tariff-setting procedures and design; (3) financial stability; and (4) regulatory independence  
2 and insulation.<sup>54</sup>

3 **Q94. How does the regulatory environment in which a utility operates affect its access to**  
4 **and cost of capital?**

5 A94. The regulatory environment can significantly affect both the access to, and cost of capital  
6 in several ways. First, the proportion and cost of debt capital available to utility companies  
7 are influenced by the rating agencies' assessment of the regulatory environment. As noted  
8 by Moody's, "[f]or rate regulated utilities, which typically operate as a monopoly, the  
9 regulatory environment and how the utility adapts to that environment are the most  
10 important credit considerations."<sup>55</sup> Moody's has further highlighted the relevance of a  
11 stable and predictable regulatory environment to a utility's credit quality, noting:  
12 "[b]roadly speaking, the Regulatory Framework is the foundation for how all the decisions  
13 that affect utilities are made (including the setting of rates), as well as the predictability  
14 and consistency of decision-making provided by that foundation."<sup>56</sup>

15 **Q95. Have you conducted an analysis to compare the cost recovery mechanisms of**  
16 **Montana-Dakota to the cost recovery mechanisms approved in the jurisdictions in**  
17 **which the companies in your proxy group operate?**

18 A95. Yes. I have evaluated the regulatory framework in South Dakota on three factors that are  
19 important in terms of providing a regulated utility a reasonable opportunity to earn its  
20 authorized ROE: (1) test year convention (i.e., forecast vs. historical); (2) use of rate design

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<sup>54</sup> *Id.*, at 1.

<sup>55</sup> Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 6.

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

1 or other mechanisms that mitigate volumetric risk and stabilize revenue; and (3) prevalence  
2 of capital cost recovery between rate cases. The results of this regulatory risk assessment  
3 are shown in Exhibit No. \_\_(CMW-2), Schedule 12 and are summarized as follows:

4 Test Year Convention: Montana-Dakota is relying on a partially forecasted test  
5 year in South Dakota for the period January 1, 2023 through December 31, 2023.  
6 Similarly, approximately 52 percent of the operating utility subsidiaries of the  
7 proxy group companies provide service in jurisdictions that use a forecasted test  
8 year.

9 Revenue Stabilization / Volumetric Risk: The Company does have a weather  
10 normalization clause known as the Distribution Delivery Stabilization Mechanism  
11 (“DDSM”) to mitigate volumetric risk in South Dakota. The DDSM provides for  
12 the under/over recovery due to weather fluctuations during the period October 1  
13 through April 30 each year. This is consistent with the proxy group as  
14 approximately 90 percent of the operating utility subsidiaries of the proxy group  
15 companies have some form of revenue stabilization either through revenue  
16 decoupling or rate design mechanisms.

17 Capital Cost Recovery: As noted, the Company does not have a capital tracking  
18 mechanism to recover capital investment costs between rate cases. However,  
19 approximately 71 percent the operating utility subsidiaries of the proxy group  
20 companies have some form of capital cost recovery allowing for the recovery of  
21 capital investments placed into service between rate cases.

22 **Q96. What is the effect on Montana-Dakota of having relatively fewer timely cost recovery**  
23 **mechanisms?**

24 A96. The lack of timely cost recovery mechanisms can result in regulatory lag. Regulatory lag  
25 occurs when a regulated utility is not able to recover its just and reasonable costs of  
26 providing service to customers on a timely basis. Regulatory lag is reflected in a utility’s

1 financial performance through earnings attrition, which is the inability of the utility to earn  
2 its authorized ROE due to delays in the recovery of allowable costs that have been incurred  
3 to provide regulated service to customers.

4 **Q97. What is your conclusion regarding the regulatory framework in South Dakota as**  
5 **compared with the jurisdictions in which the proxy group companies operate?**

6 A97. As discussed throughout this section of my testimony, both Moody's and S&P have  
7 identified the supportiveness of the regulatory environment as an important consideration  
8 in developing their overall credit ratings for regulated utilities. Considering the regulatory  
9 adjustment mechanisms, many of the companies in the proxy group have more timely cost  
10 recovery through forecasted test years, capital cost recovery trackers and revenue  
11 stabilization mechanisms than Montana-Dakota has in South Dakota. As a result, I  
12 conclude that the Company has greater than average regulatory risk when compared to the  
13 proxy group.

14 **VIII. CAPITAL STRUCTURE**

15 **Q98. Is the capital structure of the Company an important consideration in the**  
16 **determination of the appropriate ROE?**

17 A98. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such  
18 as Montana-Dakota. All else equal, a higher debt ratio increases the risk to equity investors.  
19 For debt holders, higher debt ratios result in a greater portion of the available cash flow  
20 being required to meet debt service, thereby increasing the risk associated with the  
21 payments on debt. The result of increased risk is a higher interest rate. The incremental  
22 risk of a higher debt ratio is more significant for common equity shareholders, whose claim

1 on the cash flow of the Company is secondary to debt holders. Therefore, the greater the  
2 debt service requirement, the less cash flow available for common equity holders. To the  
3 extent the equity ratio is reduced, it is necessary to increase the authorized ROE to  
4 compensate investors for the greater financial risk associated with a lower equity ratio.

5 **Q99. What is Montana-Dakota's proposed capital structure?**

6 A99. The Company is proposing to establish a capital structure consisting of 50.392 percent  
7 common equity, 44.340 percent long-term debt and 5.268 percent short-term debt.

8 **Q100. Did you conduct an analysis to assess the reasonableness of the requested equity ratio?**

9 A100. Yes. I compared the Company's proposed capital structure relative to the actual capital  
10 structures of the utility operating subsidiaries of the companies in the proxy group. Since  
11 the ROE is set based on the return that is derived from the risk-comparable proxy group, it  
12 is reasonable to look to the average capital structure for the proxy group to benchmark the  
13 equity ratios for the Company.

14 Specifically, I calculated the average proportion of common equity, long-term debt,  
15 preferred equity and short-term debt for the most recent three years for each of the utility  
16 operating subsidiaries of the proxy group companies. As shown on Exhibit No. \_\_(CMW-  
17 2), Schedule 13, the average common equity ratio for the operating subsidiaries of the  
18 proxy group companies ranged from 44.57 percent to 59.79 percent, with an average of  
19 53.59 percent. Given that Montana-Dakota's proposed equity ratio of 50.392 percent is  
20 within the range of equity ratios for the utility operating subsidiaries of the proxy group  
21 companies, and in fact is below the average, I consider its proposed equity ratio to be  
22 reasonable.

1 **Q101. Are there other factors to be considered in setting the Company’s capital structure?**

2 A101. Yes, there are other factors that should be considered in setting the Company’s capital  
3 structure, namely the challenges that the credit rating agencies have highlighted as placing  
4 pressure on the outlook for utilities in 2023.

5 For example, Moody’s recently revised its 2023 outlook for the regulated gas and electric  
6 utilities sector to “negative” based on ongoing challenges of inflation, increasing interest  
7 rates and higher natural gas prices. Moody’s noted that these challenges increase the  
8 pressure on customer affordability, and thus face heightened public scrutiny and the ability  
9 of utilities to promptly recover their costs. Moody’s concluded that regulated utilities’  
10 financial metrics are already under pressure with little cushion, and that sustained capital  
11 spending is likely as utilities continue progress towards emissions reductions and net-zero  
12 goals. Moody’s noted that the outlook could return to stable if regulatory support remains  
13 intact, natural gas prices are at a level where utilities are able to recover their fuel and  
14 purchased power costs without delay beyond 12 months, overall inflation moderates,  
15 interest rates stabilize and/or utilities’ aggregate funds from operations-to-debt ratio  
16 remains between 14 and 15 percent.<sup>57</sup> While Moody’s recently noted that natural gas prices  
17 have declined<sup>58</sup>, inflation and interest rates remain elevated.

18 Fitch also highlights similar factors identified by Moody’s as challenging utilities’ outlook  
19 for 2023, stating that the sector faces mounting cost pressures due to “elevated commodity  
20 prices, inflationary headwinds and rising interest costs,” and that some offset in managing

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<sup>57</sup> Moody’s Investors Service, Outlook. “2023 outlook negative due to higher prices, inflation and rising interest rates.” November 10, 2022; Moody’s Investors Service. Outlook, Sector In-Depth. “Inflation, high natural gas prices complicate prospects for supportive rate increases.” November 11, 2022.

<sup>58</sup> Moody’s Investors Service, Sector Comment. “Regulatory risk related to service affordability eases as natural gas prices decline.” March 9, 2023.

1 these headwinds include “higher authorized ROEs and the use of tools such as  
2 securitization of under-recovered fuel balances.”<sup>59</sup>

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

6 Despite the improvement in economic data, we expect inflation, rising  
7 interest rates, higher capital spending, and the strategic decision by many  
8 companies to operate with only minimal financial cushion from their  
9 downgrade thresholds to continue to pressure the industry's credit quality.  
10 Throughout 2022 and so far in 2023, the Federal Reserve has consistently  
11 raised interest rates to reduce the pace of inflation. While these actions  
12 appear to have had a positive effect on slowing inflation, there's still been a  
13 modest weakening in the industry's financial measures because of inflation  
14 and rising interest rates. An environment of continuously rising costs tends  
15 to weaken the industry's financial measures because of the timing difference  
16 between when the higher costs are incurred and when they are ultimately  
17 recovered from ratepayers.<sup>60</sup>

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

## 22 **IX. CONCLUSIONS AND RECOMMENDATION**

### 23 **Q102. What is your conclusion regarding a fair ROE for the Company?**

24 A102. Based on the various quantitative analyses summarized in Figure 12 and the qualitative  
25 analyses presented in my Direct Testimony, a reasonable range of ROE results for  
26 Montana-Dakota is from 10.00 percent to 11.00 percent. Within that range, I believe that

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<sup>59</sup> Fitch Ratings. “North American Utilities, Power & Gas Outlook 2023.” December 7, 2022, at 1-2.

<sup>60</sup> S&P Global Ratings. “The Outlook for North American Regulated Utilities Turns Stable,” May 18, 2023, at 8.

1 an ROE of 10.50 percent is reasonable and appropriate. The recommended ROE takes into  
2 consideration the current conditions in capital markets including the high interest rates, and  
3 elevated inflationary pressures, both of which increase the cost of capital as well as the  
4 relative business and financial risk of Montana-Dakota as compared to the proxy group.  
5 This ROE would fairly balance the interests of customers and shareholders.

1

**Figure 12: Summary of Results**

<i>Constant Growth DCF - Earnings Growth</i>			
	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean:			
30-Day Avg. Stock Price	8.92%	10.02%	11.49%
90-Day Avg. Stock Price	8.84%	9.94%	11.41%
180-Day Avg. Stock Price	8.85%	9.96%	11.42%
Average	8.87%	9.97%	11.44%
Median:			
30-Day Avg. Stock Price	8.75%	10.08%	11.13%
90-Day Avg. Stock Price	8.58%	10.12%	10.90%
180-Day Avg. Stock Price	8.55%	10.16%	10.82%
Average	8.62%	10.12%	10.95%
<i>CAPM, ECAPM, and Bond Yield Risk Premium</i>			
	Current 30-Day Avg 30-Year Treasury Yield	Near-Term Projected 30-Year Treasury Yield	Longer-Term Projected 30-Year Treasury Yield
CAPM:			
Current <i>Value Line</i> Beta	11.10%	11.09%	11.08%
Current Bloomberg Beta	10.58%	10.57%	10.56%
Long-term Avg. <i>Value Line</i> Beta	10.28%	10.27%	10.26%
ECAPM:			
Current <i>Value Line</i> Beta	11.49%	11.49%	11.48%
Current Bloomberg Beta	11.11%	11.10%	11.09%
Long-term Avg. <i>Value Line</i> Beta	10.88%	10.87%	10.86%
Bond Yield Risk Premium:	10.14%	10.12%	10.11%

2

3 **Q103. What is your conclusion regarding the Company's proposed capital structure?**

4 A103. My conclusion is that Montana-Dakota's proposal to establish a capital structure for  
5 ratemaking purposes consisting of 50.392 percent common equity, 44.340 percent long-  
6 term debt, and 5.268 percent short-term debt is reasonable when compared to the capital  
7 structures of the utility operating subsidiaries of the proxy group companies and taking in



1 consideration the effect of inflation and increased capital expenditures on the cash flows,  
2 and therefore should be adopted.

3 **Q104. Does this conclude your direct testimony?**

4 A104. Yes, it does.