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Attorneys for Intermountain Gas Company

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	)	**CASE NO. INT-G-22-07**

DIRECT TESTIMONY OF ANN E. BULKLEY

FOR INTERMOUNTAIN GAS COMPANY

December 1, 2022

Q. Please state your name and business address.

A. My name is Ann E. Bulkley. My business address is One Beacon Street, Suite 2600, Boston, Massachusetts 02108. I am a Principal at The Brattle Group ("Brattle"), a consulting firm that advises clients on regulatory finance and ratemaking issues.

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

A. I am submitting this testimony before the Idaho Public Utilities Commission ("Commission") on behalf of Intermountain Gas Company ("Intermountain" or "the Company").

Q. Please describe your education and experience.

A. I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University, with more than 25 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes. I have included my resume and a summary of testimony that I have filed in other proceedings as Exhibit No. 1.

I. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

Q. Please describe the purpose of your testimony.

A. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding the appropriate return on equity ("ROE") for the Company and to assess the reasonableness of its proposed capital structure for ratemaking purposes.

Q. Are you sponsoring any schedules in support of your Direct Testimony?

A. Yes. My analysis and recommendations are supported by the data presented in Exhibit No. 2 through Exhibit No. 12, which were prepared by me or under my direction.

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

A. I estimated the Company's Cost of Equity ("COE") by applying several traditional COE estimation methodologies to a proxy group of comparable utilities including, Discounted Cash Flow ("DCF"), Capital Asset Pricing Model ("CAPM"), Empirical CAPM ("ECAPM"), and Bond Yield Risk Premium ("BYRP" or "Risk Premium") analysis. My recommendation also takes into consideration: (1) the Company's small size, relative to the proxy group, (2) the Company's actual and anticipated capital expenditure requirements, (3) the Company's regulatory risk as compared with the proxy group, (4) the Company's service territory risk as compared to the proxy group, and (5) Flotation Costs. Finally, I considered the Company's capital structure as compared with the capital structures of the proxy companies. [1] While I did not make any specific adjustments to the ROE recommendation for any of these factors individually, I did take them into consideration in aggregate when determining where the Company's ROE falls within the range of analytical results.

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

A. Section II provides a summary of my analyses and conclusions. Section III reviews the regulatory guidelines pertinent to the development of the cost of capital. Section IV discusses current and projected capital market conditions and the effect of those conditions

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

on the cost of equity. Section V explains the selection of a proxy group of natural gas distribution utilities. Section VI describes the analyses and analytical basis for the recommendation of an appropriate ROE for Intermountain. Section VII provides a discussion of specific regulatory, business and financial risks that directly affect the ROE to be authorized for the Company in this case. Section VIII addresses the Company's capital structure as compared with the capital structures of the utility operating company subsidiaries of the proxy group companies. Section IX presents my conclusions and recommendations.

II. SUMMARY OF ANALYSIS AND CONCLUSIONS

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

A. In developing my recommended ROE for Intermountain, I considered the following:

- The United States Supreme Court's *Hope* and *Bluefield* decisions that established the standards for determining a fair and reasonable allowed ROE, including consistency of the allowed return with the returns of other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and the requirement that the result lead to just and reasonable rates.[2]
- The effect of current and projected capital market conditions on ROE estimation models and on investors' return requirements.
- The results of several analytical approaches that provide estimates of the Company's cost of equity. Because the Company's required COE should be a forward-looking

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

estimate, these analyses rely on forward-looking inputs and assumptions (e.g., projected analyst growth rates in the DCF model, forecasted risk-free rate and Market Risk Premium in the CAPM analysis, etc.)

- The Company's regulatory, business, financial and regulatory risks relative to the proxy group of comparable companies, and the implications of those risks in determining an appropriate ROE for the Company over the period during which rates will be in effect.

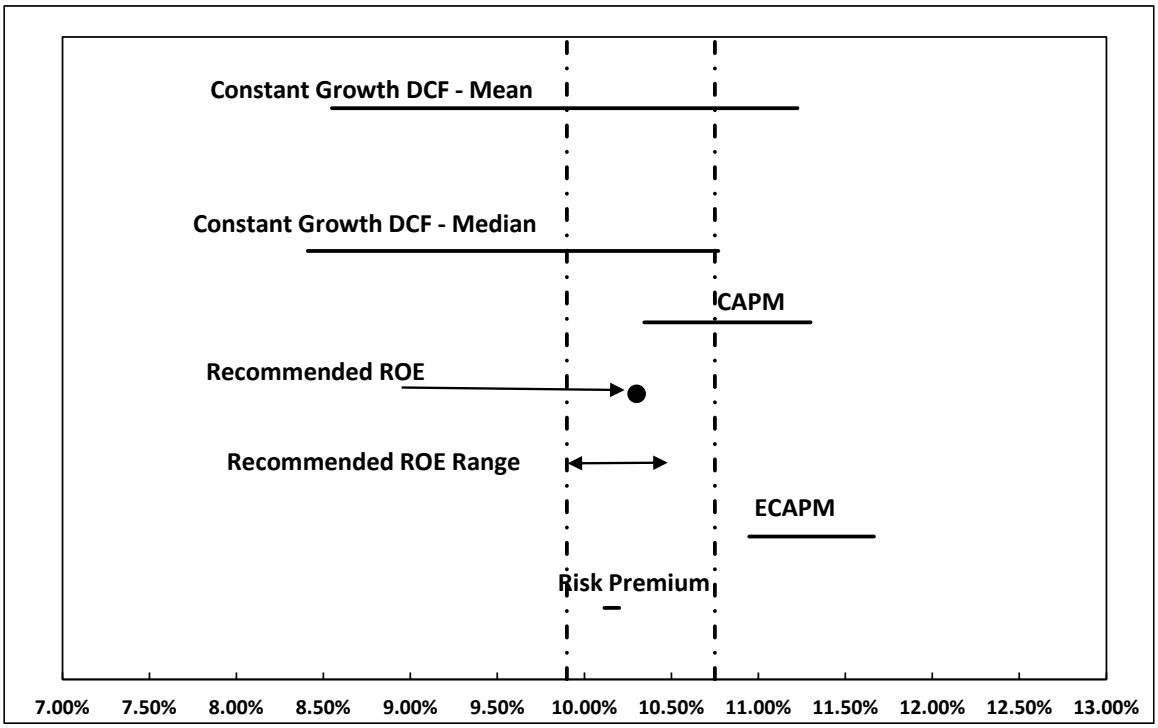
Q. Please explain how you considered those factors.

A. I relied on the range of results produced by the Constant Growth DCF model, the CAPM and ECAPM, and a Risk Premium analysis. As shown in Figure 1, these COE estimation models produce a wide range of results. My conclusion as to the appropriate ROE for Intermountain within that range of results is based on Intermountain's business and financial risk relative to the proxy group and my assessment of market conditions. Although the companies in my proxy group are generally comparable to Intermountain, each company is unique, and no two companies have the exact same business and financial risk profiles. Accordingly, I considered the Company's business, financial and regulatory risk in aggregate relative to that of the proxy group companies when determining where the Company's ROE should fall within the reasonable range of analytical results to appropriately account for any residual differences in risk.

Q. Please summarize the results of the COE estimation models that you considered to establish the range of the COE for Intermountain.

A. Figure 1 summarizes the range of results produced by the Constant Growth DCF, CAPM, ECAPM, and Bond Yield Risk Premium analyses.

Figure 1: Summary of Cost of Equity Analytical Results



As shown in Figure 1 (and in Exhibit No. 2), the range of results produced by the COE 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 Intermountain's company-specific risk factors and current and prospective capital market conditions.

Q. What is your conclusion regarding the appropriate authorized ROE for Intermountain in this proceeding?

A. Based on the analytical results presented in Figure 1, my assessment of current and anticipated capital market conditions, and the Company's business, financial and regulatory risk relative to proxy group companies, I conclude that a ROE in the range of

9.90 percent to 10.75 percent is reasonable. Considering underlying market conditions and the business, financial and regulatory risk factors facing Intermountain, including the Company's small size compared to proxy group, significant capital expenditures and lack of any mechanism to provide for recovery between rate cases, I believe an ROE of 10.30 percent is reasonable and appropriate.

Q. Please summarize your analysis of the appropriate ratemaking capital structure for the Company.

A. Based on the analysis presented in Section VIII of my testimony, I conclude that Intermountain's proposed 50.00 percent common equity ratio is reasonable. To determine if Intermountain's requested capital structure was reasonable, I reviewed the capital structures of the utility subsidiaries of the proxy companies. As shown in Exhibit No. 12, the results of that analysis demonstrate that the average equity ratios for the utility operating companies of the proxy group range from 48.73 percent to 61.47 percent, with an average of 56.41 percent. Comparing the recommended equity ratio to the proxy group demonstrates that the Company's requested equity ratio is well below the average equity ratio for the utility operating subsidiaries of the proxy group companies. Further, the Company's proposed equity ratio is reasonable considering the negative effects from Tax Cuts and Jobs Act of 2017 ("TCJA") on coverage ratios and increased capital expenditures on the cash flows and credit metrics of regulated utilities.

III. REGULATORY GUIDELINES

Q. Please describe the guiding principles to be used in establishing the cost of equity for a regulated utility.

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

Q. Has the Commission provided similar guidance in establishing the appropriate return on common equity?

A. Yes. In Intermountain's last rate case in 2016, the Commission findings were based on the standards established in *Hope* and *Bluefield*:

> The standards for determining a fair ROE for a regulated utility have been framed by two decisions of the *U.S. Supreme Court: Bluefield Water Works & Improvement Co. v. Public Serv. Commission of West Virginia*, 262 U.S. 679 (1923), and *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944). In these cases, the Court provided that the authorized ROE should be: (1) sufficient to maintain financial integrity; (2) sufficient to attract capital under reasonable terms; and (3) commensurate with returns investors could earn by investing in other enterprises of comparable risk. In line with these decisions, the Idaho Supreme Court has stated "that the primary objective in ratemaking is to allow the utility to meet its legitimate operating expenses, as well as to pay creditors, provide dividends to shareholders, and maintain its financial integrity so that it might attract new capital." *Application of Citizens Utilities Co.*, 112 Idaho 1061, 1067, 739 P.2d 360, 366 (1987).[4]

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

[4] *In the Matter of the Application of Intermountain Gas Company to Change Its Rates and Charges for Natural Gas Service in the State of Idaho*, Case No. INT-G-16-02, Order No. 33757, at 7-8 (April 28, 2017).

This guidance is in accordance with the *Hope* and *Bluefield* decisions and the principles that I employed to estimate the ROE for Intermountain, including the principle that an allowed rate of return must be sufficient to enable regulated companies like Intermountain to attract capital on reasonable terms. Furthermore, the methodologies that I have employed are consistent with the Commission's recognition, as discussed below, that it is important to consider other information beyond the results of the financial model analysis to establish an ROE that is reasonable and reflects the investor-required return.

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

A. An ROE that is adequate to attract capital at reasonable terms enables the Company to continue to provide safe, reliable natural gas service while maintaining its financial integrity. That return should be commensurate with returns expected elsewhere in the market for investments of equivalent risk. If it is not, debt and equity investors will seek alternative investment opportunities for which the expected return reflects the perceived risks, thereby inhibiting the Company's ability to attract capital at reasonable cost.

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

A. Yes. Utilities compete directly for capital with other investments of similar risk, which include other natural gas and electric utilities. Therefore, the ROE awarded to a utility sends an important signal to investors regarding whether there is regulatory support for financial integrity, dividends, growth, and fair compensation for business and financial risk. The cost of capital represents an opportunity cost to investors. If higher returns are available for other investments of comparable risk, investors have an incentive to direct

their capital to those investments. Thus, an authorized ROE that is not in line with authorized ROEs for other natural gas and electric utilities, on a risk adjusted basis, can inhibit the utility's ability to attract capital for investment in Idaho.

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

Q. What are your conclusions regarding these regulatory guidelines?

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

The financial community carefully monitors the current and expected financial condition of utility companies and the regulatory frameworks in which they operate. In that respect, the regulatory framework is one of the most important factors in both debt and equity investors' assessments of risk. The Commission's order in this proceeding, therefore, should provide the Company with the opportunity to earn an ROE that is: (1) adequate to attract capital at reasonable terms under a variety of economic and financial market conditions over the period of time that its investment will be recovered; (2) sufficient to reasonably ensure its financial integrity; and (3) commensurate with returns

on investments in enterprises with similar risk. Providing the opportunity to earn a market-based cost of capital supports the financial integrity of the Company, which is in the interest of both customers and shareholders.

Q. What is the standard for setting the ROE in any jurisdiction?

A. The stand-alone ratemaking principle is the foundation of jurisdictional ratemaking. This principle requires that the rates that are charged in any operating jurisdiction be for the costs incurred in that jurisdiction. The stand-alone ratemaking principle ensures that customers in each jurisdiction only pay for the costs of the service provided in that jurisdiction, which is not influenced by the business operations in other operating companies. In order to maintain this principle, the COE analysis is performed for an individual operating company as a stand-alone entity. As such, I have evaluated the investor-required return for Intermountain's natural gas operations in Idaho.

IV. CAPITAL MARKET CONDITIONS

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

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

As a result, it is important to consider the effect of these conditions on the COE estimation models when determining the appropriate range and recommended ROE for a

future period. If investors do not expect current market conditions to be sustained in the future, it is possible that the COE estimation models will not provide an accurate estimate of investors' required return during that rate period. Therefore, it is very important to consider projected market data to estimate the return for that forward-looking period.

Q. What factors are affecting the cost of equity for regulated utilities in the current and prospective capital markets?

A. The COE for regulated utility companies is being affected by several factors in the current and prospective capital markets, including: 1) persistently high inflation, 2) changes in monetary policy, and 3) rising long-term interest rates. These factors affect the assumptions used in the COE estimation models. In this section, I discuss each of these factors and how they affect the models used to estimate the cost of equity for regulated utilities.

Q. What effect do current and prospective market conditions have on the COE for Intermountain?

A. As is discussed in more detail in the remainder of this section, the combination of persistently high inflation, and the Federal Reserve's changes in monetary policy, contribute to an expectation of increased market risk and an increase in the cost of the investor-required return. It is essential that these factors be considered in setting a forward-looking ROE. Inflation has recently been at some of the highest levels seen in approximately 40 years. Interest rates, which have increased from the pandemic lows seen in 2020 are expected to continue to increase in direct response to the Federal Reserve's monetary policy. Since there is a strong historical inverse correlation between interest rates and the share prices of utility stocks (share prices of utility stocks typically fall when

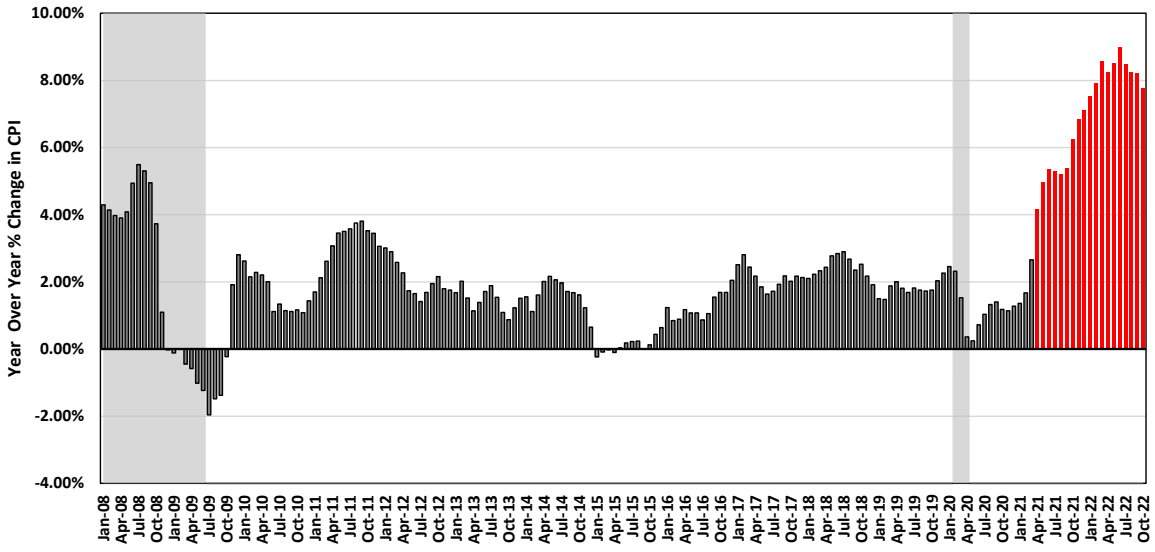
interest rates rise), it is reasonable to expect that investors' required return for utility companies will also continue to increase. Therefore, COE estimates based solely on current market conditions will understate the COE required by investors during the future period that the Company's rates determined in this proceeding will be in effect.

A. Inflationary Expectations in Current and Project Capital Market Conditions

Q. Has inflation increased significantly over the past year?

A. Yes. As shown in Figure 2, the YOY change in the Consumer Price Index ("CPI") published by the Bureau of Labor statistics has increased steadily since the beginning of 2021, rising from 1.37 percent in January 2021. Since that time, and particularly since the start of 2022, inflation has increased steadily, reaching a high of 9.0 percent YOY change in June 2022, which was the largest 12-month increase since 1981 and significantly greater than any level seen since January 2008, in October, CPI decreased to 7.76 percent, which is still at levels not seen since the 1980s.

Figure 2: Consumer Price Index—YOY Percent Change January 2008–October 2022[5]



[5] Source: Bureau of Labor Statistics, shaded area indicates a recession.

Q. What are the expectations for inflation over the near-term?

A. The expectation is that inflation will remain elevated over the near-term. This expectation is supported by recent comments of the Chair and Vice Chair of the Federal Reserve. For example, in an interview with Bloomberg on November 14, 2022, Vice Chair Lael Brainard noted that:

> I think it will probably be appropriate soon to move to a slower pace of increases. **But I think what's really important to emphasize -- we've done a lot, but we have additional work to do both on raising rates and sustaining restraint to bring inflation down to 2% over time**.
>
> We have raised rates very rapidly by nearly four percentage points over about nine months and we've been reducing the balance sheet, and you can see that in financial conditions. You can see it in inflation expectations, which are quite well anchored. You can see it in interest-rate-sensitive sectors.
>
> But as we said last meeting, there are likely to be lags and it's going to take some time for that cumulative tightening to flow through. And so it makes sense to move to a more deliberate and a more data-dependent pace as we continue to make sure that there's restraint that will bring inflation down over time.[6]

Similarly, at the Federal Open Market Committee meeting in November 2022, Chairman Powell indicated that:

> My colleagues and I are strongly committed to bringing inflation back down to our 2 percent goal. We have both the tools that we need and the resolve it will take to restore price stability on behalf of American families and businesses. Price stability is the responsibility of the Federal Reserve and serves as the bedrock of our economy. Without price stability, the economy does not work for anyone. In particular, without price stability, we will not achieve a sustained period of strong labor market conditions that benefit all.

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[6] "Lael Brainard Talks Fed Interest Rates, Inflation, Crypto in Exclusive Interview." Bloomberg.com, 14 Nov. 2022, https://www.bloomberg.com/news/articles/2022-11-14/fed-s-brainard-on-rates-inflation-crypto-labor-and-more-q-a. (emphasis added).

> Today, the FOMC raised our policy interest rate by 75 basis points, and we continue to anticipate that ongoing increases will be appropriate. We are moving our policy stance purposefully to a level that will be sufficiently restrictive to return inflation to 2 percent. In addition, we are continuing the process of significantly reducing the size of our balance sheet. Restoring price stability will likely require maintaining a restrictive stance of policy for some time.
>
> …
>
> At today's meeting the Committee raised the target range for the federal funds rate by 75 basis points. And we are continuing the process of significantly reducing the size of our balance sheet, which plays an important role in firming the stance of monetary policy.
>
> With today's action, we have raised interest rates by 3-3/4 percentage points this year. We anticipate that ongoing increases in the target range for the federal funds rate will be appropriate in order to attain a stance of monetary policy that is sufficiently restrictive to return inflation to 2 percent over time.[7]

Finally, Federal Reserve Governor Christopher Waller provided further support that the Federal Reserve believes there is still significant progress that needs to be made to bring inflation down to the Federal Reserve's long-term target of 2 percent. At the UBS Group AG conference on November 13, 2022, Federal Reserve Governor Waller stated:

> "**These rates are going to stay -- keep going up -- and they're going to stay high for a while until we see this inflation get down closer to our target**," Waller said Monday at a UBS Group AG conference in Sydney. "**We've still got a ways to go. This isn't ending in the next meeting or two**."[8]

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[7] Transcript, Chair Powell, Press Conference, November 2, 2022.

[8] Pandey, Swati. "Fed's Waller Says There's a 'Ways to Go' before Rate Hikes Done." Bloomberg.com, Bloomberg, 13 Nov. 2022, https://www.bloomberg.com/news/articles/2022-11-13/fed-s-waller-says-there-s-a-ways-to-go-before-rate-hikes-done. (emphasis added).

B. The use of Monetary Policy to Address Inflation

Q. What policy actions has the Federal Reserve enacted to respond to increased inflation?

A. The dramatic increase in inflation has prompted the Federal Reserve to pursue an aggressive normalization of monetary policy, removing the accommodative policy programs used to mitigate the economic effects of COVID-19. As of the November 2, 2022 meeting, the Federal Reserve has taken the following actions:

- Completed its taper of Treasury bond and mortgage-backed securities purchases[9];
- Increased the target federal funds rate beginning in March 2022 through a series of six increases from 0.00 – 0.25 percent to 3.75 percent to 4.00 percent.[10]
- Anticipates the need to bring the Fed Funds rate to a restrictive level and keep it there for some time in order to achieve its goals of maximum employment at the inflation rate of 2 percent over the long-run;[11]
- Began reducing its holdings of Treasury and mortgage-backed securities on June 1, 2022.[12] The Federal Reserve is reducing the size of its balance sheet by only reinvesting principle payments on owned securities after the total amount of payments received exceeds a defined cap. For Treasury Securities, the cap is set at $60 billion per month. The cap for mortgage-backed securities is set at $35 billion per month.[13]

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[9] Source: Federal Reserve Bank of New York, https://www.newyorkfed.org/markets/domestic-market-operations/monetary-policy-implementation/treasury-securities/treasury-securities-operational-details#monthly-details.

[10] Federal Reserve, Press Releases, March 16, 2022, May 4, 2022, June 15, 2022, September 22, 2022 and November 2, 2022

[11] Transcript, Chair Powell, Press Conference, September 21, 2022.

[12] Source: Federal Reserve, Press Release, (May 4, 2022).

[13] Source: Federal Reserve, Plans for Reducing the Size of the Federal Reserve's Balance Sheet, Press Release, (May 4, 2022).

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

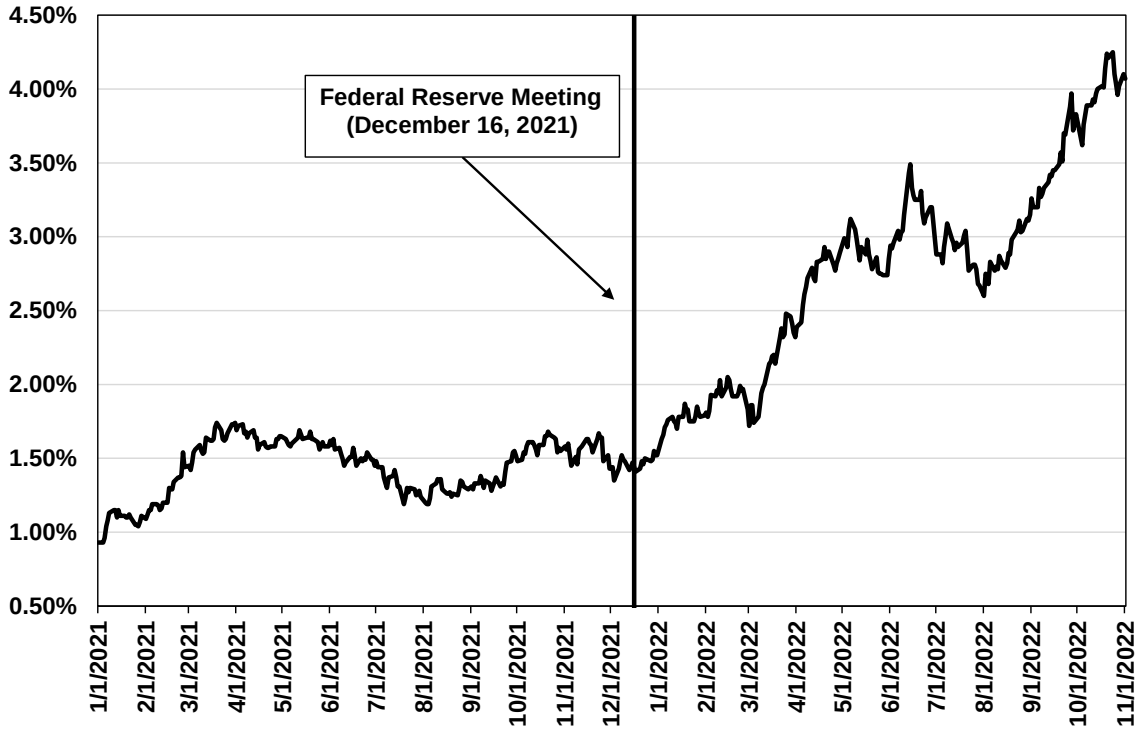
Q. What effect will inflation and Federal Reserve's normalization of monetary policy have on long-term interest rates?

A. Inflation and the Federal Reserve's normalization of monetary policy will likely result in increases in long-term interest rates. Specifically, inflation reduces the purchasing power of the future interest payments an investor expects to receive over the duration of the bond. This risk increases the longer the duration of the bond. As a result, if investors expect increased levels of inflation, they will require higher yields to compensate for the increased risk of inflation, which means interest rates will increase.

Q. Have the yields on long-term government bonds increased in response to inflation and the Federal Reserve's normalization of monetary policy?

A. Yes, they have. As shown in Figure 3, since the Federal Reserve's December 2021 meeting, the yield on 10-year Treasury bond has more than doubled, increasing from 1.47 percent on December 15, 2021 to 4.10 percent on October 31, 2022. The increase is due to the Federal Reserve's announcements at each of the meetings since December 2021, and the continued increased levels of inflation that are now expected to persist much longer than the Federal Reserve and investors had originally projected.

Figure 3: 10-Year Treasury Bond Yield—Janaury 2021– October 31, 2022[14]



Q. Do recent changes in GDP affect the current outlook for inflation and interest rates?

A. No. While FOMC participants have reduced their projections for economic activity for real GDP growth of 0.2 percent in 2022 and 1.2 percent in 2023[15], which is well below the median estimate for the longer-run normal GDP growth rate, the Fed has highlighted that the labor market continues to be extremely tight. Specifically, Chair Powell noted at the November 2022 FOMC meeting that unemployment remained near 50-year lows, job vacancies are still very high and wage growth elevated.[16] Therefore, with a tight labor

[14] S&P Capital IQ Pro.

[15] FOMC, Summary of Economic Projections, September 21, 2022.

[16] Federal Reserve, Transcript of Chair Powell's Press Conference, November 2, 2022.

market and persistently high inflation, the Fed has indicated its need to continue a restrictive monetary policy to moderate demand to better align it with supply.[17]

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

Q. Are utility share prices correlated to changes in the yields on long-term government bonds?

A. Yes. Interest rates and utility share prices are inversely correlated which means, for example, that an increase in interest rates will result in a decline in the share prices of utilities. For example, Goldman Sachs and Deutsche Bank examined the sensitivity of share prices of different industries to changes in interest rates over the past five years. Both Goldman Sachs and Deutsche Bank found that utilities had one of the strongest negative relationships with bond yields (i.e., increases in bond yields resulted in the decline of utility share prices).[18]

Q. How do equity analysts expect the utilities sector to perform in an increasing interest rate environment?

A. Equity analysts project that utilities will underperform the broader market as interest rates increase. Fidelity recently classified the utility sector as underweight[19] and Morningstar recently noted that a long as inflation persists the utility sector will underperform.[20] Specifically, Morningstar noted that:

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[17] *Ibid.*

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

[19] Fidelity, "Fourth Quarter 2022, Investment Research Update," October 26, 2022.

[20] Miller, Travis, "As Long as Inflation Worries Persist, We Expect Utilities to Underperform: Renewable energy continues to be a long-term boon for the sector," July 6, 2022.

> [a]s long as inflation remains the market's top concern, we expect utilities to underperform. Utilities are the most sensitive to inflation because of their mostly fixed revenue, large capital investment budgets, and borrowing needs. We think long-term investors who want utilities in their portfolios should focus on those in constructive regulatory environments with the most protection from inflation.[21]

Additionally, the Wall Street Journal ("WSJ") recently noted in an article published on October 18, 2022 that the S&P Utilities Index was down 14 percent over the past month. The WSJ attributed the decline in the S&P Utilities Index to the recent increase in long-term treasury yields:

> A big draw of utility stocks has become less attractive as interest rates have climbed. Utility stocks are known for their sizable dividends, offering investors a regular stream of income. Companies in the S&P 500 utilities sector offer a dividend yield of 3.3%, among the highest payout percentages in the index, according to FactSet.
>
> But the outsize dividends of utility stocks are no match for climbing bond yields. The yield on the benchmark 10-year Treasury note finished above 4% on Monday for a second consecutive session. Friday marked the 10-year yield's first close above the 4% level since 2008 and 11 straight weeks of gains. Treasurys are viewed as essentially risk-free if held to maturity.
>
> "The 10-year is repricing everything. I've got something that's even safer and yields even more," said Kevin Barry, chief investment officer at Summit Financial, comparing Treasurys and utility stocks.[22]

Similarly, Barron's recently noted that the decline in share prices can be attributed to the relatively high valuations and low dividend yields of utilities as compared to other asset classes such as Treasuries.[23] According to Barron's, even after the recent decline in

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[21] *Ibid.*

[22] Miao, Hannah, "Utility Stock stumble as treasury yields climb," The Wall Street Journal, October 18, 2022.

[23] Sonenshine, Jacob, "Utilities Stocks Have Fallen off a Cliff. They Just Got Downgraded, Too." Barron's, October 17, 2022.

share prices, the Utilities Select ETF was yielding 2.85 percent, which is a yield that will not "lure in buyers when the ultrasafe 10-year Treasury note yields close to 4%."[24] Therefore, Barron's currently recommends not buying utility stocks.

Q. Have you reviewed any market indicators that may imply that utilities will underperform over the near-term?

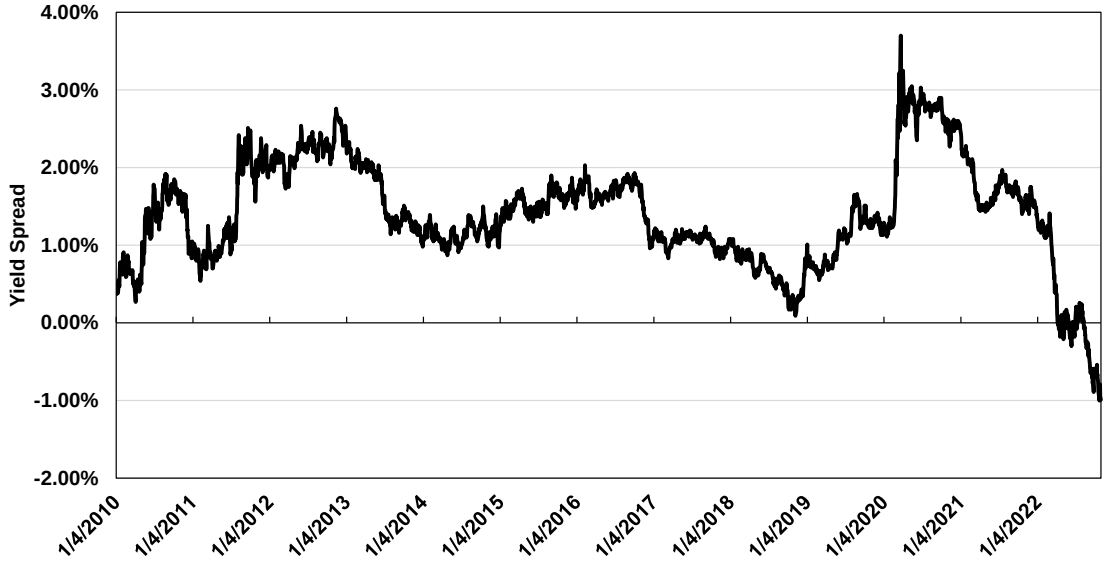
A. Yes, I have. As discussed above, the utility sector is considered a "bond proxy" or a sector that investors view as a "safe haven" alternative to bonds, and changes in utility stock prices are therefore inversely related to changes in interest rates. For example, the utility sector tends to perform well when interest rates are low since the dividend yields for utilities offer investors the prospect of higher returns when compared to the yields on long-term government bonds. Conversely, the utility sector underperforms as the yields on long-term government bonds increase and the spread between the dividend yields on utility stocks and the yields on long-term government bonds decreases. Therefore, I examined the difference ("yield spread") between the dividend yields of utility stocks and the yields on long-term government bonds from January 2010 through October 2022. I selected the dividend yield on the S&P Utilities Index as the measure of the dividend yields for the utility sector and the yield on the 10-year Treasury Bond as the estimate of the yield on long-term government bonds.

As shown in Figure 4, the yield spread as of October 31, 2022, was -0.99 percent indicating that the yield on the 10-year Treasury Bond has exceeded the dividend yield for the S&P Utilities Index. Furthermore, the current yield spread of -0.99 percent is well

[24] *Ibid.*

below the long-term average since January 2010 of 1.39 percent. Given that the yield spread is currently well below the long-term average as well as the expectation that interest rates will continue to increase, it is reasonable to conclude that utility sector will most likely underperform over the near-term. This is because investors that purchased utility stocks as an alternative to the lower yields on long-term government bonds would otherwise be inclined to rotate back into government bonds, particularly as the yields on long-term government bonds continue to increase, thus resulting in a decrease in the share prices of utilities.

Figure 4: Yield Spread between the Dividend Yield on the S&P Utilities Index and the Yield on the 10-year Treasury Bond – January 2012 – October 2022[25]



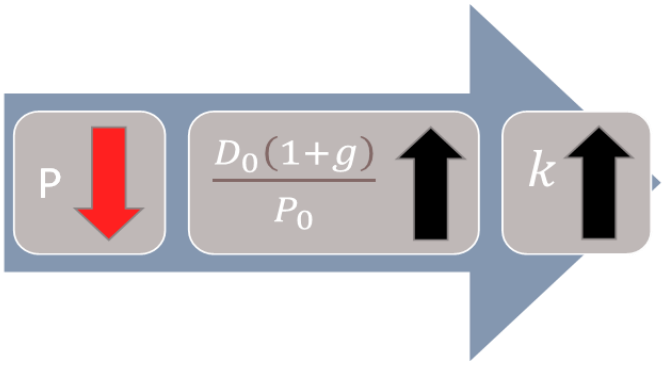
Q. What is the significance of the inverse relationship between interest rates and utility share prices in the current market?

A. As discussed above, the Federal Reserve is currently normalizing monetary policy in response to inflation which actions are expected to increase long-term government bond

[25] S&P Capital IQ Pro and Bloomberg Professional.

yields. If interest rates increase as expected, then the share prices of utilities will decline. If the prices of utility stocks decline, then the DCF model, which relies on historical averages of share prices, is likely to understate the cost of equity. For example, Figure 5, below summarizes the effect of price on the dividend yield in the Constant Growth DCF model.

Figure 5: The Effect of a Decline in Stock Prices on the Constant Growth DCF Model



A decline in stock prices will increase the dividend yields and thus the estimate of the ROE produced by the Constant Growth DCF model. Therefore, this expected change in market conditions supports consideration of the range of ROE results produced by the mean to mean-high DCF results since the mean DCF results would likely understate the cost of equity during the period that the Company's rates will be in effect. Moreover, prospective market conditions warrant consideration of other ROE estimation models such as the CAPM and ECAPM, which may better reflect expected market conditions. For example, two out of three inputs to the CAPM (*i.e.*, the market risk premium and risk-free rate) are forward-looking.

Q. Have regulatory commissions acknowledged that the DCF model might understate the COE given the current capital market conditions of high inflation and increasing interest rates?

A. Yes. For example, in its May 2022 decision in establishing the cost of equity for Aqua Pennsylvania, Inc., the Pennsylvania Public Utility Commission ("PPUC") specifically concluded that the current capital market conditions of high inflation and increasing interest rates has resulted in the DCF model understating the utility cost of equity, and that weight should be placed on risk premium models, such as the CAPM, in the determination of the ROE:

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

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

> shall determine an appropriate ROE for Aqua using informed judgement based on I&E's DCF and CAPM methodologies.[26]
>
> …..
>
> We have previously determined, above, that we shall utilize I&E's DCF and CAPM methodologies. I&E's DCF and CAPM produce a range of reasonableness for the ROE in this proceeding from 8.90% [DCF] to 9.89% [CAPM]. Based upon our informed judgment, which includes consideration of a variety of factors, including increasing inflation leading to increases in interest rates and capital costs since the rate filing, we determine that a base ROE of 9.75% is reasonable and appropriate for Aqua.[27]

E. Conclusion

Q. What are your conclusions regarding the effect of current market conditions on the cost of equity for the Company?

A. Over the near-term, investors expect long-term interest rates to increase in response to continued elevated levels of inflation and the Federal Reserve's normalization of monetary policy. Because the share prices of utilities are inversely correlated to interest rates, an increase in long-term government bond yields will likely result in a decline in utility share prices, which is the reason a number of equity analysts expect the utility sector to underperform over the near-term. The expected underperformance of utilities means that DCF models using recent historical data likely underestimate investors' required return over the period that rates will be in effect. This change in market conditions also supports the use of other ROE estimation models such as the CAPM and the ECAPM, which may more directly reflect expected market conditions.

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[26] *Penn. Pub. Util. Comm'n et.al. v, Aqua Penn. Wastewater Inc.*, Pennsylvania Public Utility Commission, Docket Nos. R-2021-3027385 and R-2021-3027386, Opinion and Order, May 12, 2022, pp. 154–155.

[27] *Id.*, Opinion and Order, May 12, 2022, pp. 177–178.

V. PROXY GROUP SELECTION

Q. Please provide a brief profile of Intermountain.

A. Intermountain Gas Company is a natural gas distribution company that is a wholly owned subsidiary of MDU Resources Group, Inc. As of September 2022, Intermountain served approximately 404,770 retail customers and 109 transportation customers. Intermountain accounted for 27.00 percent of the natural gas distribution operating sales revenues for Intermountain's parent, MDU Resources, in 2021, while Washington (29.00 percent), North Dakota (15.00 percent), Montana (10.00 percent), Oregon (8.00 percent), South Dakota (6.00 percent), Minnesota (3.00 percent) and Wyoming (2.00 percent) accounted for the other 73.00 percent of retail gas distribution operating sales revenues.[28] MDU Resources currently has long-term issuer ratings of BBB+/Stable from Standard & Poor's and BBB+/Stable from Fitch.[29]

Q. Why have you used a group of proxy companies to estimate the COE for Intermountain?

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

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[28] MDU Resources, 2021 Form 10-K, at 15.

[29] Source: S&P Capital IQ Pro, (September 15, 2022) and FitchRatings.

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

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

A. I began with the group of 10 publicly traded companies that Value Line classifies as Natural Gas Distribution Utilities and applied the following screening criteria to select a group of risk-comparable companies that:

- pay consistent quarterly cash dividends, because companies that do not cannot be analyzed using the Constant Growth DCF model;
- have investment grade long-term issuer ratings from S&P and/or Moody's;
- are covered by at least two utility industry analysts;
- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;
- derive more than 60.00 percent of their total operating income from regulated operations;
- derive more than 60.00 percent of regulated operating income from gas distribution operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

Q. What is the composition of your proxy group?

A. The screening criteria discussed above resulted in a proxy group consisting of the companies shown in Figure 6 below.

Figure 6: Natural Gas Utility Proxy Group

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

Q. Do your screening criteria result in a proxy group that is risk comparable to Intermountain?

A. Yes, they do. The overall purpose of developing a set of screening criteria is to select a proxy group of companies that align with the financial and operational characteristics of Intermountain and that investors would view as comparable to the Company. I developed the screens and thresholds for each screen based on judgment with the intention of balancing the need to maintain a proxy group that is of sufficient size with establishing a proxy group of companies that are comparable in business and financial risk to Intermountain. This resulted in the group of six companies shown in Figure 6, which have business and financial risks that are comparable to Intermountain.

VI. COST OF EQUITY ESTIMATION

Q. Please briefly discuss the ROE in the context of the regulated rate of return ("ROR").

A. The ROE is the cost rate applied to the equity capital in the ROR. The ROR for a regulated utility is the weighted average cost of capital, in which the costs of the individual sources of capital are weighted by their respective proportion (i.e. book values) in the utility's capital structure. While the costs of debt and preferred stock can be

directly observed, the COE is market-based and, therefore, must be estimated based on observable market data.

Q. How is the required COE determined?

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

Q. What methods did you use to establish your recommended ROE in this proceeding ROE?

A. I considered the results of the Constant Growth DCF model, the CAPM, the ECAPM, and a Bond Yield Plus Risk Premium analysis. As discussed in more detail below, a reasonable ROE estimate appropriately considers alternative methodologies and the reasonableness of their individual and collective results.

A. Importance of Multiple Analytical Approaches

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

A. Because the COE is not directly observable, it must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the COE, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. Several models have been developed to estimate the COE, and I use multiple approaches to estimate the COE. As a practical matter, however, all the

models available for estimating the COE are subject to limiting assumptions or other methodological constraints. Consequently, many well-regarded finance texts recommend using multiple approaches when estimating the COE. For example, Copeland, Koller, and Murrin[30] suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham and Gapenski[31] recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches**.**

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

A. Yes. As previously discussed, interest rates have increased substantially from the lows during the COVID-19 pandemic, and upward pressure is expected to continue as the Federal Reserve continues to combat persistently high inflation. Given the inverse relationship between interest rates and utility share prices, the dividend yields of utilities are expected to increase over the near-term. Therefore, the current low dividend yields for utilities result in DCF cost of equity estimates that are understating the forward-looking cost of equity. The CAPM and Bond Yield Plus Risk Premium method offer some balance through the use of projected interest rates. Therefore, it is important to use multiple analytical approaches to ensure that the COE results reflect the market conditions that are expected during the period that Company's rates will be in effect. Given the expectation that interest rates will increase, it is important to moderate the impact that the current lower interest rates are having on the COE estimates, especially

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

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

the DCF analysis, and where possible consider using projected market data in the models to estimate the return for the forward-looking period.

Q. Has the Commission made similar findings regarding the reliance on multiple models?

A. Yes. It is my understanding that in determining the authorized ROE for a company, the Commission has considered the evidence presented by the parties in the rate case, which has included a range of COE estimation methodologies such as the DCF, CAPM, Risk Premium and Comparable Earnings.[32]

Q. Are you aware of any other regulatory commissions that have recognized the importance of considering the results of multiple models?

A. Yes, regulatory commissions routinely consider the results of multiple COE estimation methodologies such as the DCF, CAPM, ECAPM and Risk Premium in determining the authorized ROE for utilities in jurisdictional rate proceedings, including the Iowa Utilities Board ("IUB"),[33] the Minnesota Public Utilities Commission ("Minnesota PUC"),[34] the Michigan Public Service Commission ("Michigan PSC"),[35] the Washington Utilities and Transportation Commission ("Washington UTC"),[36] and the New Jersey Board of Public

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[32] *In the Matter of the Application of Intermountain Gas Company to Change Its Rates and Charges for Natural Gas Service in the State of Idaho*, Case No. INT-G-16-02, Order No. 33757, at 7-9 (April 28, 2017).

[33] Docket RPU-2021-0002, Order Approving Settlement, Approving Compliance Filings, and Granting Confidential Treatment Requests; at 10; Docket RPU-2019-0002, Order Regarding Settlement and Requiring Compliance Filings; at 12-13

[34] Docket No. G011/GR-17-563, Findings of Fact, Conclusions and Order, at 27; Docket No. E015/GR-16-664, Findings of Fact, Conclusions and Order, at 60-61

[35] Michigan Public Service Commission Order, DTE Gas Company, Case No. U-18999, at 45-47 (Sept. 13, 2018).

[36] *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-130043, Order 05, n. 89 (Dec. 4, 2013); *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-100749, Order 06, ¶ 91 (March 25, 2011).

Utilities ("NJBPU").[37] For example, the Washington UTC has repeatedly emphasized that it "places value on each of the methodologies used to calculate the cost of equity and does not find it appropriate to select a single method as being the most accurate or instructive."[38] The Washington UTC has also explained that "[f]inancial circumstances are constantly shifting and changing, and we welcome a robust and diverse record of evidence based on a variety of analytics and cost of capital methodologies."[39]

Additionally, in its recent order for DTE Gas Company ("DTE Gas") in Case No. U-18999, the Michigan PSC considered the results of each of the models presented by the ROE witnesses which included the DCF, CAPM, ECAPM and Risk Premium in the determination of the authorized ROE.[40] The Commission also considered authorized ROEs in other states, increased volatility in capital markets and the company-specific business risks of DTE Gas.

B. Constant Growth DCF Model

Q. Please describe the DCF approach.

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

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

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[37] NJBPU Docket No. ER12111052, OAL Docket No. PUC16310-12, Order Adopting Initial Decision with Modifications and Clarifications, at 71 (March 18, 2015).

[38] *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-130043, Order 05, n. 89 (Dec. 4, 2013).

[39] *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-100749, Order 06, ¶ 91 (March 25, 2011).

[40] Michigan Public Service Commission Order, DTE Gas Company, Case No. U-18999, at 45-47 (Sept. 13, 2018).

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

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

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

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

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

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

A. The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended October 31, 2022.

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

A. In my Constant Growth DCF model, I use an average of recent trading days to calculate the term P_0 in the DCF model to reflect current market data while also ensuring that the ROE is not skewed by anomalous events that may affect stock prices on any given trading day. However, as discussed above, recent market data is not representative of

expected market conditions over the long-term. Therefore, the results of my Constant Growth DCF model using historical data may underestimate the forward-looking COE.

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

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

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

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

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

A. My Constant Growth DCF model incorporates three commonly referenced sources of long-term earnings growth rates: (1) Zacks Investment Research; (2) Yahoo! Finance; and (3) Value Line Investment Survey.

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

A. I calculated the low result for my DCF model using the minimum growth rate (*i.e.*, the lowest of the Value Line, Yahoo! Finance, and Zacks earnings growth rates) for each of the proxy group companies. Thus, the low result reflects the minimum DCF result for the proxy group. I used a similar approach to calculate the high results, using the highest growth rate for each proxy group company.

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

A. Figure 7 (see also Exhibit No. 3) summarizes the results of my DCF analyses. As shown in Figure 7

A. Figure 7, the median and mean DCF results range from 9.56 percent to 9.91 percent, and the median high and mean high results are in the range of 10.66 percent to 11.41 percent. While I also summarize the low DCF results, given the expected underperformance of utility stocks and thus the likelihood that the DCF model is understating the COE, I do not believe it is appropriate to consider the low DCF results at this time.

Figure 7: Constant Growth Discounted Cash Flow Results

Constant Growth DCF - Mean			
	Min Growth Rate	**Mean Growth Rate**	**Max Growth Rate**
30-Day Average	8.73%	9.85%	11.41%
90-Day Average	8.48%	9.61%	11.16%
180-Day Average	8.43%	9.56%	11.11%
Constant Growth DCF - Median			
	Min Growth Rate	**Mean Growth Rate**	**Max Growth Rate**
30-Day Average	8.62%	9.91%	10.95%
90-Day Average	8.33%	9.62%	10.70%
180-Day Average	8.28%	9.57%	10.66%

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

A. As discussed previously, one primary assumption of the Constant Growth DCF model is a constant P/E ratio. That assumption is heavily influenced by the market price of utility stocks. Since utility stocks are expected to underperform in the broader market over the near-term as interest rates increase, it is important to consider the results of the DCF models with caution. This means that the results of the current DCF models are below where they would otherwise be under more normal market conditions. Therefore, while I have given weight to the results of the Constant Growth DCF model, my recommendation also gives weight to the results of other COE estimation models.

C. CAPM Analysis

Q. Please briefly describe the CAPM.

A. The CAPM is a risk premium approach that estimates the COE for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable, systematic risk of that security. Systematic risk is the risk inherent in the entire market or market segment—which cannot be diversified away using a portfolio of

assets. Unsystematic risk is the risk of a specific company that can, theoretically, be mitigated through portfolio diversification.

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

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

Where:

K_e = the required market COE;

β = 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. Beta is a measure of the volatility of a security as compared to the market as a whole. Beta is defined a:

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

The variance of the market return (i.e., 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., 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.

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

A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds, which is 3.92 percent;[41] (2) the average projected 30-year U.S. Treasury bond yield for the first quarter of 2023 through the first quarter of 2024, which is 4.00 percent;[42] and (3) the average projected 30-year U.S. Treasury bond yield for 2024 through 2028, which is 3.80 percent.[43]

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

A. As shown Exhibit No. 4, I used the Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. The Beta coefficients reported by Bloomberg were calculated using ten years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

Additionally, as shown in Exhibit No. 5, I also considered an additional CAPM analysis which relies on the long-term average utility Beta coefficient for the companies in

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41 Bloomberg Professional as of October 31, 2022.

42 Blue Chip Financial Forecasts, Vol. 41, No. 11, at 2 (November 1, 2022).

43 Blue Chip Financial Forecasts, Vol. 41, No. 6, at 14 (June 1, 2022).

my proxy group. As shown in Exhibit No. 5, the long-term average utility Beta coefficient was calculated as an average of the Value Line Beta coefficients for the companies in my proxy group from 2013 through 2021.

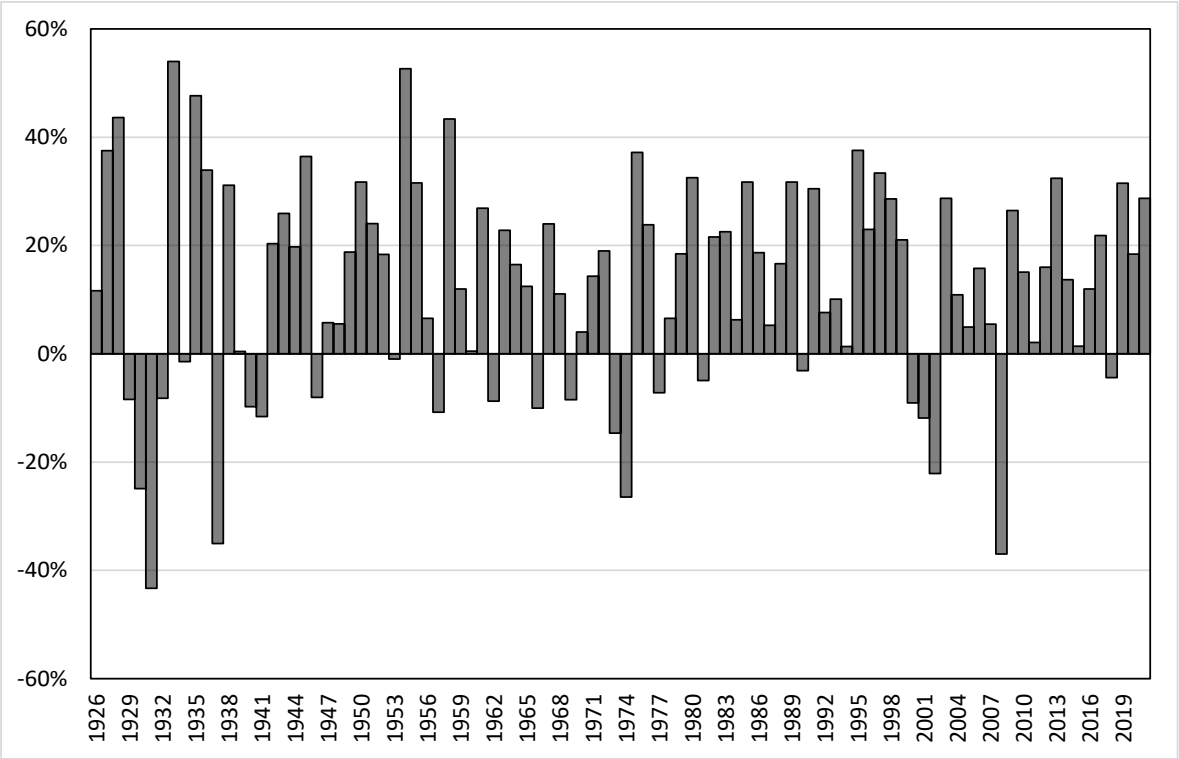
Q. How did you estimate the market risk premium in the CAPM?

A. I estimated the Market Risk Premium ("MRP") as the difference between the implied expected equity market return and the risk-free rate. As shown in Exhibit No. 6, the expected return on the S&P 500 Index is calculated using the Constant Growth DCF model discussed earlier in my testimony for the companies in the S&P 500 Index. In my calculation of the market return, I included companies in the S&P 500 that: 1) had either a dividend yield or Value Line long-term earnings projections; and 2) had a Value Line long-term earnings growth rate that was greater than 0 percent and less than or equal to 20 percent. Based on an estimated market capitalization-weighted dividend yield of 1.84 percent and a weighted long-term growth rate of 10.82 percent, the estimated required market return for the S&P 500 Index is 12.76 percent.

Q. How does the current expected market return of 12.76 percent compare to observed historical market returns?

A. Given the range of annual equity returns that have been observed over the past century (shown in Figure 8), a current expected return of 12.76 percent is not unreasonable. In 50 out of the past 96 years (or roughly 52 percent of observations), the realized equity return was at least 12.76 percent or greater**.**

Figure 8: Realized U.S. equity market returns (1926-2021) [44]



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

A. Yes. I have also considered the results of an ECAPM or alternatively referred to as the Zero-Beta CAPM[45] in estimating the COE for Intermountain. The ECAPM calculates the product of the adjusted Beta coefficient and the market risk premium and applies a weight of 75.00 percent to that result. The model then applies a 25.00 percent weight to the market risk premium, without any effect from the Beta coefficient. The results of the two calculations are summed, along with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

[44] Depicts total annual returns on large company stocks, as reported in the 2022 *Kroll* SBBI Yearbook**.**

[45] *See* Roger A. Morin, New Regulatory Finance at 189, Public Utilities Reports, Inc. (2006).

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

Where:

k_e = the required market COE;

β = Adjusted Beta coefficient of an individual security;

rf = the risk-free rate of return; and

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

In essence, the Empirical form of the CAPM addresses the tendency of the "traditional" CAPM to underestimate the cost of equity for companies with low Beta coefficients such as regulated utilities. In that regard, the ECAPM is not redundant to the use of adjusted Betas; rather, it recognizes the results of academic research indicating that the risk-return relationship is different (in essence, flatter) than estimated by the CAPM, and that the CAPM underestimates the "alpha," or the constant return term.[46]

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

Q. What are the results of your CAPM analyses?

A. As shown in Figure 9 (see also Exhibit No. 4), my traditional CAPM analysis produces a range of returns from 10.34 percent to 11.30 percent. The ECAPM analysis results range from 10.95 percent to 11.66 percent.

[46] *Id.*, at 191.

Figure 9: CAPM and ECAPM Results

	Current Risk-Free Rate (3.92%)	Q1 2023 – Q1 2024 Projected Risk-Free Rate (4.00 %)	2024-2028 Projected Risk-Free Rate (3.80%)
		CAPM	
Value Line Beta	11.29%	11.30%	11.27%
Bloomberg Beta	10.81%	10.83%	10.79%
Long-term Avg. Beta	10.38%	10.40%	10.34%
		ECAPM	
Value Line Beta	11.65%	11.66%	11.64%
Bloomberg Beta	11.30%	11.31%	11.28%
Long-term Avg. Beta	10.97%	10.99%	10.95%

D. Bond Yield Plus Risk Premium Analysis

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

A. In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with equity ownership and therefore require a premium over the return they would have earned as a bondholder. That is, because returns to equity holders have greater risk than returns to bondholders, equity investors must be compensated to bear that risk. Risk premium approaches, therefore, estimate the COE as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I used actual authorized returns for natural gas distribution companies as the historical measure of the COE to determine the risk premium.

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

A. Yes, there are. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase, the equity risk premium decreases, and vice versa. Consequently, it is important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and

(2) relies on recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of U.S. Treasury bond yields. If we let authorized ROEs for natural gas utilities serve as the measure of required equity returns and define the yield on the long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[47]

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

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

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

A. As shown in Figure 10 below, from 1992 through October 2022, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

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

Where:

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

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

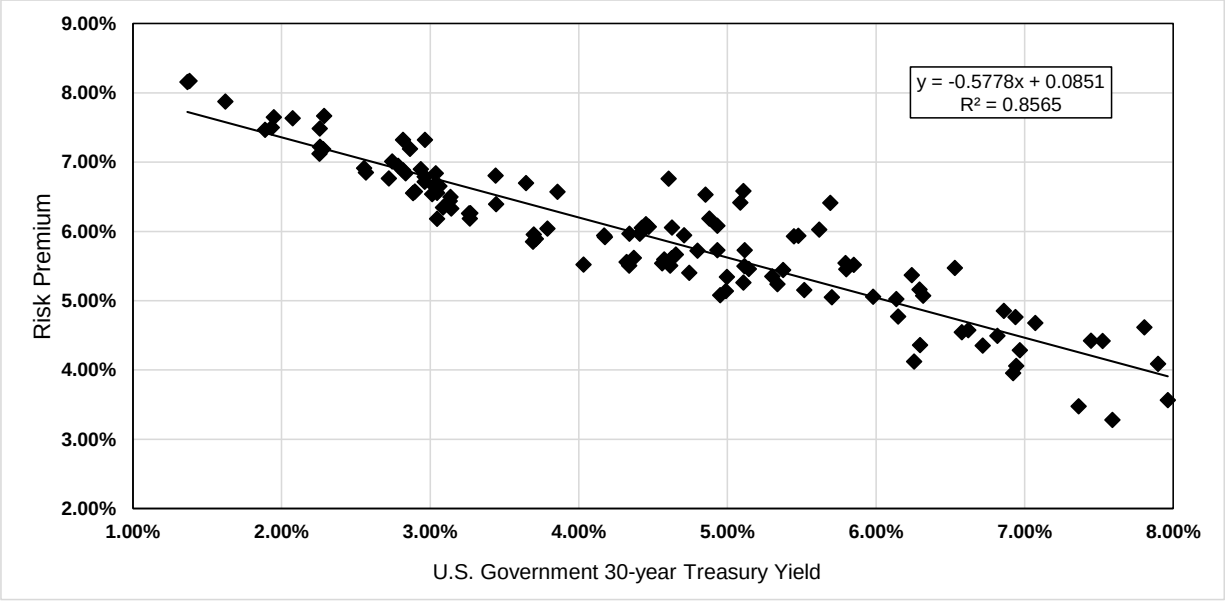
a = intercept term

b = slope term

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

Data regarding allowed ROEs were derived from all of natural gas distribution rate cases from 1992 through October 2022 as reported by Regulatory Research Associates ("RRA").[48] This equation's coefficients were statistically significant at the 99.00 percent level.

Figure 10: Risk Premium Results



As shown in Exhibit No. 7, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 3.92 percent), the risk premium would be 6.25 percent, resulting

[48] This analysis began with a total of 1,192 cases and was screened to eliminate limited issue rider cases, transmission-only cases, and cases that were silent with respect to the authorized ROE. After applying those screening criteria, the analysis was based on data for 742 cases.

in an estimated ROE of 10.16 percent. Based on the near-term (Q1 2023 – Q1 2024) projections of the 30-year U.S. Treasury bond yield (i.e., 4.00 percent), the risk premium would be 6.20 percent, resulting in an estimated ROE of 10.20 percent. Based on longer-term (2024 – 2028) projections of the 30-year U.S. Treasury bond yield (i.e., 3.80 percent), the risk premium would be 6.32 percent, resulting in an estimated ROE of 10.12 percent.

Q. How did the results of the Bond Yield Risk Premium inform your recommended ROE for Intermountain?

A. I have considered the results of the Bond Yield Risk Premium analysis in setting my recommended ROE for Intermountain's natural gas distribution operations in Idaho. As noted above, investors consider the ROE award of a company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions. The Risk Premium analysis considers this comparison by estimating the return expectations of investors based on the current and past ROE awards of natural gas distribution companies across the U.S.

VII. REGULATORY AND BUSINESS RISKS

Q. Do the DCF, CAPM, and ECAPM results for the proxy group, taken alone, provide an appropriate estimate of the COE for the Company?

A. No. These results provide only a range of the appropriate estimate of Intermountain's COE. Several additional factors must also be considered with respect to their overall effect on

the Company's risk profile relative to the proxy group when determining where the COE falls within the range of results.

A. Small Size

Q. Please explain the risk associated with small size.

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

> For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[49]

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

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

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

Q. How do Intermountain's natural gas operations in Idaho compare in size to the proxy group companies?

A. Intermountain's natural gas operations in Idaho are substantially smaller than the median for the proxy group companies in terms of market capitalization. Exhibit No. 8 provides the actual market capitalization for the proxy group companies and estimates the implied market capitalization for Intermountain's natural gas operations in Idaho (*i.e.*, the implied market capitalization if Intermountain's natural gas operations in Idaho were a stand-alone publicly traded entity). To estimate the size of the Company's market capitalization relative to the proxy group, I used the Company's proposed capital structure equity component of $193.76 million.[50] I then applied the median market-to-book ratio for the proxy group of 1.60 to the implied common equity balance of Intermountain's natural gas operations in Idaho and arrived at an implied market capitalization of approximately $310.86 million, or 7.77 percent of the median market capitalization for the proxy group.

Q. How did you estimate the size premium for Intermountain?

A. Given this relative size information, it is possible to estimate the impact of size on the COE for Intermountain's natural gas operations in Idaho using *Kroll* Cost of Capital Navigator data that estimates the stock risk premia based on the size of a company's market capitalization.[51] As shown in Exhibit No. 8, the median market capitalization of the proxy group of approximately $4.00 billion corresponds to the fifth decile of *Kroll's* market capitalization data.[52] Based on *Kroll's* analysis, that decile corresponds to a size premium of 0.89 percent (*i.e.*, 89 basis points). The implied market capitalization of

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50 Company provided data.

51 *Kroll* Cost of Capital Navigator – Size Premium. Annual Data as of December 31, 2021.

52 *Ibid.*

Intermountain's natural gas operations in Idaho of approximately $310.86 million falls within the ninth decile, which comprises market capitalization levels up to $627.80 million and corresponds to a size premium of 2.10 percent (*i.e.*, 210 basis points). The difference between those size premia is 121 basis points (*i.e.*, 2.10 percent minus 0.89 percent).

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

A. Yes. In fact, as shown in Exhibit 7.2 of *Kroll's* 2019 Valuation Handbook, OGE Energy Corp. had the largest market capitalization of the companies contained in the fourth decile.[53] Therefore, *Kroll* did include utility companies in its size risk premium study.

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

A. Yes, it is. For example, Thomas Zepp in his article "Utility stocks and the size effect – revisited" provided the results of two studies which showed evidence of the required risk premium for small water utilities. The first study conducted by the California Public Utilities Commission Staff ("CPUC Staff") computed proxies for Beta risk using accounting data from 1981 through 1991 for 58 water utilities and concluded that smaller water utilities had greater risk and required higher returns on equity than larger water utilities.[54] The second study referenced by Zepp examined the differences in required returns over the period of 1987-1997 for two large and two small water utilities in California. As Zepp showed, the required return for the two small water utilities

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

[54] Zepp, Thomas M. "Utility Stocks and the Size Effect—Revisited." *The Quarterly Review of Economics and Finance*, vol. 43, no. 3, 2003, pp. 578–582., doi:10.1016/s1062-9769(02)00172-2.

calculated using the DCF model was on average 99 basis points higher than the two larger water utilities.[55]

Additionally, Stéphane Chrétien and Frank Coggins in the article "Cost of Equity for Energy Utilities: Beyond the CAPM",[56] recently studied the CAPM and its ability to estimate the risk premium for the utility industry in particular subgroups of utilities. One of the subgroups was a group of natural gas distribution companies that contained many of the same natural gas distribution companies included in my proxy group.[57] The article considered the CAPM, the Fama-French three-factor model and a model similar to the ECAPM that I have also considered above. In the article, the Fama-French three-factor model explicitly included an adjustment to the CAPM for risk associated with size. As Chrétien and Coggins show the Beta coefficient on the size variable for the U.S. natural gas utility group was positive and statistically significant indicating that small size risk was relevant for regulated natural gas utilities.[58] These two studies demonstrate that the size premium is evident in market data and is clearly applicable to natural gas and water utilities.

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[55] Ibid.

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

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

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

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

A. Yes. In Order No. 15, the Regulatory Commission of Alaska ("RCA") concluded that Alaska Electric Light and Power Company ("AEL&P") was riskier than the proxy group companies due to small size as well as other business risks. The RCA did "not believe that adopting the upper end of the range of ROE analyses in this case, without an explicit adjustment, would adequately compensate AEL&P for its greater risk."[59] Thus, the RCA awarded AEL&P an ROE of 12.875 percent which was 108 basis points above the highest COE estimate from any model presented in the case.[60] Similarly, in Order No. 19, the RCA noted that small size as well as other business risks such as structural regulatory lag, weather risk, alternative rate mechanisms, gas supply risk, geographic isolation and economic conditions increased the risk of ENSTAR Natural Gas Company.[61] Ultimately, the RCA concluded that:

> Although we agree that the risk factors identified by ENSTAR increase its risk, we do not attempt to quantify the amount of that increase. Rather, we take the factors into consideration when evaluating the remainder of the record and the recommendations presented by the parties. After applying our reasoned judgment to the record, we find that 11.875% represents a fair ROE for ENSTAR.[62]

Additionally, in Docket No. E017/GR-15-1033 for Otter Tail Power Company ("Otter Tail"), the Minnesota Public Utilities Commission ("Minnesota PUC") selected an

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

[60] *Id.*, at 32 and 37.

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

[62] Ibid.

ROE above the mean DCF results, as a result of multiple factors including Otter Tail's small size. The Minnesota PUC stated:

> The record in this case establishes a compelling basis for selecting an ROE above the mean average within the DCF range, given Otter Tail's unique characteristics and circumstances relative to other utilities in the proxy group. These factors include the company's relatively smaller size, geographically diffuse customer base, and the scope of the Company's planned infrastructure investments.[63]

Finally, in Opinion No. 569 and 569-A, the FERC has relied on a size premium adjustment in its CAPM estimates for electric utilities. In those decisions, the FERC noted that "the size adjustment was necessary to correct for the CAPM's inability to fully account for the impact of firm size when determining the cost of equity."[64,65]

Q. How have you considered the smaller size of Intermountain's natural gas distribution operations in Idaho in your recommended ROE?

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

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[63] Order in Docket No. E017/GR-15-1033, In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota (August 16, 2016) at 55.

[64] Federal Energy Regulatory Commission, Opinion No. 569-A, May 21, 2020, at para 75.

[65] The U.S. Court of Appeals recently vacated the FERC Order 569 decisions that related to its risk premium model and remanded the case to FERC to reopen proceedings. However, in that decision, the Court did not reject FERC's inclusion of the size premium to estimate the CAPM. United States Court of Appeals Case No. 16-1325, Decision No. 16-1325, August 9, 2022 at 20.

B. Capital Expenditures

Q. Please summarize the capital expenditure requirements for Intermountain's Idaho natural gas distribution operations.

A. The Company's current projections for 2023 through 2027 include at least $322.64 million in capital investments for the period.[66] Based on the Company's net utility plant of approximately $458.07 million as of December 31, 2021,[67] the projected capital expenditures are approximately 70.43 percent of Intermountain's net utility plant as of December 31, 2021.

Q. How is the Company's risk profile affected by their substantial capital expenditure requirements?

A. As with any utility faced with substantial capital expenditure requirements, the Company's risk profile may be adversely affected in two significant and related ways: (1) the heightened level of investment increases the risk of under-recovery or delayed recovery of the invested capital, particularly since the Company does not have any mechanism to provide for recovery between rate cases; and (2) an inadequate return would put downward pressure on key credit metrics.

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

A. Yes, they do. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics

[66] Company provided data.

[67] Company provided data.

and, therefore, credit ratings. To that point, S&P explains the importance of regulatory support for large capital projects:

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an incentive to investors.[68]

Therefore, to the extent that Intermountain's rates do not permit the opportunity to earn an appropriate return and recover its capital investments on a regular and timely basis, the Company will face increased recovery risk and thus increased pressure on its credit metrics.

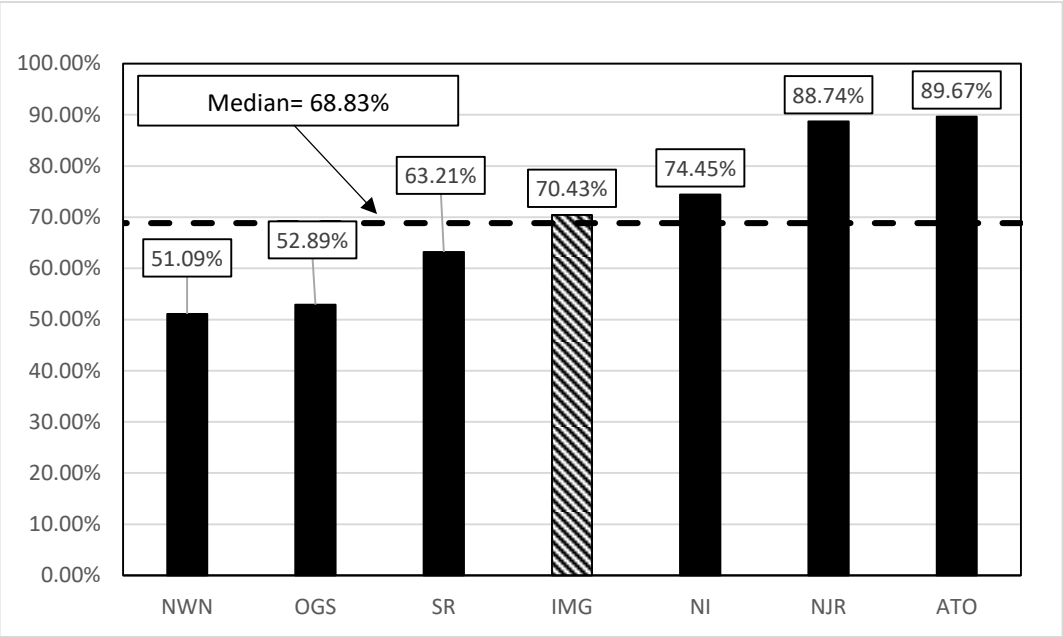
Q. How do Intermountain's capital expenditure requirements for the Idaho natural gas operations compare to those of the proxy group companies?

A. As shown in Exhibit No. 9, I calculated the ratio of expected capital expenditures to net utility plant for Intermountain's natural gas distribution operations in Idaho and each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2023-2027 by its total net utility plant as of December 31, 2021. As shown in Exhibit No. 9 (see also Figure 11 below), the Company's ratio of capital expenditures as a percentage of net utility plant is 70.43 percent, which is above

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

the median for the proxy group companies of 68.83 percent. This result indicates a risk level for Intermountain's natural gas distribution operations in Idaho that is higher than the proxy group companies.

Figure 11: Comparison of Capital Expenditures



Q. Does the Company have a capital tracking mechanism to recover the costs associated with its capital expenditures plan between rate cases?

A. No. Intermountain does not have a mechanism to recover capital investment costs between rate cases . Therefore, Intermountain depends entirely on rate case filings for capital cost recovery.

Q. Are capital investment recovery mechanisms common amongst natural gas distribution utilities?

A. Yes. As shown in Exhibit No. 10, 18 out of 25 (or approximately 72 percent) of the operating companies of the proxy group recover costs through capital investment reconciling mechanisms. Therefore, the Company has significantly greater risk relative to the proxy group from the regulatory lag associated with the recovery of its capital expenditures plan.

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

A. The Company's capital expenditure requirements as a percentage of net utility plant are significant and will continue over the next few years. Additionally, unlike a number of the operating subsidiaries of the proxy group, Intermountain does not have a comprehensive capital tracking mechanism to recover the Company's projected capital expenditures. Therefore, Intermountain's significant capital expenditures plan and limited ability to recover the capital investment on an as incurred basis results in a risk profile that is greater than that of the proxy group and supports an ROE toward the higher end of the reasonable range of ROEs.

C. Regulatory Risk

Q. How does the regulatory environment affect investors' risk assessments?

A. The ratemaking process is premised on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility service, the subject utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory authorities recognize that because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms; doing so balances the long-term interests of investors and customers. To achieve this balance, the Company must be able to finance its operations assuming a reasonable opportunity to earn an appropriate return on invested capital to maintain an acceptable financial profile. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' risk assessments.

From the perspective of debt investors, the authorized return should enable the Company to generate the cash flow needed to meet its near-term financial obligations,

make the capital investments needed to maintain and expand its systems, and maintain the necessary levels of liquidity to fund unexpected events. This financial liquidity must be derived not only from internally generated funds, but also by efficient access to capital markets. Moreover, because fixed income investors have many investment alternatives, even within a given market sector, the Company's financial profile must be adequate on a relative basis to ensure its ability to attract capital under a variety of economic and financial market conditions.

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

Q. How do credit rating agencies consider regulatory risk in establishing a company's credit rating?

A. Both S&P and Moody's consider the overall regulatory framework in establishing credit ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4) financial strength, liquidity, and key financial metrics. Of these criteria, regulatory framework, and the ability to recover costs and earn returns are each given a broad rating

factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00 percent weighting in the overall assessment of business and financial risk for regulated utilities.[69]

S&P also identifies the regulatory framework as an important factor in credit ratings for regulated utilities, stating: "One significant aspect of regulatory risk that influences credit quality is the regulatory environment in the jurisdictions in which a utility operates."[70] S&P identifies four specific factors that it uses to assess the credit implications of the regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and (4) regulatory independence and insulation.[71]

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

A. The regulatory environment can significantly affect both the access to, and cost of capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory environment. As noted by Moody's, "[f]or rate regulated utilities, which typically operate as a monopoly, the regulatory environment and how the utility adapts to that environment are the most important credit considerations."[72] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality,

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

70 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.

71 *Id*., at 1.

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

noting: "[b]roadly speaking, the Regulatory Framework is the foundation for how all the decisions that affect utilities are made (including the setting of rates), as well as the predictability and consistency of decision-making provided by that foundation."[73]

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

A. Yes. I have evaluated the regulatory framework in Idaho considering two factors which are important to ensuring Intermountain maintains access to capital at reasonable terms. As I will discuss in more detail below, the two factors are: (1) cost recovery mechanisms which allow a utility to recover costs in a timely manner between rate cases and provide the utility the opportunity to earn its authorized return; and (2) comparable return standard[74] because an awarded ROE that is significantly below the ROEs awarded to other utilities with comparable risks can affect the ability of a utility to attract capital at reasonable terms.

1. Cost Recovery Mechanisms

Q. Have you conducted any analysis to compare the cost recovery mechanisms of Intermountain to the cost recovery mechanisms approved in the jurisdictions in which the companies in your proxy group operate?

A. Yes. I selected three mechanisms that are important to provide a regulated utility an opportunity to earn its authorized ROE. These are: (1) test year convention (*i.e.*, forecast vs. historical test year); (2) use of revenue decoupling mechanisms or other clauses that mitigate volumetric risk; and (3) prevalence of capital cost recovery between rate cases.

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[73] *Id.*

[74] *Hope* and *Bluefield* require the return be commensurate with returns on investments in enterprises with similar risk.

The results of my regulatory risk assessment are summarized as follows, and the details are shown in Exhibit No. 10:

Test Year Convention: Intermountain is relying on a partially forecast test year for the period ending December 31, 2022. Similarly, 48 percent of the operating companies held by the proxy group provide service in jurisdictions that use a fully or partially forecast test year. Forecast test years have been relied on for several years and produce cost estimates that are more reflective of future costs which results in more accurate recovery of incurred costs and mitigates the regulatory lag associated with historical test years. As Lowry, Hovde, Getachew, and Makos explain in their 2010 report, *Forward Test Years for US Electric Utilities*:

> This report provides an in depth discussion of the test year issue. It includes the results of empirical research which explores why the unit costs of electric IOUs are rising and shows that utilities operating under forward test years realize higher returns on capital and have credit ratings that are materially better than those of utilities operating under historical test 1 years. The research suggests that shifting to a future test year is a prime strategy for rebuilding utility credit ratings as insurance against an uncertain future.[75]

Volumetric Risk: Intermountain does not have protection against volumetric risk in Idaho, either through a revenue decoupling mechanism or a weather normalization adjustment clause. By comparison, 88 percent of the operating companies in the proxy group have some form of protection against volumetric risk.

Capital Cost Recovery: Intermountain does not have a capital tracking mechanism to recover capital investment costs between rate cases. However, as discussed

[75] M.N. Lowry, D. Hovde, L. Getachew, and M. Makos, Forward Test Years for US Electric Utilities prepared for Edison Electric Institute, August 2010, at 1.

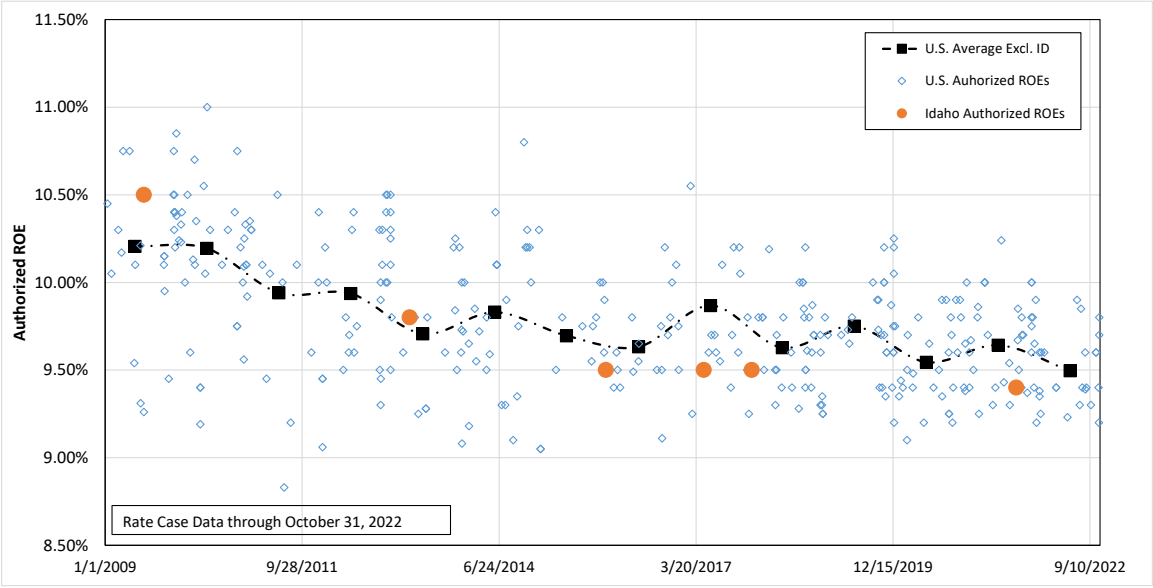
above, approximately 72 percent of the operating companies in the proxy group have some form of capital cost recovery mechanism in place.

2. Authorized ROEs

Q. How do recent returns in Idaho compare to the authorized returns in other jurisdictions?

A. Figure 12 below shows the authorized returns for natural gas distribution companies in other jurisdictions since January 2009, and the returns authorized in Idaho for natural gas companies. While partially the result of settlement agreements approved by the Commission, as shown in Figure 12, the authorized returns for natural gas distribution companies in Idaho have been below the average authorized ROE for natural gas distribution companies in other jurisdictions over the past five years.

Figure 12: Comparison of Idaho and U.S. Authorized Electric Returns[76]



[76] S&P Capital IQ Pro. Authorized ROEs in Arizona and New York are excluded because they are not considered comparable to the manner in which ROE is established in Idaho by the Commission. Specifically, authorizations in Arizona were excluded because their return is subject to a fair value rate base calculation, which is not the case in Idaho. Authorized ROEs in New York have been excluded since the results are relatively formulaic with each utility generally receiving the same ROE without differentiation of risk.

Q. Should the Commission be concerned about authorizing equity returns that are at the low end of the range established by other state regulatory jurisdictions?

A. Yes. Placing Intermountain at the low end of authorized ROEs across the country can negatively affect the Company's access to capital and the overall cost of capital over the longer term. As I discuss below, the recent negative rate case determination, including a below average authorized ROE, for Arizona Public Service Company ("APS") resulted in a 24 percent decline in the share price for Pinnacle West Capital Corporation ("PNW"), increasing the overall COE for that company.

Second, as noted in Sections IV and VI, interest rates have been increasing in 2022 and are expected to continue to increase as the Federal Reserve continues to normalize monetary policy. Therefore, historical authorized ROEs provide investors with a range of recent returns, these decisions do not take into consideration the effect of current market conditions on the investor, required return. Therefore, it is important that the Commission consider the results of forward looking methodologies such as the CAPM, ECAPM, and Bond Yield Plus Risk Premium which rely directly on current and projected interest rates in the estimation of the COE.

Q. Do credit rating agencies consider the authorized ROE in the overall risk assessment of a utility?

A. Yes, they do. To the extent that the returns in a jurisdiction are lower than the returns that have been authorized more broadly, credit rating agencies will consider this in the overall risk assessment of the regulatory jurisdiction in which the company operates. It is important to consider credit ratings because they affect the overall cost of borrowing, and they act as a signal to equity investors about the risk of investing in the equity of a

company. Therefore, lower credit ratings can affect both the cost of debt and equity. Examples of recent credit rating agency responses include ALLETE, Inc., and PNW. Moody's downgraded ALLETE, Inc. from A3 to Baa1 primarily based on the less than favorable outcome in Minnesota Power's last fully litigated rate case in Minnesota which included what Moody's noted was a below average authorized ROE of 9.25 percent.[77] In addition, FitchRatings recently downgraded and maintained a negative outlook for APS and its parent, PNW, following the hearings conducted by the Arizona Corporation Commission ("ACC") in October 2021 regarding APS' current rate case proceeding.[78] While the ACC had not issued a final order in APS' rate case at the time, FitchRatings noted that the developments at the hearing in October indicate a likely credit negative outcome that will negatively affect the financial metrics of both APS and PNW. It is also important to note that both Standard & Poor's and Moody's downgraded PNW's and APS' credit rating and put the companies on credit watch negative following the Commission's November vote that officially authorized the 8.70 percent ROE.[79]

Q. Are you aware of any utilities whose market data has been affected by adverse rate case developments?

A. Yes, I am. The market has responded negatively to recent returns authorized by the ACC. As noted above, the most recent ROE determination in Arizona was for APS. The

[77] Moody's Investors Service, "Credit Opinion: ALLETE, Inc. Update following downgrade," at 3 (April 3, 2019).

[78] FitchRatings, "Fitch Downgrades Pinnacle West Capital & Arizona Public Service to 'BBB+'; Outlooks Remain Negative," October 12, 2021.

[79] *See* S&P Capital IQ and Moody's Investors Service, "Rating Actions: Moody's downgrades Pinnacle West to Baa1 and Arizona Public Service to A3; outlook negative," (Nov. 17, 2021).

Recommended Opinion and Order ("ROO") issued in the APS rate proceeding on August 2, 2021, recommended an ROE of 9.16 percent. In October 2021, that recommendation was amended to reduce the company's ROE to 8.70 percent. The final ROE that was established for APS was 8.70 percent.[80] The market reacted strongly to the proposed order and subsequent amendment and final decision. Guggenheim Securities LLC, an equity analyst that follows PNW, the parent company of APS, informed its clients that:

> [T]he "Arizona Corporation Commission is now confirmed to be the single most value destructive regulatory environment in the country as far as investor-owned utilities are concerned".[81]

S&P Global Market Intelligence ("Regulatory Research Associates") noted that this decision was "among the lowest ROEs RRA had encountered in its coverage of vertically integrated electric utilities in the past 30 years."[82]

As shown in Figure 13 below, PNW's stock price declined approximately 24 percent from August 2, 2021 to November 4, 2021 following the issuance of the ROO, which recommended an ROE of 9.16 percent, and then the subsequent amendment to that opinion recommending the 8.70 percent ROE ultimately adopted by the ACC. Moreover, the Value Line five-year projected EPS growth rates for this company have fallen from 5.0 percent in July 2021, prior to the deliberations in the rate proceeding to "Nil" in October 2021 and most recently 0.5 percent in October 2022. For PNW, the APS decision has had a significant effect on the share price and growth rate assumptions used in the DCF model.

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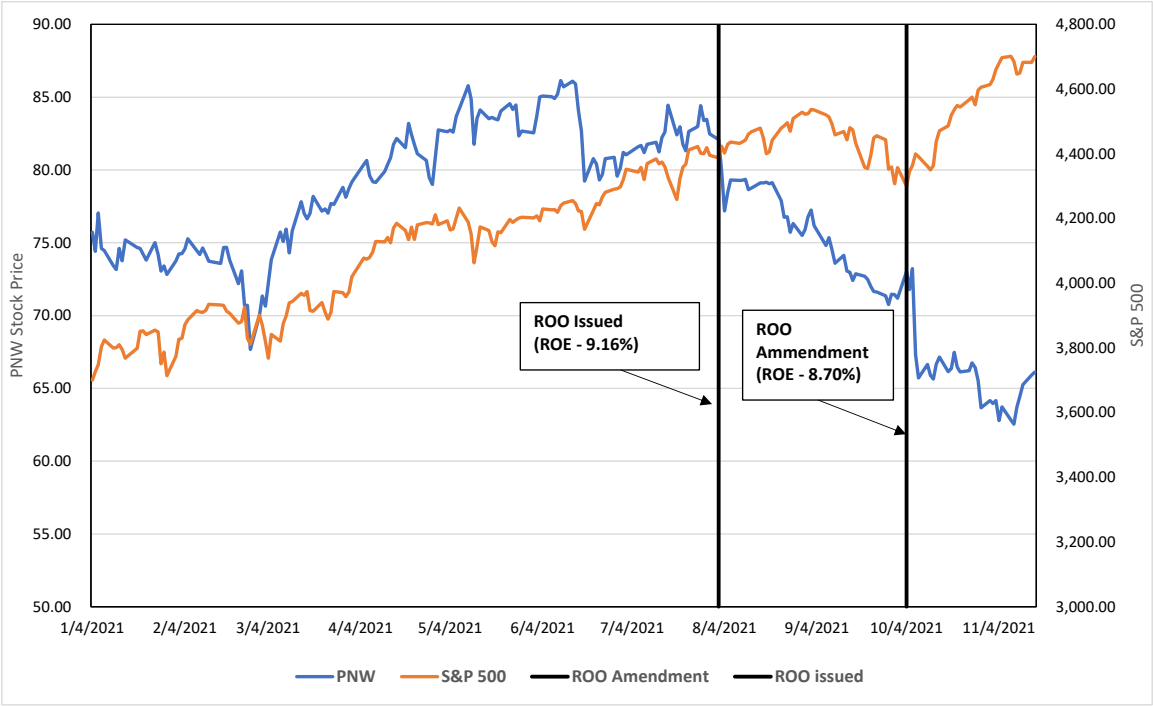
[80] Arizona Corporation Commission Docket No. E-01345A-19-0236, Commissioner Olson Proposed Amendment No. 1 to the Recommended Opinion and Order. October 4, 2021.

[81] S&P Global Market Intelligence, "Pinnacle West shares tumble after regulators slash returns in rate case," October 7, 2021.

[82] S&P Global Market Intelligence, RRA Regulatory Focus, "Commission accords Arizona Public Service Company a well below average ROE," October 8, 2021.

Figure 13: Pinnacle West Capital Stock Price VS. S&P 500



Q. How should the Commission use the information regarding authorized ROEs in other jurisdictions in determining the ROE for Intermountain?

A. As discussed above, the companies in the proxy group operate in multiple jurisdictions across the U.S. Since Intermountain must compete directly for capital with investments of similar risk, it is appropriate to review the authorized ROEs in other jurisdictions. The comparison is important because investors are considering the authorized returns across the U.S. and are likely to invest equity in those utilities with the highest returns.

Q. What is your conclusion regarding the regulatory framework in Idaho as compared with the jurisdictions in which the proxy group companies operate?

A. As discussed throughout this section of my testimony, both Moody's and S&P have identified the supportiveness of the regulatory environment as an important consideration in developing their overall credit ratings for regulated utilities. Considering the regulatory adjustment mechanisms, many of the companies in the proxy group have

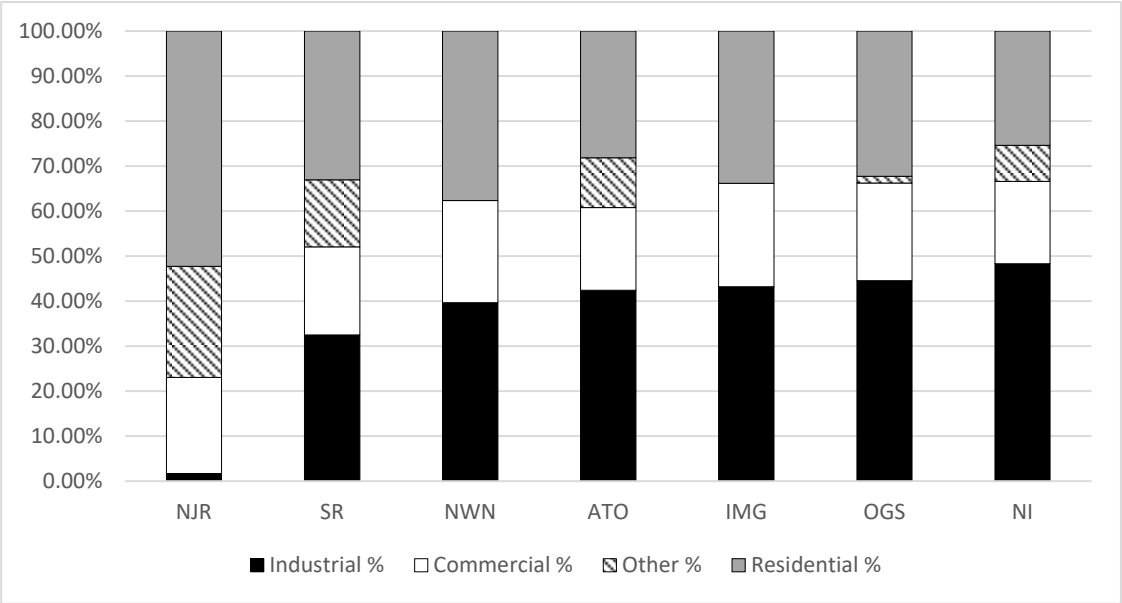
timely cost recovery through forecasted test years, cost recovery trackers and revenue stabilization mechanisms than Intermountain has in Idaho. Additionally, authorized ROEs in Idaho have been below the average authorized ROEs for natural gas distribution utilities across the U.S. For these reasons, I conclude that Intermountain has greater than average regulatory risk when compared to the proxy group, indicating that the authorized ROE for Intermountain should be higher than the proxy group mean/median.

D. Service Territory Risk

Q. Please summarize Intermountain's service territory risk.

A. As noted above, Intermountain serves approximately 404,770 retail and 109 transportation customers in Idaho. The Company's service area is in Southern Idaho, where most of Intermountain's industrial customers are in the agricultural and food processing industry which represents a large portion of the economy and supports the Company's commercial and residential customers. Approximately 43.22 percent of Intermountain's total company utility gas sales in 2021 were derived from industrial customers. As shown in Figure 14, Intermountain's commercial and industrial sales volume as a percentage of total utility gas sales was 66.16 percent, which was higher than all but two of the proxy group companies. However, the two proxy group companies (i.e., One Gas and NiSource) with a higher percentage of commercial and industrial sales volume were only slightly higher with One Gas and NiSource deriving 66.27 percent and 66.63 percent, respectively, of their natural gas volumes from commercial and industrial customers.

Figure 14: Customer Concentration[83]



Q. How does customer concentration and the Company's service territory risk affect business risk?

A. A relatively high concentration of commercial and industrial customers results in higher business risk. Commercial and industrial customers are large, and can represent a significant portion of a company's sales which could be lost if a customer goes out of business or switches suppliers. As noted by Dhaliwal, Judd, Serfling and Shaikh in their article, *Customer Concentration Risk and the Cost of Equity Capital*:

[83] EIA FORM 176 - Other sales includes Electric Power and Vehicle Fuel Volume.

> Depending on a major customer for a large portion of sales can be risky for a supplier for two primary reasons. First, a supplier faces the risk of losing substantial future sales if a major customer becomes financially distressed or declares bankruptcy, switches to a different supplier, or decides to develop products internally. Consistent with this notion, Hertzel et al. (2008) and Kolay et al. (2015) document negative supplier abnormal stock returns to the announcement that a major customer declares bankruptcy. Further, a customer's weak financial condition or actions could signal inherent problems about the supplier's viability to its remaining customers and lead to compounding losses in sales. Second, a supplier faces the risk of losing anticipated cash flows from being unable to collect outstanding receivables if the customer goes bankrupt. This assertion is consistent with the finding that suppliers offering customers more trade credit experience larger negative abnormal stock returns around the announcement of a customer filing for Chapter 11 bankruptcy (Jorion and Zhang, 2009; Kolay et al., 2015).[84]

Therefore, a company that has a high degree of customer concentration will be inherently riskier than a company that derived income from a larger customer base. Furthermore, as Dhaliwal, Judd, Serfling and Shaik detail in the article, the increased risk associated with a more concentrated customer base will have the effect of increasing a company's COE.[85]

Q. Please describe how changes in economic conditions and the interdependent nature of Intermountain's service territory can affect its business risk?

A. While Intermountain doesn't depend on any one major customer, Intermountain has a high concentration of industrial customers. Intermountain's major industrial customers are engaged in the agricultural industry primarily in food processing including but not limited to potato, dairy and meat processing. Commodity and energy price volatility, changes in consumer preferences, increased domestic and international competition as

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[84] Dhaliwal, Dan S., J. Scott Judd, Matthew A. Serfling, and Sarah Shaikh. "Customer Concentration Risk and the Cost of Equity Capital." SSRN Electronic Journal (2016): 1-2. Web.

[85] *Id*, at 4.

well as the current labor shortages and the economic effect of the COVID-19 pandemic are some of the risk factors currently faced by the food processing industry. Depending on how significant the financial effect of the referenced events, companies could respond to such events by decreasing production which will result in volatility in natural gas sales for Intermountain since the Company's load is heavily based on the food processing industry.

Q. What portion of Intermountain's natural gas deliveries concentrated in one industry?

A. In 2021, 37.02 percent of Intermountain's total natural gas sales were derived from industrial customers in the food processing industry.[86] Moreover, since the economy in Southern Idaho is reliant on the food processing industry, Intermountain's commercial and residential customers also rely on the industry for sales and employment. For example, the agricultural and food processing industry employs nearly 5.4 percent of Idaho's workforce and contributed $3.9 billion to Idaho's GDP which represents over 9 percent of Idaho's total GDP.[87] Furthermore, Southern Idaho is ranked number 3 in the U.S. for food processing and is one of four regions in the U.S. to receive the U.S. Department of Commerce's Federal Manufacturing Community Designation in the category of "All Things Food". [88] Therefore, downside risks to the food processing such as increases in commodity prices, labor shortages, changing consumer preferences and increase domestic and international competition could have an effect on the economic conditions in Intermountain's service territory. This could result in a reduction in sales to

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[86] Company provided data.

[87] Idaho Department of Commerce. "Food Production Industry Fact Sheet". https://commerce.idaho.gov/content/uploads/2021/05/Industry-One-Sheet-Food-Production-1.pdf

[88] Southern Idaho Economic Development, "Key Industries". https://www.southernidaho.org/key-industries.html

industrial customers. If food processors reduce output, the effect would be compounded by a decline in local employment which would also reduce natural gas deliveries for Intermountain's residential and commercial customers.

Q. Are you aware of other risk factors that could affect Intermountain's business operations?

A. Yes. Intermountain is also in direct competition with other sources of energy such as electricity, diesel, solar, and wind among others. This creates an additional risk that customers in the commercial and industrial classes could convert to a different source of energy. Thus, Intermountain's reliance on a large percentage of commercial and industrial load results in an increased risk of volatility with respect to sales, earnings, and cash flow.

Q. What is your conclusion regarding the Company's customer concentration and its effect on the cost of equity for Intermountain?

A. Intermountain is heavily reliant on sales to industrial customers. As noted above, approximately 43.22 percent of Intermountain's total natural gas deliveries in Idaho were to industrial customers. This concentration is higher than all but two of the proxy group companies. A high degree of customer concentration increases Intermountain's risk related to customer migration, changes in economic conditions and competition. This risk is greater in Intermountain's service territory because the residential and commercial customers rely on the success of the food processing industry for sales and employment. Increased customer and economic diversity decreases the effect that any one customer or industry can have on a company's sales. Thus, Intermountain's service territory, where industrial customers represent a large portion of natural gas sales and commercial and

residential customers rely economically on the success of the one industry segment, implies that Intermountain has an above average risk profile when compared to the companies in the proxy group.

E. Flotation Cost

Q. What are flotation costs?

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

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

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

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

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

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

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

Q. Is the date of MDU Resources' last issued common equity important in the determination of flotation costs?

A. No. As shown in Exhibit No. 11, MDU Resources closed on equity issuances of approximately $58 million and $54 million (for a total of 4.7 million shares of common stock) in November 2002 and February 2004, respectively. The vintage of the issuance, however, is not particularly important because the investor suffers a shortfall in every year that he should have a reasonable opportunity to earn a return on the full amount of capital that he has contributed. Returning to my earlier example, the investor who contributed $100 is entitled to a reasonable opportunity to earn a return on $100 not only in the first year after the investment, but in every subsequent year in which he has the

$100 invested. Leaving aside depreciation, which is dealt with separately, there is no basis to conclude that the investor is entitled to earn a return on $100 in the first year after issuance, but thereafter is entitled to earn a return on only $97. As long as the $100 is invested, the investor should have a reasonable opportunity to earn a return on the entire amount.

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

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

> Flotation costs occur when new issues of stock or debt are sold to the public. The firm usually incurs several kinds of flotation or transaction costs, which reduce the actual proceeds received by the firm. Some of these are direct out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and prospectus preparation costs. Because of this reduction in proceeds, the firm's required returns on these proceeds equate to a higher return to compensate for the additional costs. Flotation costs can be accounted for either by amortizing the cost, thus reducing the cash flow to discount, or by incorporating the cost into the cost of capital. Because flotation costs are not typically applied to operating cash flow, one must incorporate them into the cost of capital.[89]

Q. How did you calculate the flotation costs for MDU Resources?

A. My flotation cost calculation is based on the costs of issuing equity that were incurred by MDU Resources in its two most recent common equity issuance. These issuance costs were applied to my proxy group. Applying the actual issuance costs for MDU Resources

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

provided in Exhibit No. 11, to the DCF analysis, the flotation costs are estimated to be 0.14 percent (i.e., 14 basis points).

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

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

VIII. CAPITAL STRUCTURE

Q. Is the capital structure of a company an important consideration in the determination of the appropriate ROE?

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

Q. What is Intermountain's proposed capital structure?

A. Intermountain is proposing to establish a capital structure consisting of 50.00 percent common equity and 50.00 percent long-term debt.

Q. Did you conduct any analysis to determine if this requested equity ratio was reasonable?

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

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

A. Specifically, I calculated the mean proportions of common equity and long-term debt over the past three years for each of the companies in the proxy group at the operating subsidiary level. Exhibit No. 12 summarizes the actual capital structures of the operating subsidiaries. As shown, the average equity ratios for the operating subsidiaries of the proxy group range from 48.73 percent to 61.47 percent, with a mean of 56.41 percent. Intermountain's proposed equity ratio of 50.00 percent is well below the mean established by the capital structures of the utility operating subsidiaries of the proxy group.

Q. Do you have any additional comments regarding the relationship between the authorized equity ratio and the authorized ROE?

A. Yes. There is a direct relationship between the authorized equity ratio and the authorized ROE. In particular, the authorized equity ratio is a primary indicator of financial risk for a regulated utility such as Intermountain. To the extent the authorized equity ratio is reduced, a corresponding increase is necessary in the authorized ROE to compensate investors for the greater financial risk associated with a lower equity ratio.

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

A. Yes. The credit rating agencies' response to the Tax Cuts and Jobs Act of 2017 (TCJA) must also be considered when determining the equity ratio. All three rating agencies have noted that the TCJA has negative implications for utility cash flows. S&P and Fitch specifically identified increasing the equity ratio as one approach to ensure that utilities have sufficient cash flows following the federal income tax rate reductions and the loss of bonus depreciation. As S&P noted "[r]egulators must also recognize that tax reform is a strain on utility credit quality, and we expect companies to request stronger capital structures and other means to offset some of the negative impact."[90] Furthermore, Moody's downgraded the rating outlook for the entire utilities sector in June 2018 and downgraded the ratings of numerous utilities based in part on the negative effects of the TCJA on cash flows.

Most recently, Moody's revised its 2023 outlook for the utilities sector to "negative" based on ongoing challenges of inflation, increasing interest rates and higher natural gas prices. Moody's noted that these challenges increase the pressure on customer affordability and the ability of utilities to promptly recover their costs. Moody's concluded that regulated utilities' financial metrics are already under pressure with little cushion, and that sustained capital spending is likely as utilities continue progress towards emissions

[90] Standard & Poor's Ratings, "U.S. Tax Reform: For Utilities' Credit Quality, Challenges Abound," January 24, 2018, at 5.

reductions and net-zero goals. Moody's noted that the outlook could return to stable if regulatory support remains intact.[91]

S&P also continues to maintain a negative outlook for the utility industry in 2022[92] and noted that since downgrades outpaced upgrades for a second consecutive year in 2021 for the first time ever the median investor-owned utility credit rating fell to the "BBB" category.[93] Further, S&P expects continued pressure on cash flows over the near-term as utilities continue to increase leverage to fund capital expenditure plans necessary to reduce greenhouse gas emission and improve safety and reliability. Finally, S&P also highlighted inflation, higher interest rates and rising commodity prices as additional risks that could further constrain the credit metrics for utilities over the near-term. In regards to inflation S&P noted:

> Inflation recently spiked to its highest level in decades after rising for several consecutive months in 2021. Given the sustained increase to the U.S. consumer price index in 2021, inflation no longer appears to be just transitory and may have financial implications for the investor-owned North American regulated utility industry. Because of the regulatory lag within the industry, inflation, which causes prices to rise, typically leads to a weakening of financial performance. The regulatory lag is the timing difference between when costs are incurred and when regulators allow those costs to be fully recovered from ratepayers.[94]

The credit ratings agencies' continued concerns over the negative effects of inflation, and increased capital expenditures underscore the importance of maintaining

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91 *See, e.g.*, Walton, Robert, "Moody's adopts negative outlook for regulated utility sector, warns on gas prices, economy and cost recovery," Utility Dive, November 11, 2022; Bennett, Abbie, "Moody's revises US regulated utilities outlook to negative," S&P Capital IQ Pro, November 11, 2022.

92 S&P Global Ratings, "Regulated Utilities: Credit quality has weakened and credit risks are rising," July 14, 2022.

93 S&P Global Ratings, "For the First Time Ever, the Median Investor-Owned Utility Ratings Falls to the 'BBB' Category," January 20, 2022.

94 *Ibid.*

adequate cash flow metrics for the industry, as a whole, and Intermountain, particularly, in the context of this proceeding.

Q. What is your conclusion with regard to the Company's proposed capital structure?

A. Considering the actual capital structures of the proxy group operating companies, I believe that Intermountain's proposed common equity ratio of 50.00 percent is reasonable. The proposed equity ratio is well below the average equity ratio established by the capital structures of the utility operating subsidiaries of the proxy companies, which would suggest that Intermountain has greater financial risk than the proxy group. This proposed capital structure would support an ROE towards the high-end of my recommended ROE range.

IX. CONCLUSIONS AND RECOMMENDATION

Q. What is your conclusion regarding a fair ROE for Intermountain's natural gas distribution operations in Idaho?

A. Based on the quantitative and qualitative analyses presented in my Direct Testimony, and in light of the business and financial risks of Intermountain as compared to the proxy group, it is my view that an ROE of 10.30 percent on an equity ratio of 50.00 percent would fairly balance the interests of customers and shareholders. This ROE would enable the Company to maintain its financial integrity and therefore its ability to attract capital at reasonable rates under a variety of economic and financial market conditions, while continuing to provide safe, reliable, and affordable gas utility service to customers in Idaho.

Figure 15: Summary of Results

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.73%	9.85%	11.41%
90-Day Average	8.48%	9.61%	11.16%
180-Day Average	8.43%	9.56%	11.11%
	Median Low	Median	Median High
30-Day Average	8.62%	9.91%	10.95%
90-Day Average	8.33%	9.62%	10.70%
180-Day Average	8.28%	9.57%	10.66%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.29%	11.30%	11.27%
Bloomberg Beta	10.81%	10.83%	10.79%
Long-term Avg. Beta	10.38%	10.40%	10.34%
ECAPM			
Value Line Beta	11.65%	11.66%	11.64%
Bloomberg Beta	11.30%	11.31%	11.28%
Long-term Avg. Beta	10.97%	10.99%	10.95%
Bond Yield Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Results	10.16%	10.20%	10.12%

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

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Attorneys for Intermountain Gas Company

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	CASE NO. INT-G-22-07

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 1 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

Ann E. Bulkley

PRINCIPAL

Boston 508.981.0866 Ann.Bulkley@brattle.com

With more than 25 years of experience in the energy industry, Ms. Bulkley specializes in regulatory economics for the electric and natural gas sectors, including rate of return, cost of equity, and capital structure issues.

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

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

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

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

AREAS OF EXPERTISE

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

EDUCATION

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

PROFESSIONAL EXPERIENCE

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

SELECTED CONSULTING EXPERIENCE & EXPERT TESTIMONY

REGULATORY ANALYSIS AND RATEMAKING

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

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

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

COST OF CAPITAL

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

RATEMAKING

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

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

VALUATION

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

Representative projects/clients have included:

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

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

STRATEGIC AND FINANCIAL ADVISORY SERVICES

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

Representative projects include:

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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
UNS Electric	11/22	UNS Electric	Docket No. E-04204A-15-0251	Return on Equity
Tucson Electric Power Company	6/22	Tucson Electric Power Company	Docket No. G-01933A-22-0107	Return on Equity
Southwest Gas Corporation	12/21	Southwest Gas Corporation	Docket No. G-01551A-21-0368	Return on Equity
Arizona Public Service Company	10/19	Arizona Public Service Company	Docket No. E-01345A-19-0236	Return on Equity
Tucson Electric Power Company	04/19	Tucson Electric Power Company	Docket No. E-01933A-19-0028	Return on Equity
Tucson Electric Power Company	11/15	Tucson Electric Power Company	Docket No. E-01933A-15-0322	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arkansas Public Service Commission				
Oklahoma Gas and Electric Co	10/21	Oklahoma Gas and Electric Co	Docket No. D-18-046-FR	Return on Equity
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
California Public Utilities Commission				
Pacificorp, d/b/a Pacific Power	5/22	Pacificorp, d/b/a Pacific Power		Return on Equity
San Jose Water Company	05/21	San Jose Water Company	A2105004	Return on Equity
Colorado Public Utilities Commission				
Public Service Company of Colorado	01/22	Public Service Company of Colorado	Docket No. 22AL-0046G	Return on Equity
Public Service Company of Colorado	07/21	Public Service Company of Colorado	21AL-0317E	Return on Equity
Public Service Company of Colorado	02/20	Public Service Company of Colorado	20AL-0049G	Return on Equity
Public Service Company of Colorado	05/19	Public Service Company of Colorado	19AL-0268E	Return on Equity
Public Service Company of Colorado	01/19	Public Service Company of Colorado	19AL-0063ST	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-0299G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity
Connecticut Public Utilities Regulatory Authority				
United Illuminating	09/22	United Illuminating	Docket No. 22-08-08	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
United Illuminating	05/21	United Illuminating	Docket No. 17-12-03RE11	Return on Equity
Connecticut Water Company	01/21	Connecticut Water Company	Docket No. 20-12-30	Return on Equity
Connecticut Natural Gas Corporation	06/18	Connecticut Natural Gas Corporation	Docket No. 18-05-16	Return on Equity
Yankee Gas Services Co. d/b/a Eversource Energy	06/18	Yankee Gas Services Co. d/b/a Eversource Energy	Docket No. 18-05-10	Return on Equity
The Southern Connecticut Gas Company	06/17	The Southern Connecticut Gas Company	Docket No. 17-05-42	Return on Equity
The United Illuminating Company	07/16	The United Illuminating Company	Docket No. 16-06-04	Return on Equity
Federal Energy Regulatory Commission				
Northern Natural Gas Company	07/22	Northern Natural Gas Company	Docket No. RP22-___	Return on Equity
Transwestern Pipeline Company, LLC	07/22	Transwestern Pipeline Company, LLC	Docket No. RP22-___	Return on Equity
Florida Gas Transmission	02/21	Florida Gas Transmission	Docket No. RP21-441	Return on Equity
TransCanyon	01/21	TransCanyon	Docket No. ER21-1065	Return on Equity
Duke Energy	12/20	Duke Energy	Docket No. EL21-9-000	Return on Equity
Wisconsin Electric Power Company	08/20	Wisconsin Electric Power Company	Docket No. EL20-57-000	Return on Equity
Panhandle Eastern Pipe Line Company, LP	10/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-78-000 RP19-78-001	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Panhandle Eastern Pipe Line Company, LP	08/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-1523	Return on Equity
Sea Robin Pipeline Company LLC	11/18	Sea Robin Pipeline Company LLC	Docket# RP19-352-000	Return on Equity
Tallgrass Interstate Gas Transmission	10/15	Tallgrass Interstate Gas Transmission	RP16-137	Return on Equity
Idaho Public Utilities Commission				
PacifiCorp d/b/a Rocky Mountain Power	05/21	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-21-07	Return on Equity
Illinois Commerce Commission				
Illinois American Water	02/22	Illinois American Water	Docket No. 22-0210	Return on Equity
North Shore Gas Company	02/21	North Shore Gas Company	No. 20-0810	Return on Equity
Indiana Utility Regulatory Commission				
Indiana Michigan Power Co.	07/21	Indiana Michigan Power Co.	IURC Cause No. 45576	Return on Equity
Indiana Gas Company Inc.	12/20	Indiana Gas Company Inc.	IURC Cause No. 45468	Return on Equity
Southern Indiana Gas and Electric Company	10/20	Southern Indiana Gas and Electric Company	IURC Cause No. 45447	Return on Equity
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity
Indianapolis Power and Light Company	12/17	Indianapolis Power and Light Company	Cause No. 45029	Fair Value
Northern Indiana Public Service Company	09/17	Northern Indiana Public Service Company	Cause No. 44988	Fair Value

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Indianapolis Power and Light Company	12/16	Indianapolis Power and Light Company	Cause No.44893	Fair Value
Northern Indiana Public Service Company	10/15	Northern Indiana Public Service Company	Cause No. 44688	Fair Value
Indianapolis Power and Light Company	09/15	Indianapolis Power and Light Company	Cause No. 44576 Cause No. 44602	Fair Value
Kokomo Gas and Fuel Company	09/10	Kokomo Gas and Fuel Company	Cause No. 43942	Fair Value
Northern Indiana Fuel and Light Company, Inc.	09/10	Northern Indiana Fuel and Light Company, Inc.	Cause No. 43943	Fair Value
Iowa Department of Commerce Utilities Board				
MidAmerican Energy Company	01/22	MidAmerican Energy Company	Docket No. RPU-2022-0001	Return on Equity
Iowa-American Water Company	08/20	Iowa-American Water Company	Docket No. RPU-2020-0001	Return on Equity
Kansas Corporation Commission				
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
Kentucky Public Service Commission				
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity
Maine Public Utilities Commission				
Central Maine Power	08/22	Central Maine Power	Docket No. 2022-00152	Return on Equity
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-194	Return on Equity
Maryland Public Service Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity
Massachusetts Appellate Tax Board				
Hopkinton LNG Corporation	03/20	Hopkinton LNG Corporation	Docket No.	Valuation of LNG Facility
FirstLight Hydro Generating Company	06/17	FirstLight Hydro Generating Company	Docket No. F-325471 Docket No. F-325472 Docket No. F-325473 Docket No. F-325474	Valuation of Electric Generation Assets
Massachusetts Department of Public Utilities				
National Grid USA	11/20	Boston Gas Company	DPU 20-120	Return on Equity
Berkshire Gas Company	05/18	Berkshire Gas Company	DPU 18-40	Return on Equity
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Michigan Public Service Commission				
Michigan Gas Utilities Corporation	03/21	Michigan Gas Utilities Corporation	Case No. U-20718	Return on Equity
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
Michigan Tax Tribunal				
New Covert Generating Co., LLC.	03/18	The Township of New Covert Michigan	MTT Docket No. 000248TT and 16-001888-TT	Valuation of Electric Generation Assets
Covert Township	07/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Minnesota Public Utilities Commission				
CenterPoint Energy Resources	11/21	CenterPoint Energy Resources	D-G-008/GR-21-435	Return on Equity
Allete, Inc. d/b/a Minnesota Power	11/21	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-21-630	Return on Equity
Otter Tail Power Company	11/20	Otter Tail Power Company	E017/GR-20-719	Return on Equity
Allete, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity
CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	10/19	CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	G-008/GR-19-524	Return on Equity
Great Plains Natural Gas Co.	09/19	Great Plains Natural Gas Co.	Docket No. G004/GR-19-511	Return on Equity
Minnesota Energy Resources Corporation	10/17	Minnesota Energy Resources Corporation	Docket No. G011/GR-17-563	Return on Equity
Missouri Public Service Commission				
Ameren Missouri	08/22	Ameren Missouri	File No. ER-2022-0337	Return on Equity
Missouri American Water Company	07/22	Missouri American Water Company	Case No. WR-2022-0303 Case No. SR-2022-0304	Return on Equity
Evergy Missouri West	1/22	Evergy Missouri West	File No. ER-2022-0130	Return on Equity
Evergy Missouri Metro	1/22	Evergy Missouri Metro	File No. ER-2022-0129	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Ameren Missouri	03/21	Ameren Missouri	Docket No. ER-2021-0240 Docket No. GR-2021-0241	Return on Equity
Missouri American Water Company	06/20	Missouri American Water Company	Case No. WR-2020-0344 Case No. SR-2020-0345	Return on Equity
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity
Montana Public Service Commission				
Montana-Dakota Utilities Co.	06/20	Montana-Dakota Utilities Co.	D2020.06.076	Return on Equity
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
New Hampshire - Board of Tax and Land Appeals				
Public Service Company of New Hampshire d/b/a Eversource Energy	11/19 12/19	Public Service Company of New Hampshire d/b/a Eversource Energy	Master Docket No. 28873-14-15-16-17PT	Valuation of Utility Property and Generating Assets
New Hampshire Public Utilities Commission				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity
New Hampshire-Merrimack County Superior Court				
Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	04/18	Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	220-2012-CV-1100	Valuation of Utility Property
New Hampshire-Rockingham Superior Court				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
New Jersey Board of Public Utilities				
New Jersey American Water Company, Inc.	01/22	New Jersey American Water Company, Inc.	WR22010019	Return on Equity
Public Service Electric and Gas Company	10/20	Public Service Electric and Gas Company	EO18101115	Return on Equity
New Jersey American Water Company, Inc.	12/19	New Jersey American Water Company, Inc.	WR19121516	Return on Equity
Public Service Electric and Gas Company	04/19	Public Service Electric and Gas Company	EO18060629 GO18060630	Return on Equity
Public Service Electric and Gas Company	02/18	Public Service Electric and Gas Company	GR17070776	Return on Equity
Public Service Electric and Gas Company	01/18	Public Service Electric and Gas Company	ER18010029 GR18010030	Return on Equity
New Mexico Public Regulation Commission				
Southwestern Public Service Company	07/19	Southwestern Public Service Company	19-00170-UT	Return on Equity
Southwestern Public Service Company	10/17	Southwestern Public Service Company	Case No. 17-00255-UT	Return on Equity
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Case No. 16-00269-UT	Return on Equity
Southwestern Public Service Company	10/15	Southwestern Public Service Company	Case No. 15-00296-UT	Return on Equity
Southwestern Public Service Company	06/15	Southwestern Public Service Company	Case No. 15-00139-UT	Return on Equity
New York State Department of Public Service				

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

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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
American Water Works Company Inc.	04/22	Pennsylvania-American Water Company	Docket No. R-2020-3031672 (water) Docket No. R-2020-3031673 (wastewater)	Return on Equity
American Water Works Company Inc.	04/20	Pennsylvania-American Water Company	Docket No. R-2020-3019369 (water) Docket No. R-2020-3019371 (wastewater)	Return on Equity
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017-2595853	Return on Equity
South Dakota Public Utilities Commission				
MidAmerican Energy Company	05/22	MidAmerican Energy Company	D-NG22-005	Return on Equity
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
Texas Public Utility Commission				
Entergy Texas, Inc.	07/22	Entergy Texas, Inc.	D-53719	Return on Equity
Southwestern Public Service Commission	08/19	Southwestern Public Service Commission	Docket No. D-49831	Return on Equity
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
Utah Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	05/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20-035-04	Return on Equity
Virginia State Corporation Commission				
Virginia American Water Company, Inc.	11/21	Virginia American Water Company, Inc.	Docket No. PUR-2021-00255	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
Washington Utilities Transportation Commission				
Cascade Natural Gas Corporation	06/20	Cascade Natural Gas Corporation	Docket No. UG-200568	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	12/19	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-191024	Return on Equity
Cascade Natural Gas Corporation	04/19	Cascade Natural Gas Corporation	Docket No. UG-190210	Return on Equity
West Virginia Public Service Commission				
West Virginia American Water Company	04/21	West Virginia American Water Company	Case No. 21-02369-W-42T	Return on Equity
West Virginia American Water Company	04/18	West Virginia American Water Company	Case No. 18-0573-W-42T Case No. 18-0576-S-42T	Return on Equity
Wisconsin Public Service Commission				
Wisconsin Electric Power Company and Wisconsin Gas LLC	04/22	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-110	Return on Equity
Wisconsin Public Service Corp.	04/22	Wisconsin Public Service Corp.	6690-UR-127	Return on Equity
Alliant Energy		Alliant Energy		Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	03/19	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-109	Return on Equity
Wisconsin Public Service Corp.	03/19	Wisconsin Public Service Corp.	6690-UR-126	Return on Equity
Wyoming Public Service Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
PacifiCorp d/b/a Rocky Mountain Power	03/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-578-ER-20	Return on Equity
Montana-Dakota Utilities Co.	05/19	Montana-Dakota Utilities Co.	30013-351-GR-19	Return on Equity

CERTIFICATIONS/ACCREDITATIONS

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

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	CASE NO. INT-G-22-07

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

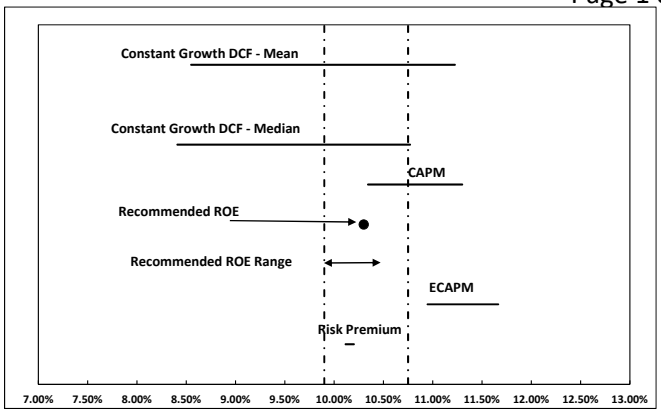
EXHIBIT 2 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

SUMMARY OF ROE ANALYSES RESULTS

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.73%	9.85%	11.41%
90-Day Average	8.48%	9.61%	11.16%
180-Day Average	8.43%	9.56%	11.11%
Constant Growth Average	8.55%	9.67%	11.22%
	Median Low	Median	Median High
30-Day Average	8.62%	9.91%	10.95%
90-Day Average	8.33%	9.62%	10.70%
180-Day Average	8.28%	9.57%	10.66%
Constant Growth Average	8.41%	9.70%	10.77%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.29%	11.30%	11.27%
Bloomberg Beta	10.81%	10.83%	10.79%
Long-term Avg. Beta	10.38%	10.40%	10.34%
ECAPM			
Value Line Beta	11.65%	11.66%	11.64%
Bloomberg Beta	11.30%	11.31%	11.28%
Long-term Avg. Beta	10.97%	10.99%	10.95%
Bond Yield Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Results	10.16%	10.20%	10.12%

	X	Y
Constant Growth Mean DCF	8.55%	8.0
	9.67%	8.0
	11.22%	8.0
Constant Growth Median DCF	8.41%	6.0
	9.70%	6.0
	10.77%	6.0
CAPM	10.34%	5.0
	11.30%	5.0
ECAPM	10.95%	2.0
	11.66%	2.0
Risk Premium	10.12%	1.0
	10.20%	1.0
Low End ROE Recommendation	9.90%	0.0
	9.90%	9.0
High End ROE Recommendation	10.75%	0.0
	10.75%	9.0
Recommended ROE	10.30%	4.0



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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	CASE NO. INT-G-22-07

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 3 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

30-DAY CONSTANT GROWTH DCF -- INTERMOUNTAIN GAS COMPANY PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE
Atmos Energy Corporation	ATO	$2.72	$104.39	2.61%	2.71%	7.50%	8.26%	7.50%	7.75%	10.20%	10.46%	10.97%
New Jersey Resources Corporation	NJR	$1.56	$41.47	3.76%	3.84%	5.00%	6.00%	1.70%	4.23%	5.49%	8.07%	9.87%
NiSource Inc.	NI	$0.94	$25.58	3.67%	3.82%	9.50%	7.30%	7.20%	8.00%	11.01%	11.82%	13.35%
Northwest Natural Gas Company	NWN	$1.94	$45.24	4.29%	4.40%	6.50%	4.30%	4.30%	5.03%	8.68%	9.43%	10.93%
ONE Gas, Inc.	OGS	$2.48	$74.01	3.35%	3.44%	6.50%	5.00%	5.00%	5.50%	8.43%	8.94%	9.96%
Spire, Inc.	SR	$2.74	$65.69	4.17%	4.30%	9.00%	4.30%	5.00%	6.10%	8.56%	10.40%	13.36%
Mean				3.64%	3.75%	7.33%	5.86%	5.12%	6.10%	8.73%	9.85%	11.41%
Median				3.72%	3.83%	7.00%	5.50%	5.00%	5.80%	8.62%	9.91%	10.95%

Notes:
[1] Source: Bloomberg Professional as of October 31 2022
[2] Source: Bloomberg Professional 30-day average as ofOctober 31 2022
[3] Equals [1]/[2]
[4] Equals [3] x (1+0.5 x[8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals average of [5], [6], [7]
[9] Equals [3] x (1+0.5x(min([5], [6]. [7]))+(min([5], [6]. [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1+0.5x(max([5], [6]. [7]))+(max([5], [6]. [7])

90-DAY CONSTANT GROWTH DCF -- INTERMOUNTAIN GAS COMPANY PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE
Atmos Energy Corporation	ATO	$2.72	$111.20	2.45%	2.54%	7.50%	8.26%	7.50%	7.75%	10.04%	10.29%	10.81%
New Jersey Resources Corporation	NJR	$1.56	$43.52	3.58%	3.66%	5.00%	6.00%	1.70%	4.23%	5.32%	7.89%	9.69%
NiSource Inc.	NI	$0.94	$28.11	3.34%	3.48%	9.50%	7.30%	7.20%	8.00%	10.66%	11.48%	13.00%
Northwest Natural Gas Company	NWN	$1.94	$48.98	3.96%	4.06%	6.50%	4.30%	4.30%	5.03%	8.35%	9.09%	10.59%
ONE Gas, Inc.	OGS	$2.48	$78.57	3.16%	3.24%	6.50%	5.00%	5.00%	5.50%	8.24%	8.74%	9.76%
Spire, Inc.	SR	$2.74	$69.78	3.93%	4.05%	9.00%	4.30%	5.00%	6.10%	8.31%	10.15%	13.10%
Mean				3.40%	3.50%	7.33%	5.86%	5.12%	6.10%	8.48%	9.61%	11.16%
Median				3.46%	3.57%	7.00%	5.50%	5.00%	5.80%	8.33%	9.62%	10.70%

Notes:
[1] Source: Bloomberg Professional as of October 31 2022
[2] Source: Bloomberg Professional 90-day average as of October 31 2022
[3] Equals [1]/[2]
[4] Equals [3] x (1+0.5 x[8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals average of [5], [6], [7]
[9] Equals [3] x (1+0.5x(min([5], [6]. [7]))+(min([5], [6]. [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1+0.5x(max([5], [6]. [7]))+(max([5], [6]. [7])

180-DAY CONSTANT GROWTH DCF -- INTERMOUNTAIN GAS COMPANY PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE
Atmos Energy Corporation	ATO	$2.72	$112.00	2.43%	2.52%	7.50%	8.26%	7.50%	7.75%	10.02%	10.28%	10.79%
New Jersey Resources Corporation	NJR	$1.56	$43.57	3.58%	3.66%	5.00%	6.00%	1.70%	4.23%	5.31%	7.89%	9.69%
NiSource Inc.	NI	$0.94	$28.80	3.26%	3.39%	9.50%	7.30%	7.20%	8.00%	10.58%	11.39%	12.92%
Northwest Natural Gas Company	NWN	$1.94	$49.70	3.90%	4.00%	6.50%	4.30%	4.30%	5.03%	8.29%	9.04%	10.53%
ONE Gas, Inc.	OGS	$2.48	$81.21	3.05%	3.14%	6.50%	5.00%	5.00%	5.50%	8.13%	8.64%	9.65%
Spire, Inc.	SR	$2.74	$70.39	3.89%	4.01%	9.00%	4.30%	5.00%	6.10%	8.28%	10.11%	13.07%
Mean				3.35%	3.45%	7.33%	5.86%	5.12%	6.10%	8.43%	9.56%	11.11%
Median				3.42%	3.53%	7.00%	5.50%	5.00%	5.80%	8.28%	9.57%	10.66%

Notes:
[1] Source: Bloomberg Professional as of October 31 2022
[2] Source: Bloomberg Professional 180-day average as of October 31 2022
[3] Equals [1]/[2]
[4] Equals [3] x (1+0.5 x[8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals average of [5], [6], [7]
[9] Equals [3] x (1+0.5x(min([5], [6]. [7]))+(min([5], [6]. [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1+0.5x(max([5], [6]. [7]))+(max([5], [6]. [7])

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	CASE NO. INT-G-22-07

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 4 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

CAPITAL ASSET PRICING MODEL- CURRENT RISK FREE RATE AND VALUE LINE BETA

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm −	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	3.92%	0.80	12.76%	8.84%	10.99%	11.43%
New Jersey Resources Corporation	NJR	3.92%	0.95	12.76%	8.84%	12.32%	12.43%
NiSource Inc.	NI	3.92%	0.85	12.76%	8.84%	11.43%	11.76%
Northwest Natural Gas Company	NWN	3.92%	0.80	12.76%	8.84%	10.99%	11.43%
ONE Gas, Inc.	OGS	3.92%	0.80	12.76%	8.84%	10.99%	11.43%
Spire, Inc.	SR	3.92%	0.80	12.76%	8.84%	10.99%	11.43%
Mean						11.29%	11.65%
Median						10.99%	11.43%

Notes:
[1] Source: Bloomberg Professional 30-day average as of October 31 2022
[2] Source: Value Line
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL- NEAR TERM PROJECTED RISK-FREE RATE AND VALUE LINE BETA

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q1 2023 - Q1 2024)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	4.00%	0.80	12.76%	8.76%	11.01%	11.45%
New Jersey Resources Corporation	NJR	4.00%	0.95	12.76%	8.76%	12.32%	12.43%
NiSource Inc.	NI	4.00%	0.85	12.76%	8.76%	11.45%	11.77%
Northwest Natural Gas Company	NWN	4.00%	0.80	12.76%	8.76%	11.01%	11.45%
ONE Gas, Inc.	OGS	4.00%	0.80	12.76%	8.76%	11.01%	11.45%
Spire, Inc.	SR	4.00%	0.80	12.76%	8.76%	11.01%	11.45%
Mean						11.30%	11.66%
Median						11.01%	11.45%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 11, November 1, 2022, at 2
[2] Source: Value Line
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL- LONG-TERM PROJECTED RISK-FREE RATE AND VALUE LINE BETA

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2024 - 2028)	[2] Beta (β)	[3] Market Return (Rm)	[4] Risk Premium (Rm − Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	3.80%	0.80	12.76%	8.96%	10.97%	11.42%
New Jersey Resources Corporation	NJR	3.80%	0.95	12.76%	8.96%	12.31%	12.42%
NiSource Inc.	NI	3.80%	0.85	12.76%	8.96%	11.42%	11.75%
Northwest Natural Gas Company	NWN	3.80%	0.80	12.76%	8.96%	10.97%	11.42%
ONE Gas, Inc.	OGS	3.80%	0.80	12.76%	8.96%	10.97%	11.42%
Spire, Inc.	SR	3.80%	0.80	12.76%	8.96%	10.97%	11.42%
Mean						11.27%	11.64%
Median						10.97%	11.42%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 6, June 1, 2022, at 14
[2] Source: Value Line
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm −	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	3.92%	0.77	12.76%	8.84%	10.71%	11.22%
New Jersey Resources Corporation	NJR	3.92%	0.81	12.76%	8.84%	11.10%	11.52%
NiSource Inc.	NI	3.92%	0.83	12.76%	8.84%	11.26%	11.64%
Northwest Natural Gas Company	NWN	3.92%	0.70	12.76%	8.84%	10.13%	10.78%
ONE Gas, Inc.	OGS	3.92%	0.80	12.76%	8.84%	11.00%	11.44%
Spire, Inc.	SR	3.92%	0.76	12.76%	8.84%	10.67%	11.20%
Mean						10.81%	11.30%
Median						10.85%	11.33%

Notes:
[1] Source: Bloomberg Professional 30-day average as of October 31 2022
[2] Source: Bloomberg Professional
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q1 2023 - Q1 2024)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	4.00%	0.77	12.76%	8.76%	10.73%	11.24%
New Jersey Resources Corporation	NJR	4.00%	0.81	12.76%	8.76%	11.12%	11.53%
NiSource Inc.	NI	4.00%	0.83	12.76%	8.76%	11.28%	11.65%
Northwest Natural Gas Company	NWN	4.00%	0.70	12.76%	8.76%	10.15%	10.80%
ONE Gas, Inc.	OGS	4.00%	0.80	12.76%	8.76%	11.01%	11.45%
Spire, Inc.	SR	4.00%	0.76	12.76%	8.76%	10.69%	11.21%
Mean						10.83%	11.31%
Median						10.87%	11.34%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 11, November 1, 2022, at 2
[2] Source: Bloomberg Professional
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2024 - 2028)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	3.80%	0.77	12.76%	8.96%	10.69%	11.20%
New Jersey Resources Corporation	NJR	3.80%	0.81	12.76%	8.96%	11.08%	11.50%
NiSource Inc.	NI	3.80%	0.83	12.76%	8.96%	11.24%	11.62%
Northwest Natural Gas Company	NWN	3.80%	0.70	12.76%	8.96%	10.09%	10.76%
ONE Gas, Inc.	OGS	3.80%	0.80	12.76%	8.96%	10.97%	11.42%
Spire, Inc.	SR	3.80%	0.76	12.76%	8.96%	10.65%	11.17%
Mean						10.79%	11.28%
Median						10.83%	11.31%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 6, June 1, 2022, at 14
[2] Source: Bloomberg Professional
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL- CURRENT RISK FREE RATE AND LONG-TERM BETA

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Risk Premium (Rm – Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	3.92%	0.73	12.76%	8.84%	10.40%	10.99%
New Jersey Resources Corporation	NJR	3.92%	0.81	12.76%	8.84%	11.04%	11.47%
NiSource Inc.	NI	3.92%	0.72	12.76%	8.84%	10.30%	10.91%
Northwest Natural Gas Company	NWN	3.92%	0.69	12.76%	8.84%	10.01%	10.70%
ONE Gas, Inc.	OGS	3.92%	0.72	12.76%	8.84%	10.25%	10.88%
Spire, Inc.	SR	3.92%	0.72	12.76%	8.84%	10.25%	10.88%
Mean						10.38%	10.97%
Median						10.27%	10.90%

Notes:
[1] Source: Bloomberg Professional 30-day average as of October 31 2022
[2] Source: Exhibit No. 5
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL- NEAR TERM PROJECTED RISK FREE RATE AND LONG-TERM BETA

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q1 2023 - Q1 2024)	[2] Beta (β)	[3] Market Return (Rm)	[4] Risk Premium (Rm – Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	4.00%	0.73	12.76%	8.76%	10.42%	11.01%
New Jersey Resources Corporation	NJR	4.00%	0.81	12.76%	8.76%	11.06%	11.48%
NiSource Inc.	NI	4.00%	0.72	12.76%	8.76%	10.32%	10.93%
Northwest Natural Gas Company	NWN	4.00%	0.69	12.76%	8.76%	10.03%	10.72%
ONE Gas, Inc.	OGS	4.00%	0.72	12.76%	8.76%	10.28%	10.90%
Spire, Inc.	SR	4.00%	0.72	12.76%	8.76%	10.28%	10.90%
Mean						10.40%	10.99%
Median						10.30%	10.91%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 11, November 1, 2022, at 2
[2] Source: Exhibit No. 5
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2024 - 2028)	[2] Beta (β)	[3] Market Return (Rm)	[4] Risk Premium (Rm –	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
Atmos Energy Corporation	ATO	3.80%	0.73	12.76%	8.96%	10.37%	10.97%
New Jersey Resources Corporation	NJR	3.80%	0.81	12.76%	8.96%	11.02%	11.45%
NiSource Inc.	NI	3.80%	0.72	12.76%	8.96%	10.26%	10.89%
Northwest Natural Gas Company	NWN	3.80%	0.69	12.76%	8.96%	9.97%	10.67%
ONE Gas, Inc.	OGS	3.80%	0.72	12.76%	8.96%	10.22%	10.86%
Spire, Inc.	SR	3.80%	0.72	12.76%	8.96%	10.22%	10.86%
Mean						10.34%	10.95%
Median						10.24%	10.87%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 41, No. 6, June 1, 2022, at 14
[2] Source: Exhibit No. 5
[3] Source: Exhibit No. 6
[4] Equals [3]-[1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	CASE NO. INT-G-22-07

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 5 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

HISTORICAL BETA - 2013 - 2021

Company	Ticker	[1] 12/31/2013	[2] 12/31/2014	[3] 12/31/2015	[4] 12/31/2016	[5] 12/31/2017	[6] 12/31/2018	[7] 12/31/2019	[8] 12/31/2020	[9] 12/31/2021	[10] Average
Atmos Energy Corporation	ATO	0.80	0.80	0.80	0.70	0.70	0.60	0.60	0.80	0.80	0.73
New Jersey Resources Corporation	NJR	0.7	0.8	0.8	0.80	0.80	0.70	0.70	0.95	1.00	0.81
NiSource Inc.	NI	0.85	0.85	NMF	NMF	0.60	0.50	0.55	0.85	0.85	0.72
Northwest Natural Gas Company	NWN	0.65	0.7	0.65	0.65	0.70	0.60	0.60	0.80	0.85	0.69
ONE Gas, Inc.	OGS	NA	NA	NA	0.70	0.70	0.65	0.65	0.80	0.80	0.72
Spire, Inc.	SR	0.65	0.7	0.7	0.70	0.70	0.65	0.65	0.85	0.85	0.72
Mean		0.73	0.77	0.74	0.71	0.70	0.62	0.63	0.84	0.86	0.73

Notes:
[1] Value Line, dated December 26, 2013.
[2] Value Line, dated December 31, 2014.
[3] Value Line, dated December 30, 2015.
[4] Value Line, dated December 29, 2016.
[5] Value Line, dated December 28, 2017.
[6] Value Line, dated December 27, 2018.
[7] Value Line, dated December 26, 2019.
[8] Value Line, dated December 30, 2020.
[9] Value Line, dated December 29, 2021.
[10] Average ([1] - [9])

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	CASE NO. INT-G-22-07

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 6 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

MARKET RISK PREMIUM DERIVED FROM S&P 500 INDEX

[1] Estimate of the S&P 500 Dividend Yield	1.84%
[2] Estimate of the S&P 500 Growth Rate	10.82%
[3] S&P 500 Estimated Required Market Return	12.76%

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Value Line Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	325.62	76.45	24,894	0.09%	6.23%	0.01%	3.50%	0.00%
Signature Bank/New York NY	SBNY	62.93	158.53	9,976	0.04%	1.41%	0.00%	16.50%	0.01%
American Express Co	AXP	747.23	148.45	110,927	0.41%	1.40%	0.01%	10.00%	0.04%
Verizon Communications Inc	VZ	4,199.82	37.37	156,947	0.58%	6.98%	0.04%	2.50%	0.01%
Broadcom Inc	AVGO	405.01	470.12	190,402		3.49%		29.50%	
Boeing Co/The	BA	595.98	142.51	84,934					
Caterpillar Inc	CAT	527.91	216.46	114,271	0.42%	2.22%	0.01%	8.00%	0.03%
JPMorgan Chase & Co	JPM	2,932.57	125.88	369,152	1.36%	3.18%	0.04%	5.00%	0.07%
Chevron Corp	CVX	1,957.44	180.90	354,100		3.14%		44.00%	
Coca-Cola Co/The	KO	4,324.51	59.85	258,822	0.95%	2.94%	0.03%	7.50%	0.07%
AbbVie Inc	ABBV	1,768.10	146.40	258,849	0.95%	4.04%	0.04%	4.50%	0.04%
Walt Disney Co/The	DIS	1,823.06	106.54	194,229				30.50%	
FleetCor Technologies Inc	FLT	75.01	186.12	13,961	0.05%			10.50%	0.01%
Extra Space Storage Inc	EXR	133.91	177.44	23,761	0.09%	3.38%	0.00%	4.00%	0.00%
Exxon Mobil Corp	XOM	4,118.00	110.81	456,316		3.28%			
Phillips 66	PSX	481.05	104.29	50,169		3.72%		85.00%	
General Electric Co	GE	1,092.67	77.81	85,020		0.41%		22.00%	
HP Inc	HPQ	1,005.94	27.62	27,784	0.10%	3.62%	0.00%	12.50%	0.01%
Home Depot Inc/The	HD	1,023.73	296.13	303,156	1.12%	2.57%	0.03%	9.00%	0.10%
Monolithic Power Systems Inc	MPWR	46.94	339.45	15,934		0.88%		23.50%	
International Business Machines Corp	IBM	904.13	138.29	125,032	0.46%	4.77%	0.02%	3.00%	0.01%
Johnson & Johnson	JNJ	2,614.48	173.97	454,842	1.67%	2.60%	0.04%	8.00%	0.13%
McDonald's Corp	MCD	735.72	272.66	200,601	0.74%	2.23%	0.02%	10.50%	0.08%
Merck & Co Inc	MRK	2,533.28	101.20	256,368	0.94%	2.73%	0.03%	8.00%	0.08%
3M Co	MMM	552.74	125.79	69,530	0.26%	4.74%	0.01%	6.50%	0.02%
American Water Works Co Inc	AWK	181.83	145.34	26,427	0.10%	1.80%	0.00%	3.00%	0.00%
Bank of America Corp	BAC	8,022.43	36.04	289,128	1.06%	2.44%	0.03%	8.50%	0.09%
Pfizer Inc	PFE	5,612.35	46.55	261,255	0.96%	3.44%	0.03%	6.50%	0.06%
Procter & Gamble Co/The	PG	2,369.70	134.67	319,127	1.17%	2.71%	0.03%	6.50%	0.08%
AT&T Inc	T	7,126.00	18.23	129,907	0.48%	6.09%	0.03%	0.50%	0.00%
Travelers Cos Inc/The	TRV	234.35	184.46	43,228	0.16%	2.02%	0.00%	6.50%	0.01%
Raytheon Technologies Corp	RTX	1,470.06	94.82	139,391	0.51%	2.32%	0.01%	7.00%	0.04%
Analog Devices Inc	ADI	514.34	142.62	73,355	0.27%	2.13%	0.01%	14.00%	0.04%
Walmart Inc	WMT	2,714.24	142.33	386,317	1.42%	1.57%	0.02%	7.50%	0.11%
Cisco Systems Inc	CSCO	4,105.97	45.43	186,534	0.69%	3.35%	0.02%	8.00%	0.05%
Intel Corp	INTC	4,127.00	28.43	117,331	0.43%	5.14%	0.02%	2.50%	0.01%
General Motors Co	GM	1,420.70	39.25	55,762	0.21%	0.92%	0.00%	10.00%	0.02%
Microsoft Corp	MSFT	7,454.47	232.13	1,730,407	6.37%	1.17%	0.07%	16.50%	1.05%
Dollar General Corp	DG	225.57	255.05	57,532	0.21%	0.86%	0.00%	10.00%	0.02%
Cigna Corp	CI	305.12	323.06	98,571	0.36%	1.39%	0.01%	10.00%	0.04%
Kinder Morgan Inc	KMI	2,247.74	18.12	40,729	0.15%	6.13%	0.01%	19.00%	0.03%
Citigroup Inc	C	1,936.90	45.86	88,826	0.33%	4.45%	0.01%	3.50%	0.01%
American International Group Inc	AIG	760.42	57.00	43,344	0.16%	2.25%	0.00%	6.50%	0.01%
Altria Group Inc	MO	1,792.17	46.27	82,924	0.31%	8.13%	0.02%	5.50%	0.02%
HCA Healthcare Inc	HCA	287.03	217.47	62,419	0.23%	1.03%	0.00%	12.50%	0.03%
International Paper Co	IP	355.67	33.61	11,954	0.04%	5.50%	0.00%	12.50%	0.01%
Hewlett Packard Enterprise Co	HPE	1,286.70	14.27	18,361	0.07%	3.36%	0.00%	7.50%	0.01%
Abbott Laboratories	ABT	1,751.22	98.94	173,266	0.64%	1.90%	0.01%	8.00%	0.05%
Aflac Inc	AFL	631.92	65.11	41,144	0.15%	2.46%	0.00%	9.00%	0.01%
Air Products and Chemicals Inc	APD	221.80	250.40	55,538	0.20%	2.59%	0.01%	11.00%	0.02%
Royal Caribbean Cruises Ltd	RCL	255.06	53.38	13,615					
Hess Corp	HES	309.62	141.08	43,680		1.06%			
Archer-Daniels-Midland Co	ADM	549.33	96.98	53,274	0.20%	1.65%	0.00%	13.00%	0.03%
Automatic Data Processing Inc	ADP	415.20	241.70	100,354	0.37%	1.72%	0.01%	10.00%	0.04%
Verisk Analytics Inc	VRSK	156.96	182.83	28,697	0.11%	0.68%	0.00%	10.50%	0.01%
AutoZone Inc	AZO	18.98	2,532.88	48,077	0.18%			14.50%	0.03%
Avery Dennison Corp	AVY	81.26	169.55	13,777	0.05%	1.77%	0.00%	12.00%	0.01%
Enphase Energy Inc	ENPH	135.92	307.00	41,729				26.50%	
MSCI Inc	MSCI	79.96	468.86	37,489	0.14%	1.07%	0.00%	15.50%	0.02%
Ball Corp	BALL	314.31	49.39	15,524		1.62%		21.50%	
Ceridian HCM Holding Inc	CDAY	153.06	66.19	10,131					
Carrier Global Corp	CARR	836.26	39.76	33,250		1.51%			
Bank of New York Mellon Corp/The	BK	808.10	42.11	34,029	0.13%	3.51%	0.00%	6.00%	0.01%
Otis Worldwide Corp	OTIS	416.59	70.64	29,428		1.64%			
Baxter International Inc	BAX	504.12	54.35	27,399	0.10%	2.13%	0.00%	10.00%	0.01%
Becton Dickinson and Co	BDX	285.20	235.97	67,297	0.25%	1.47%	0.00%	4.50%	0.01%
Berkshire Hathaway Inc	BRK/B	1,301.13	295.09	383,949	1.41%			6.00%	0.08%
Best Buy Co Inc	BBY	225.13	68.41	15,401	0.06%	5.15%	0.00%	4.00%	0.00%
Boston Scientific Corp	BSX	1,431.61	43.11	61,717	0.23%			16.00%	0.04%
Bristol-Myers Squibb Co	BMY	2,126.16	77.47	164,714		2.79%			
Fortune Brands Home & Security Inc	FBHS	128.24	60.32	7,736	0.03%	1.86%	0.00%	10.00%	0.00%
Brown-Forman Corp	BF/B	309.92	68.00	21,075	0.08%	1.11%	0.00%	14.00%	0.01%
Coterra Energy Inc	CTRA	795.60	31.13	24,767		8.35%			
Campbell Soup Co	CPB	299.76	52.91	15,860	0.06%	2.80%	0.00%	5.00%	0.00%
Hilton Worldwide Holdings Inc	HLT	270.46	135.26	36,582		0.44%			
Carnival Corp	CCL	1,112.71	9.06	10,081					
Qorvo Inc	QRVO	103.20	86.08	8,884	0.03%			14.50%	0.00%
Lumen Technologies Inc	LUMN	1,035.34	7.36	7,620	0.03%	13.59%	0.00%	3.50%	0.00%
UDR Inc	UDR	325.54	39.76	12,944	0.05%	3.82%	0.00%	10.50%	0.01%
Clorox Co/The	CLX	123.36	146.04	18,015	0.07%	3.23%	0.00%	7.50%	0.00%
Paycom Software Inc	PAYC	60.03	346.00	20,769				21.00%	
CMS Energy Corp	CMS	290.25	57.05	16,559	0.06%	3.23%	0.00%	6.50%	0.00%
Newell Brands Inc	NWL	413.60	13.81	5,712		6.66%			
Colgate-Palmolive Co	CL	835.21	73.84	61,672	0.23%	2.55%	0.01%	6.50%	0.01%
EPAM Systems Inc	EPAM	57.37	350.00	20,078				20.50%	

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Comerica Inc	CMA	130.95	70.50	9,232	0.03%	3.86%	0.00%	9.00%	0.00%
Conagra Brands Inc	CAG	479.26	36.70	17,589	0.06%	3.60%	0.00%	4.00%	0.00%
Consolidated Edison Inc	ED	354.58	87.96	31,189	0.11%	3.59%	0.00%	4.00%	0.00%
Corning Inc	GLW	845.81	32.17	27,210	0.10%	3.36%	0.00%	17.50%	0.02%
Cummins Inc	CMI	140.99	244.51	34,474	0.13%	2.57%	0.00%	8.50%	0.01%
Caesars Entertainment Inc	CZR	214.42	43.73	9,376					
Danaher Corp	DHR	727.96	251.67	183,206	0.67%	0.40%	0.00%	17.00%	0.11%
Target Corp	TGT	460.26	164.25	75,598	0.28%	2.63%	0.01%	12.00%	0.03%
Deere & Co	DE	301.82	395.82	119,466	0.44%	1.14%	0.01%	15.00%	0.07%
Dominion Energy Inc	D	832.50	69.97	58,250	0.21%	3.82%	0.01%	5.00%	0.01%
Dover Corp	DOV	140.35	130.69	18,343	0.07%	1.55%	0.00%	9.00%	0.01%
Alliant Energy Corp	LNT	250.93	52.17	13,091	0.05%	3.28%	0.00%	6.00%	0.00%
Duke Energy Corp	DUK	770.00	93.18	71,749	0.26%	4.31%	0.01%	5.00%	0.01%
Regency Centers Corp	REG	171.12	60.51	10,354	0.04%	4.13%	0.00%	12.50%	0.00%
Eaton Corp PLC	ETN	398.30	150.07	59,773	0.22%	2.16%	0.00%	12.00%	0.03%
Ecolab Inc	ECL	284.99	157.07	44,763	0.16%	1.30%	0.00%	10.50%	0.02%
PerkinElmer Inc	PKI	126.22	133.58	16,861	0.06%	0.21%	0.00%	4.00%	0.00%
Emerson Electric Co	EMR	591.30	86.60	51,207	0.19%	2.40%	0.00%	10.50%	0.02%
EOG Resources Inc	EOG	586.05	136.52	80,007	0.29%	2.20%	0.01%	18.00%	0.05%
Aon PLC	AON	206.85	281.49	58,227	0.21%	0.80%	0.00%	7.50%	0.02%
Entergy Corp	ETR	203.42	107.14	21,794	0.08%	3.99%	0.00%	4.00%	0.00%
Equifax Inc	EFX	122.44	169.54	20,759	0.08%	0.92%	0.00%	10.00%	0.01%
EQT Corp	EQT	367.05	41.84	15,357		1.43%			
IQVIA Holdings Inc	IQV	185.74	209.67	38,944	0.14%			14.50%	0.02%
Gartner Inc	IT	79.09	301.92	23,880	0.09%			15.50%	0.01%
FedEx Corp	FDX	260.22	160.28	41,708	0.15%	2.87%	0.00%	13.00%	0.02%
FMC Corp	FMC	125.96	118.90	14,977	0.06%	1.78%	0.00%	11.00%	0.01%
Brown & Brown Inc	BRO	282.45	58.79	16,605	0.06%	0.78%	0.00%	8.00%	0.00%
Ford Motor Co	F	3,949.64	13.37	52,807		4.49%		33.50%	
NextEra Energy Inc	NEE	1,964.78	77.50	152,270	0.56%	2.19%	0.01%	10.00%	0.06%
Franklin Resources Inc	BEN	498.36	23.45	11,686	0.04%	4.95%	0.00%	4.00%	0.00%
Garmin Ltd	GRMN	191.66	88.04	16,874	0.06%	3.32%	0.00%	6.00%	0.00%
Freeport-McMoRan Inc	FCX	1,429.27	31.69	45,294		1.89%		27.00%	
Dexcom Inc	DXCM	386.26	120.78	46,652					
General Dynamics Corp	GD	274.55	249.80	68,582	0.25%	2.02%	0.01%	8.50%	0.02%
General Mills Inc	GIS	593.54	81.58	48,421	0.18%	2.65%	0.00%	3.50%	0.01%
Genuine Parts Co	GPC	141.16	177.86	25,107	0.09%	2.01%	0.00%	9.00%	0.01%
Atmos Energy Corp	ATO	139.89	106.55	14,905	0.05%	2.55%	0.00%	7.50%	0.00%
WW Grainger Inc	GWW	50.53	584.35	29,527	0.11%	1.18%	0.00%	9.50%	0.01%
Halliburton Co	HAL	908.05	36.42	33,071		1.32%		31.00%	
L3Harris Technologies Inc	LHX	191.35	246.47	47,163	0.17%	1.82%	0.00%	18.00%	0.03%
Healthpeak Properties Inc	PEAK	539.58	23.73	12,804	0.05%	5.06%	0.00%	17.00%	0.01%
Catalent Inc	CTLT	179.90	65.73	11,825				21.00%	
Fortive Corp	FTV	353.81	63.90	22,608	0.08%	0.44%	0.00%	12.00%	0.01%
Hershey Co/The	HSY	146.87	238.77	35,068	0.13%	1.74%	0.00%	9.00%	0.01%
Synchrony Financial	SYF	450.54	35.56	16,021	0.06%	2.59%	0.00%	9.50%	0.01%
Hormel Foods Corp	HRL	546.20	46.45	25,371	0.09%	2.24%	0.00%	6.50%	0.01%
Arthur J Gallagher & Co	AJG	210.80	187.08	39,436	0.15%	1.09%	0.00%	18.50%	0.03%
Mondelez International Inc	MDLZ	1,370.57	61.48	84,262	0.31%	2.50%	0.01%	9.50%	0.03%
CenterPoint Energy Inc	CNP	629.43	28.61	18,008	0.07%	2.52%	0.00%	6.50%	0.00%
Humana Inc	HUM	126.55	558.08	70,627	0.26%	0.56%	0.00%	11.00%	0.03%
Willis Towers Watson PLC	WTW	108.24	218.21	23,619	0.09%	1.50%	0.00%	8.50%	0.01%
Illinois Tool Works Inc	ITW	307.19	213.53	65,593	0.24%	2.45%	0.01%	11.00%	0.03%
CDW Corp/DE	CDW	135.24	172.81	23,371	0.09%	1.16%	0.00%	8.50%	0.01%
Trane Technologies PLC	TT	231.72	159.63	36,989		1.68%			
Interpublic Group of Cos Inc/The	IPG	388.53	29.79	11,574	0.04%	3.89%	0.00%	10.00%	0.00%
International Flavors & Fragrances Inc	IFF	254.95	97.61	24,885	0.09%	3.32%	0.00%	7.50%	0.01%
Generac Holdings Inc	GNRC	63.83	115.91	7,399				23.50%	
NXP Semiconductors NV	NXPI	262.60	146.08	38,360	0.14%	2.31%	0.00%	12.00%	0.02%
Kellogg Co	K	340.11	76.82	26,127	0.10%	3.07%	0.00%	3.50%	0.00%
Broadridge Financial Solutions Inc	BR	117.65	150.06	17,654	0.06%	1.93%	0.00%	9.00%	0.01%
Kimberly-Clark Corp	KMB	337.49	124.46	42,004	0.15%	3.73%	0.01%	5.50%	0.01%
Kimco Realty Corp	KIM	618.46	21.38	13,223	0.05%	4.30%	0.00%	8.50%	0.00%
Oracle Corp	ORCL	2,696.17	78.07	210,490	0.77%	1.64%	0.01%	10.00%	0.08%
Kroger Co/The	KR	715.81	47.29	33,850	0.12%	2.20%	0.00%	6.50%	0.01%
Lennar Corp	LEN	254.77	80.70	20,560	0.08%	1.86%	0.00%	9.00%	0.01%
Eli Lilly & Co	LLY	950.18	362.09	344,049	1.27%	1.08%	0.01%	11.50%	0.15%
Bath & Body Works Inc	BBWI	228.37	33.38	7,623		2.40%		26.50%	
Charter Communications Inc	CHTR	155.67	367.62	57,228				22.50%	
Lincoln National Corp	LNC	170.23	53.87	9,170	0.03%	3.34%	0.00%	11.50%	0.00%
Loews Corp	L	237.43	57.02	13,538	0.05%	0.44%	0.00%	18.50%	0.01%
Lowe's Cos Inc	LOW	620.70	194.95	121,006	0.45%	2.15%	0.01%	12.50%	0.06%
IDEX Corp	IEX	75.42	222.31	16,767	0.06%	1.08%	0.00%	11.00%	0.01%
Marsh & McLennan Cos Inc	MMC	496.01	161.49	80,101	0.29%	1.46%	0.00%	11.00%	0.03%
Masco Corp	MAS	225.53	46.27	10,435	0.04%	2.42%	0.00%	8.50%	0.00%
S&P Global Inc	SPGI	325.80	321.25	104,663	0.39%	1.06%	0.00%	9.50%	0.04%
Medtronic PLC	MDT	1,329.15	87.34	116,088	0.43%	3.11%	0.01%	9.00%	0.04%
Viatris Inc	VTRS	1,212.67	10.13	12,284		4.74%			
CVS Health Corp	CVS	1,312.83	94.70	124,325	0.46%	2.32%	0.01%	6.00%	0.03%
DuPont de Nemours Inc	DD	500.90	57.20	28,652	0.11%	2.31%	0.00%	10.00%	0.01%
Micron Technology Inc	MU	1,087.17	54.10	58,816	0.22%	0.85%	0.00%	16.00%	0.03%
Motorola Solutions Inc	MSI	166.89	249.71	41,673	0.15%	1.27%	0.00%	8.00%	0.01%
Cboe Global Markets Inc	CBOE	106.06	124.50	13,205	0.05%	1.61%	0.00%	10.00%	0.00%
Laboratory Corp of America Holdings	LH	90.40	221.86	20,056	0.07%	1.30%	0.00%	1.50%	0.00%
Newmont Corp	NEM	793.68	42.32	33,589	0.12%	5.20%	0.01%	9.50%	0.01%
NIKE Inc	NKE	1,259.69	92.68	116,748		1.32%		24.00%	
NiSource Inc	NI	405.95	25.69	10,429	0.04%	3.66%	0.00%	9.50%	0.00%
Norfolk Southern Corp	NSC	231.51	228.07	52,801	0.19%	2.17%	0.00%	10.00%	0.02%
Principal Financial Group Inc	PFG	249.24	88.13	21,965	0.08%	2.90%	0.00%	6.00%	0.00%
Eversource Energy	ES	346.44	76.28	26,427	0.10%	3.34%	0.00%	6.50%	0.01%
Northrop Grumman Corp	NOC	153.91	549.01	84,499	0.31%	1.26%	0.00%	6.50%	0.02%
Wells Fargo & Co	WFC	3,793.05	45.99	174,442	0.64%	2.61%	0.02%	12.00%	0.08%
Nucor Corp	NUE	261.79	131.38	34,393		1.52%		-0.50%	
Occidental Petroleum Corp	OXY	931.49	72.60	67,626		0.72%			

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Omnicom Group Inc	OMC	203.92	72.75	14,835	0.05%	3.85%	0.00%	6.50%	0.00%
ONEOK Inc	OKE	446.86	59.32	26,508	0.10%	6.30%	0.01%	11.50%	0.01%
Raymond James Financial Inc	RJF	215.10	118.14	25,412	0.09%	1.15%	0.00%	10.50%	0.01%
PG&E Corp	PCG	1,987.70	14.93	29,676	0.11%			7.50%	0.01%
Parker-Hannifin Corp	PH	128.46	290.62	37,333	0.14%	1.83%	0.00%	14.00%	0.02%
Rollins Inc	ROL	492.47	42.08	20,723	0.08%	1.24%	0.00%	10.50%	0.01%
PPL Corp	PPL	736.19	26.49	19,502	0.07%	3.40%	0.00%	3.00%	0.00%
ConocoPhillips	COP	1,273.03	126.09	160,517	0.59%	1.46%	0.01%	20.00%	0.12%
PulteGroup Inc	PHM	227.82	39.99	9,111	0.03%	1.50%	0.00%	11.00%	0.00%
Pinnacle West Capital Corp	PNW	113.04	67.21	7,598	0.03%	5.15%	0.00%	0.50%	0.00%
PNC Financial Services Group Inc/The	PNC	404.00	161.83	65,379	0.24%	3.71%	0.01%	12.00%	0.03%
PPG Industries Inc	PPG	235.03	114.18	26,835	0.10%	2.17%	0.00%	4.00%	0.00%
Progressive Corp/The	PGR	585.10	128.40	75,127	0.28%	0.31%	0.00%	6.50%	0.02%
Public Service Enterprise Group Inc	PEG	498.86	56.07	27,971	0.10%	3.85%	0.00%	4.00%	0.00%
Robert Half International Inc	RHI	108.50	76.46	8,296	0.03%	2.25%	0.00%	7.50%	0.00%
Edison International	EIX	381.43	60.04	22,901	0.08%	4.66%	0.00%	16.00%	0.01%
Schlumberger NV	SLB	1,417.99	52.03	73,778		1.35%		23.50%	
Charles Schwab Corp/The	SCHW	1,817.79	79.67	144,824	0.53%	1.10%	0.01%	9.00%	0.05%
Sherwin-Williams Co/The	SHW	259.14	225.03	58,315	0.21%	1.07%	0.00%	11.50%	0.02%
West Pharmaceutical Services Inc	WST	74.03	230.10	17,035	0.06%	0.33%	0.00%	17.00%	0.01%
J M Smucker Co/The	SJM	106.56	150.66	16,054	0.06%	2.71%	0.00%	4.00%	0.00%
Snap-on Inc	SNA	53.16	222.05	11,803	0.04%	2.56%	0.00%	4.50%	0.00%
AMETEK Inc	AME	229.58	129.66	29,767	0.11%	0.68%	0.00%	10.00%	0.01%
Southern Co/The	SO	1,062.53	65.48	69,574	0.26%	4.15%	0.01%	6.50%	0.02%
Truist Financial Corp	TFC	1,326.77	44.79	59,426	0.22%	4.64%	0.01%	5.50%	0.01%
Southwest Airlines Co	LUV	593.75	36.35	21,583					
W R Berkley Corp	WRB	265.80	74.38	19,770	0.07%	0.54%	0.00%	15.50%	0.01%
Stanley Black & Decker Inc	SWK	147.94	78.49	11,612	0.04%	4.08%	0.00%	6.00%	0.00%
Public Storage	PSA	175.54	309.75	54,374	0.20%	2.58%	0.01%	8.00%	0.02%
Arista Networks Inc	ANET	304.28	120.86	36,775	0.14%			10.00%	0.01%
Sysco Corp	SYY	506.76	86.56	43,865	0.16%	2.26%	0.00%	16.50%	0.03%
Corteva Inc	CTVA	718.60	65.34	46,953	0.17%	0.92%	0.00%	16.50%	0.03%
Texas Instruments Inc	TXN	907.57	160.63	145,783	0.54%	3.09%	0.02%	9.00%	0.05%
Textron Inc	TXT	208.77	68.44	14,288	0.05%	0.12%	0.00%	10.50%	0.01%
Thermo Fisher Scientific Inc	TMO	391.79	513.97	201,368	0.74%	0.23%	0.00%	10.00%	0.07%
TJX Cos Inc/The	TJX	1,161.05	72.10	83,712	0.31%	1.64%	0.01%	17.00%	0.05%
Globe Life Inc	GL	97.44	115.52	11,256	0.04%	0.72%	0.00%	8.00%	0.00%
Johnson Controls International plc	JCI	688.81	57.84	39,841	0.15%	2.42%	0.00%	13.00%	0.02%
Ulta Beauty Inc	ULTA	51.22	419.37	21,481	0.08%			15.50%	0.01%
Union Pacific Corp	UNP	614.80	197.14	121,202	0.45%	2.64%	0.01%	9.50%	0.04%
Keysight Technologies Inc	KEYS	178.80	174.15	31,137	0.11%			13.00%	0.01%
UnitedHealth Group Inc	UNH	935.38	555.15	519,278	1.91%	1.19%	0.02%	12.00%	0.23%
Marathon Oil Corp	MRO	677.58	30.45	20,632		1.18%			
Bio-Rad Laboratories Inc	BIO	24.75	351.71	8,704	0.03%			11.50%	0.00%
Ventas Inc	VTR	399.71	39.13	15,641	0.06%	4.60%	0.00%	10.50%	0.01%
VF Corp	VFC	388.50	28.25	10,975	0.04%	7.22%	0.00%	9.00%	0.00%
Vornado Realty Trust	VNO	191.78	23.59	4,524		8.99%		-20.50%	
Vulcan Materials Co	VMC	132.90	163.70	21,756	0.08%	0.98%	0.00%	8.50%	0.01%
Weyerhaeuser Co	WY	735.92	30.93	22,762	0.08%	2.33%	0.00%	7.00%	0.01%
Whirlpool Corp	WHR	54.48	138.24	7,531	0.03%	5.06%	0.00%	6.00%	0.00%
Williams Cos Inc/The	WMB	1,218.34	32.73	39,876	0.15%	5.19%	0.01%	8.50%	0.01%
Constellation Energy Corp	CEG	326.66	94.54	30,883		0.60%			
WEC Energy Group Inc	WEC	315.44	91.33	28,809	0.11%	3.19%	0.00%	6.00%	0.01%
Adobe Inc	ADBE	464.90	318.50	148,071	0.54%			14.50%	0.08%
AES Corp/The	AES	667.93	26.16	17,473	0.06%	2.42%	0.00%	14.00%	0.01%
Amgen Inc	AMGN	534.93	270.35	144,619	0.53%	2.87%	0.02%	5.50%	0.03%
Apple Inc	AAPL	15,908.12	153.34	2,439,351	8.98%	0.60%	0.05%	14.00%	1.26%
Autodesk Inc	ADSK	215.86	214.30	46,259	0.17%			14.00%	0.02%
Cintas Corp	CTAS	101.55	427.55	43,416	0.16%	1.08%	0.00%	13.50%	0.02%
Comcast Corp	CMCSA	4,313.96	31.74	136,925	0.50%	3.40%	0.02%	9.50%	0.05%
Molson Coors Beverage Co	TAP	200.37	50.43	10,104		3.01%		49.50%	
KLA Corp	KLAC	141.72	316.45	44,847		1.64%		23.00%	
Marriott International Inc/MD	MAR	324.55	160.11	51,964	0.19%	0.75%	0.00%	17.50%	0.03%
McCormick & Co Inc/MD	MKC	250.60	78.64	19,707	0.07%	1.88%	0.00%	5.00%	0.00%
PACCAR Inc	PCAR	347.77	96.83	33,674	0.12%	1.53%	0.00%	5.00%	0.01%
Costco Wholesale Corp	COST	442.60	501.50	221,966	0.82%	0.72%	0.01%	10.50%	0.09%
First Republic Bank/CA	FRC	182.72	120.10	21,944	0.08%	0.90%	0.00%	11.50%	0.01%
Stryker Corp	SYK	378.32	229.24	86,726	0.32%	1.21%	0.00%	8.50%	0.03%
Tyson Foods Inc	TSN	289.62	68.35	19,795	0.07%	2.69%	0.00%	6.00%	0.00%
Lamb Weston Holdings Inc	LW	143.83	86.22	12,401	0.05%	1.14%	0.00%	11.50%	0.01%
Applied Materials Inc	AMAT	860.31	88.29	75,957	0.28%	1.18%	0.00%	17.00%	0.05%
American Airlines Group Inc	AAL	649.90	14.18	9,216					
Cardinal Health Inc	CAH	262.01	75.90	19,887	0.07%	2.61%	0.00%	5.00%	0.00%
Cincinnati Financial Corp	CINF	157.18	103.32	16,240	0.06%	2.67%	0.00%	8.50%	0.01%
Paramount Global	PARA	608.42	18.32	11,146	0.04%	5.24%	0.00%	4.50%	0.00%
DR Horton Inc	DHI	347.48	76.88	26,714	0.10%	1.17%	0.00%	13.00%	0.01%
Electronic Arts Inc	EA	278.05	125.96	35,023	0.13%	0.60%	0.00%	11.50%	0.01%
Expeditors International of Washington Inc	EXPD	163.60	97.85	16,008	0.06%	1.37%	0.00%	10.00%	0.01%
Fastenal Co	FAST	572.76	48.33	27,681	0.10%	2.57%	0.00%	8.50%	0.01%
M&T Bank Corp	MTB	172.90	168.37	29,111	0.11%	2.85%	0.00%	9.00%	0.01%
Xcel Energy Inc	XEL	547.25	65.11	35,631	0.13%	2.99%	0.00%	6.00%	0.01%
Fiserv Inc	FISV	635.03	102.74	65,243	0.24%			11.00%	0.03%
Fifth Third Bancorp	FITB	686.34	35.69	24,496	0.09%	3.70%	0.00%	9.00%	0.01%
Gilead Sciences Inc	GILD	1,254.00	78.46	98,389	0.36%	3.72%	0.01%	12.00%	0.04%
Hasbro Inc	HAS	138.11	65.25	9,012	0.03%	4.29%	0.00%	9.00%	0.00%
Huntington Bancshares Inc/OH	HBAN	1,442.73	15.18	21,901	0.08%	4.08%	0.00%	12.50%	0.01%
Welltower Inc	WELL	463.37	61.04	28,284	0.10%	4.00%	0.00%	3.50%	0.00%
Biogen Inc	BIIB	144.00	283.44	40,816				-10.50%	
Northern Trust Corp	NTRS	208.42	84.35	17,580	0.06%	3.56%	0.00%	8.00%	0.01%
Packaging Corp of America	PKG	93.74	120.21	11,268	0.04%	4.16%	0.00%	11.00%	0.00%
Paychex Inc	PAYX	360.40	118.31	42,639	0.16%	2.67%	0.00%	10.00%	0.02%
QUALCOMM Inc	QCOM	1,123.00	117.66	132,132	0.49%	2.55%	0.01%	19.00%	0.09%
Roper Technologies Inc	ROP	106.01	414.54	43,945	0.16%	0.60%	0.00%	3.50%	0.01%
Ross Stores Inc	ROST	347.06	95.69	33,210	0.12%	1.30%	0.00%	14.00%	0.02%

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Value Line Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
IDEXX Laboratories Inc	IDXX	83.25	359.68	29,945	0.11%			12.00%	0.01%
Starbucks Corp	SBUX	1,147.40	86.59	99,353	0.37%	2.45%	0.01%	16.50%	0.06%
KeyCorp	KEY	932.94	17.87	16,672	0.06%	4.36%	0.00%	7.50%	0.00%
Fox Corp	FOXA	305.37	28.87	8,816	0.03%	1.73%	0.00%	11.00%	0.00%
Fox Corp	FOX	241.57	27.20	6,571		1.84%			
State Street Corp	STT	366.94	74.00	27,154	0.10%	3.41%	0.00%	8.50%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	421.39	16.89	7,117					
US Bancorp	USB	1,486.00	42.45	63,081	0.23%	4.52%	0.01%	6.00%	0.01%
A O Smith Corp	AOS	126.87	54.78	6,950	0.03%	2.19%	0.00%	11.50%	0.00%
NortonLifeLock Inc	NLOK	666.03	22.53	15,006	0.06%	2.22%	0.00%	11.50%	0.01%
T Rowe Price Group Inc	TROW	223.47	106.16	23,723	0.09%	4.52%	0.00%	8.00%	0.01%
Waste Management Inc	WM	410.48	158.37	65,007	0.24%	1.64%	0.00%	6.50%	0.02%
Constellation Brands Inc	STZ	161.22	247.08	39,835	0.15%	1.30%	0.00%	5.00%	0.01%
DENTSPLY SIRONA Inc	XRAY	215.45	30.82	6,640	0.02%	1.62%	0.00%	12.00%	0.00%
Zions Bancorp NA	ZION	149.61	51.94	7,771	0.03%	3.16%	0.00%	6.50%	0.00%
Alaska Air Group Inc	ALK	126.83	44.46	5,639					
Invesco Ltd	IVZ	454.80	15.32	6,968	0.03%	4.90%	0.00%	10.00%	0.00%
Linde PLC	LIN	494.38	297.35	147,004	0.54%	1.57%	0.01%	12.00%	0.06%
Intuit Inc	INTU	281.87	427.50	120,499	0.44%	0.73%	0.00%	17.50%	0.08%
Morgan Stanley	MS	1,716.83	82.17	141,072	0.52%	3.77%	0.02%	10.50%	0.05%
Microchip Technology Inc	MCHP	552.48	61.74	34,110	0.13%	1.95%	0.00%	10.00%	0.01%
Chubb Ltd	CB	415.05	214.89	89,190	0.33%	1.54%	0.01%	14.50%	0.05%
Hologic Inc	HOLX	249.65	67.80	16,926				25.00%	
Citizens Financial Group Inc	CFG	495.64	40.90	20,272	0.07%	4.11%	0.00%	8.00%	0.01%
O'Reilly Automotive Inc	ORLY	62.80	837.17	52,573	0.19%			13.00%	0.03%
Allstate Corp/The	ALL	270.30	126.25	34,125	0.13%	2.69%	0.00%	2.50%	0.00%
Equity Residential	EQR	377.92	63.02	23,816		3.97%		-6.00%	
BorgWarner Inc	BWA	234.15	37.53	8,788	0.03%	1.81%	0.00%	9.50%	0.00%
Keurig Dr Pepper Inc	KDP	1,416.25	38.84	55,007	0.20%	2.06%	0.00%	11.50%	0.02%
Organon & Co	OGN	254.33	26.18	6,658		4.28%			
Host Hotels & Resorts Inc	HST	714.89	18.88	13,497		2.54%		59.50%	
Incyte Corp	INCY	222.43	74.34	16,536				25.50%	
Simon Property Group Inc	SPG	327.35	108.98	35,675	0.13%	6.42%	0.01%	3.00%	0.00%
Eastman Chemical Co	EMN	119.99	76.81	9,216	0.03%	3.96%	0.00%	9.50%	0.00%
AvalonBay Communities Inc	AVB	139.83	175.12	24,487	0.09%	3.63%	0.00%	8.00%	0.01%
Prudential Financial Inc	PRU	372.60	105.19	39,194	0.14%	4.56%	0.01%	5.50%	0.01%
United Parcel Service Inc	UPS	731.85	167.77	122,783	0.45%	3.62%	0.02%	11.50%	0.05%
Walgreens Boots Alliance Inc	WBA	864.81	36.50	31,566	0.12%	5.26%	0.01%	5.00%	0.01%
STERIS PLC	STE	100.02	172.58	17,261	0.06%	1.09%	0.00%	11.50%	0.01%
McKesson Corp	MCK	143.73	389.37	55,964	0.21%	0.55%	0.00%	10.00%	0.02%
Lockheed Martin Corp	LMT	262.07	486.68	127,546	0.47%	2.47%	0.01%	7.00%	0.03%
AmerisourceBergen Corp	ABC	207.26	157.22	32,585	0.12%	1.17%	0.00%	8.50%	0.01%
Capital One Financial Corp	COF	382.00	106.02	40,500		2.26%			
Waters Corp	WAT	59.88	299.17	17,913	0.07%			6.00%	0.00%
Nordson Corp	NDSN	57.21	225.00	12,872	0.05%	1.16%	0.00%	12.00%	0.01%
Dollar Tree Inc	DLTR	223.94	158.50	35,494	0.13%			12.00%	0.02%
Darden Restaurants Inc	DRI	122.39	143.14	17,518		3.38%		21.00%	
Match Group Inc	MTCH	282.99	43.20	12,225				21.00%	
Domino's Pizza Inc	DPZ	35.40	332.24	11,761	0.04%	1.32%	0.00%	14.50%	0.01%
NVR Inc	NVR	3.21	4,237.75	13,612	0.05%			5.50%	0.00%
NetApp Inc	NTAP	217.37	69.27	15,057	0.06%	2.89%	0.00%	8.00%	0.00%
DXC Technology Co	DXC	229.88	28.75	6,609	0.02%			12.00%	0.00%
Old Dominion Freight Line Inc	ODFL	111.77	274.60	30,693	0.11%	0.44%	0.00%	11.50%	0.01%
DaVita Inc	DVA	90.10	73.01	6,578	0.02%			11.00%	0.00%
Hartford Financial Services Group Inc/The	HIG	318.10	72.41	23,034	0.08%	2.35%	0.00%	6.50%	0.01%
Iron Mountain Inc	IRM	290.69	50.07	14,555	0.05%	4.94%	0.00%	11.00%	0.01%
Estee Lauder Cos Inc/The	EL	231.55	200.49	46,423	0.17%	1.20%	0.00%	14.00%	0.02%
Cadence Design Systems Inc	CDNS	274.32	151.39	41,529	0.15%			12.00%	0.02%
Tyler Technologies Inc	TYL	41.64	323.33	13,463	0.05%			12.00%	0.01%
Universal Health Services Inc	UHS	65.72	115.87	7,615	0.03%	0.69%	0.00%	7.00%	0.00%
Skyworks Solutions Inc	SWKS	160.45	86.01	13,800	0.05%	2.88%	0.00%	13.00%	0.01%
Quest Diagnostics Inc	DGX	113.89	143.65	16,360	0.06%	1.84%	0.00%	3.50%	0.00%
Activision Blizzard Inc	ATVI	782.31	72.80	56,952	0.21%	0.65%	0.00%	12.50%	0.03%
Rockwell Automation Inc	ROK	115.44	255.30	29,471	0.11%	1.85%	0.00%	9.50%	0.01%
Kraft Heinz Co/The	KHC	1,224.93	38.47	47,123	0.17%	4.16%	0.01%	6.50%	0.01%
American Tower Corp	AMT	465.61	207.19	96,469	0.36%	2.84%	0.01%	9.00%	0.03%
Regeneron Pharmaceuticals Inc	REGN	107.19	748.75	80,259	0.30%			3.00%	0.01%
Amazon.com Inc	AMZN	10,201.65	102.44	1,045,057				26.50%	
Jack Henry & Associates Inc	JKHY	72.88	199.06	14,508	0.05%	0.98%	0.00%	9.00%	0.00%
Ralph Lauren Corp	RL	42.90	92.69	3,976	0.01%	3.24%	0.00%	12.00%	0.00%
Boston Properties Inc	BXP	156.76	72.70	11,396		5.39%		-1.00%	
Amphenol Corp	APH	595.10	75.83	45,126	0.17%	1.11%	0.00%	13.00%	0.02%
Howmet Aerospace Inc	HWM	413.71	35.55	14,707	0.05%	0.45%	0.00%	12.00%	0.01%
Pioneer Natural Resources Co	PXD	237.60	256.41	60,923		8.91%		21.00%	
Valero Energy Corp	VLO	385.52	125.55	48,402	0.18%	3.12%	0.01%	11.00%	0.02%
Synopsys Inc	SNPS	152.91	292.55	44,734	0.16%			12.50%	0.02%
Etsy Inc	ETSY	126.61	93.91	11,890				24.50%	
CH Robinson Worldwide Inc	CHRW	123.88	97.72	12,106	0.04%	2.25%	0.00%	8.50%	0.00%
Accenture PLC	ACN	630.08	283.90	178,880	0.66%	1.58%	0.01%	12.50%	0.08%
TransDigm Group Inc	TDG	54.24	575.76	31,226	0.11%			19.50%	0.02%
Yum! Brands Inc	YUM	284.54	118.25	33,647	0.12%	1.93%	0.00%	10.50%	0.01%
Prologis Inc	PLD	923.22	110.75	102,246	0.38%	2.85%	0.01%	6.00%	0.02%
FirstEnergy Corp	FE	571.75	37.71	21,561	0.08%	4.14%	0.00%	3.00%	0.00%
VeriSign Inc	VRSN	106.02	200.46	21,252	0.08%			11.00%	0.01%
Quanta Services Inc	PWR	143.02	142.04	20,315	0.07%	0.20%	0.00%	12.50%	0.01%
Henry Schein Inc	HSIC	136.12	68.46	9,318	0.03%			7.00%	0.00%
Ameren Corp	AEE	258.37	81.52	21,062	0.08%	2.89%	0.00%	6.50%	0.01%
ANSYS Inc	ANSS	87.07	221.16	19,256	0.07%			8.50%	0.01%
FactSet Research Systems Inc	FDS	38.08	425.49	16,202	0.06%	0.84%	0.00%	10.50%	0.01%
NVIDIA Corp	NVDA	2,490.00	134.97	336,075		0.12%		23.00%	
Sealed Air Corp	SEE	145.23	47.62	6,916	0.03%	1.68%	0.00%	10.00%	0.00%
Cognizant Technology Solutions Corp	CTSH	517.79	62.25	32,232	0.12%	1.73%	0.00%	8.00%	0.01%
SVB Financial Group	SIVB	59.10	230.96	13,651	0.05%			8.50%	0.00%
Intuitive Surgical Inc	ISRG	353.39	246.47	87,099	0.32%			12.50%	0.04%

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Take-Two Interactive Software Inc	TTWO	166.49	118.48	19,726	0.07%			8.00%	0.01%
Republic Services Inc	RSG	316.00	132.62	41,908	0.15%	1.49%	0.00%	12.50%	0.02%
eBay Inc	EBAY	549.37	39.84	21,887	0.08%	2.21%	0.00%	15.50%	0.01%
Goldman Sachs Group Inc/The	GS	341.36	344.51	117,601	0.43%	2.90%	0.01%	5.00%	0.02%
SBA Communications Corp	SBAC	107.88	269.90	29,116		1.05%		35.50%	
Sempra Energy	SRE	314.31	150.94	47,442	0.17%	3.03%	0.01%	7.00%	0.01%
Moody's Corp	MCO	183.20	264.87	48,524	0.18%	1.06%	0.00%	8.00%	0.01%
ON Semiconductor Corp	ON	432.42	61.43	26,564				22.50%	
Booking Holdings Inc	BKNG	39.71	1,869.48	74,230				22.00%	
F5 Inc	FFIV	59.86	142.91	8,555	0.03%			10.00%	0.00%
Akamai Technologies Inc	AKAM	158.96	88.33	14,041	0.05%			5.50%	0.00%
Charles River Laboratories International Inc	CRL	50.86	212.25	10,796	0.04%			12.00%	0.00%
MarketAxess Holdings Inc	MKTX	37.64	244.04	9,185	0.03%	1.15%	0.00%	11.00%	0.00%
Devon Energy Corp	DVN	654.80	77.35	50,649		8.02%		30.00%	
Bio-Techne Corp	TECH	39.22	296.26	11,620	0.04%	0.43%	0.00%	17.50%	0.01%
Alphabet Inc	GOOGL	5,973.00	94.51	564,508					
Teleflex Inc	TFX	46.91	214.56	10,064	0.04%	0.63%	0.00%	10.00%	0.00%
Allegion plc	ALLE	87.85	104.77	9,204	0.03%	1.57%	0.00%	10.50%	0.00%
Netflix Inc	NFLX	445.02	291.88	129,892	0.48%			14.50%	0.07%
Warner Bros Discovery Inc	WBD	2,427.59	13.00	31,559					
Agilent Technologies Inc	A	296.04	138.35	40,957	0.15%	0.61%	0.00%	12.00%	0.02%
Trimble Inc	TRMB	247.66	60.16	14,899	0.05%			10.00%	0.01%
Elevance Health Inc	ELV	238.83	546.77	130,584	0.48%	0.94%	0.00%	12.50%	0.06%
CME Group Inc	CME	359.43	173.30	62,290	0.23%	2.31%	0.01%	8.50%	0.02%
Juniper Networks Inc	JNPR	324.56	30.60	9,931	0.04%	2.75%	0.00%	9.00%	0.00%
BlackRock Inc	BLK	150.77	645.91	97,383	0.36%	3.02%	0.01%	10.00%	0.04%
DTE Energy Co	DTE	193.74	112.11	21,720	0.08%	3.16%	0.00%	4.50%	0.00%
Celanese Corp	CE	108.35	96.12	10,415	0.04%	2.91%	0.00%	7.50%	0.00%
Nasdaq Inc	NDAQ	491.23	62.24	30,574	0.11%	1.29%	0.00%	6.00%	0.01%
Philip Morris International Inc	PM	1,550.20	91.85	142,386	0.52%	5.53%	0.03%	5.00%	0.03%
Ingersoll Rand Inc	IR	403.18	50.50	20,361		0.16%			
Salesforce Inc	CRM	1,000.00	162.59	162,590	0.60%			19.50%	0.12%
Huntington Ingalls Industries Inc	HII	39.95	257.07	10,269	0.04%	1.84%	0.00%	10.00%	0.00%
MetLife Inc	MET	797.61	73.21	58,393	0.21%	2.73%	0.01%	7.50%	0.02%
Tapestry Inc	TPR	242.05	31.68	7,668	0.03%	3.79%	0.00%	15.00%	0.00%
CSX Corp	CSX	2,102.41	29.06	61,096	0.22%	1.38%	0.00%	10.50%	0.02%
Edwards Lifesciences Corp	EW	618.26	72.43	44,781	0.16%			12.00%	0.02%
Ameriprise Financial Inc	AMP	108.17	309.12	33,436	0.12%	1.62%	0.00%	15.00%	0.02%
Zebra Technologies Corp	ZBRA	51.79	283.22	14,668	0.05%			11.50%	0.01%
Zimmer Biomet Holdings Inc	ZBH	209.82	113.35	23,783	0.09%	0.85%	0.00%	7.00%	0.01%
Camden Property Trust	CPT	106.53	115.55	12,309	0.05%	3.25%	0.00%	4.50%	0.00%
CBRE Group Inc	CBRE	315.95	70.94	22,413	0.08%			8.50%	0.01%
Mastercard Inc	MA	953.80	328.18	313,019	1.15%	0.60%	0.01%	18.50%	0.21%
CarMax Inc	KMX	158.02	63.01	9,957	0.04%			4.00%	0.00%
Intercontinental Exchange Inc	ICE	558.46	95.57	53,372	0.20%	1.59%	0.00%	6.50%	0.01%
Fidelity National Information Services Inc	FIS	607.98	82.99	50,456		2.27%		52.00%	
Chipotle Mexican Grill Inc	CMG	27.72	1,498.33	41,535				22.50%	
Wynn Resorts Ltd	WYNN	113.73	63.90	7,267				27.00%	
Live Nation Entertainment Inc	LYV	229.97	79.61	18,308					
Assurant Inc	AIZ	53.21	135.86	7,229	0.03%	2.00%	0.00%	15.50%	0.00%
NRG Energy Inc	NRG	235.15	44.40	10,441		3.15%		-10.50%	
Monster Beverage Corp	MNST	526.89	93.72	49,380	0.18%			10.50%	0.02%
Regions Financial Corp	RF	934.40	21.95	20,510	0.08%	3.64%	0.00%	11.50%	0.01%
Baker Hughes Co	BKR	1,001.47	27.66	27,701		2.75%			
Mosaic Co/The	MOS	345.27	53.75	18,558		1.12%		38.00%	
Expedia Group Inc	EXPE	152.04	93.47	14,211					
Evergy Inc	EVRG	229.48	61.13	14,028	0.05%	3.75%	0.00%	7.50%	0.00%
CF Industries Holdings Inc	CF	199.26	106.26	21,173		1.51%		32.00%	
APA Corp	APA	326.53	45.46	14,844		2.20%			
Leidos Holdings Inc	LDOS	136.54	101.59	13,871	0.05%	1.42%	0.00%	8.50%	0.00%
Alphabet Inc	GOOG	6,086.00	94.66	576,101	2.12%			18.50%	0.39%
Cooper Cos Inc/The	COO	49.35	273.39	13,491	0.05%	0.02%	0.00%	14.00%	0.01%
TE Connectivity Ltd	TEL	319.84	122.23	39,094	0.14%	1.83%	0.00%	10.50%	0.02%
Discover Financial Services	DFS	273.23	104.46	28,541	0.11%	2.30%	0.00%	16.00%	0.02%
Visa Inc	V	1,635.02	207.16	338,710	1.25%	0.87%	0.01%	13.50%	0.17%
Mid-America Apartment Communities Inc	MAA	115.48	157.45	18,182	0.07%	3.18%	0.00%	4.50%	0.00%
Xylem Inc/NY	XYL	180.18	102.43	18,456	0.07%	1.17%	0.00%	9.00%	0.01%
Marathon Petroleum Corp	MPC	498.62	113.62	56,654		2.04%			
Advanced Micro Devices Inc	AMD	1,614.32	60.06	96,956				25.50%	
Tractor Supply Co	TSCO	111.00	219.77	24,394	0.09%	1.67%	0.00%	12.50%	0.01%
ResMed Inc	RMD	146.48	223.69	32,767	0.12%	0.79%	0.00%	8.50%	0.01%
Mettler-Toledo International Inc	MTD	22.51	1,264.93	28,470	0.10%			12.50%	0.01%
Jacobs Solutions Inc	J	127.61	115.22	14,703	0.05%	0.80%	0.00%	12.00%	0.01%
Copart Inc	CPRT	238.06	115.02	27,382	0.10%			7.00%	0.01%
VICI Properties Inc	VICI	963.10	32.02	30,838	0.11%	4.87%	0.01%	8.50%	0.01%
Fortinet Inc	FTNT	788.52	57.16	45,072				21.50%	
Albemarle Corp	ALB	117.13	279.87	32,781		0.56%		21.50%	
Moderna Inc	MRNA	391.20	150.33	58,809				-2.50%	
Essex Property Trust Inc	ESS	64.75	222.24	14,391		3.96%		-4.00%	
CoStar Group Inc	CSGP	406.69	82.72	33,641	0.12%			13.00%	0.02%
Realty Income Corp	O	617.58	62.27	38,457	0.14%	4.78%	0.01%	6.00%	0.01%
Westrock Co	WRK	254.30	34.06	8,661	0.03%	3.23%	0.00%	20.00%	0.01%
Westinghouse Air Brake Technologies Corp	WAB	181.88	93.28	16,965	0.06%	0.64%	0.00%	9.50%	0.01%
Pool Corp	POOL	39.05	304.23	11,880	0.04%	1.31%	0.00%	14.00%	0.01%
Western Digital Corp	WDC	317.56	34.37	10,914	0.04%			20.00%	0.01%
PepsiCo Inc	PEP	1,377.71	181.58	250,164	0.92%	2.53%	0.02%	6.00%	0.06%
Diamondback Energy Inc	FANG	177.79	157.11	27,932		7.77%			
ServiceNow Inc	NOW	202.00	420.74	84,989				45.50%	
Church & Dwight Co Inc	CHD	243.87	74.13	18,078	0.07%	1.42%	0.00%	6.00%	0.00%
Federal Realty Investment Trust	FRT	80.91	98.98	8,008	0.03%	4.36%	0.00%	2.50%	0.00%
MGM Resorts International	MGM	393.10	35.57	13,983		0.03%		25.00%	
American Electric Power Co Inc	AEP	513.86	87.92	45,179	0.17%	3.78%	0.01%	6.50%	0.01%
SolarEdge Technologies Inc	SEDG	55.64	230.03	12,798				22.00%	
Invitation Homes Inc	INVH	611.41	31.69	19,376		2.78%			

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Value Line Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
PTC Inc	PTC	117.47	117.83	13,841				29.00%	
JB Hunt Transport Services Inc	JBHT	103.81	171.07	17,759	0.07%	0.94%	0.00%	11.50%	0.01%
Lam Research Corp	LRCX	136.38	404.78	55,203	0.20%	1.70%	0.00%	20.00%	0.04%
Mohawk Industries Inc	MHK	63.53	94.75	6,020	0.02%			10.00%	0.00%
Pentair PLC	PNR	164.50	42.95	7,065	0.03%	1.96%	0.00%	13.00%	0.00%
Vertex Pharmaceuticals Inc	VRTX	256.69	312.00	80,088	0.29%			12.50%	0.04%
Amcor PLC	AMCR	1,489.02	11.58	17,243	0.06%	4.15%	0.00%	14.50%	0.01%
Meta Platforms Inc	META	2,248.67	93.16	209,486	0.77%			13.00%	0.10%
T-Mobile US Inc	TMUS	1,244.15	151.56	188,564	0.69%			10.00%	0.07%
United Rentals Inc	URI	69.31	315.71	21,881	0.08%			18.00%	0.01%
Alexandria Real Estate Equities Inc	ARE	164.09	145.30	23,842	0.09%	3.25%	0.00%	10.00%	0.01%
Honeywell International Inc	HON	672.32	204.02	137,167	0.50%	2.02%	0.01%	11.00%	0.06%
ABIOMED Inc	ABMD	45.46	252.08	11,460	0.04%			7.50%	0.00%
Delta Air Lines Inc	DAL	641.19	33.93	21,756					
United Airlines Holdings Inc	UAL	326.73	43.08	14,075					
Seagate Technology Holdings PLC	STX	206.45	49.66	10,253	0.04%	5.64%	0.00%	15.00%	0.01%
News Corp	NWS	195.82	17.13	3,354		1.17%			
Centene Corp	CNC	566.26	85.13	48,206	0.18%			10.00%	0.02%
Martin Marietta Materials Inc	MLM	62.37	335.98	20,956	0.08%	0.79%	0.00%	5.50%	0.00%
Teradyne Inc	TER	156.78	81.35	12,754	0.05%	0.54%	0.00%	8.50%	0.00%
PayPal Holdings Inc	PYPL	1,156.48	83.58	96,658	0.36%			12.00%	0.04%
Tesla Inc	TSLA	3,157.75	227.54	718,515				52.00%	
DISH Network Corp	DISH	291.87	14.91	4,352	0.02%			2.50%	0.00%
Dow Inc	DOW	703.76	46.74	32,894	0.12%	5.99%	0.01%	15.00%	0.02%
Everest Re Group Ltd	RE	39.10	322.66	12,616	0.05%	2.05%	0.00%	9.50%	0.00%
Teledyne Technologies Inc	TDY	46.87	397.98	18,651	0.07%			11.50%	0.01%
News Corp	NWSA	385.60	16.87	6,505		1.19%			
Exelon Corp	EXC	991.76	38.59	38,272		3.50%			
Global Payments Inc	GPN	270.40	114.26	30,896	0.11%	0.88%	0.00%	17.00%	0.02%
Crown Castle Inc	CCI	433.04	133.26	57,707	0.21%	4.70%	0.01%	12.00%	0.03%
Aptiv PLC	APTV	270.93	91.07	24,674				26.00%	
Advance Auto Parts Inc	AAP	60.12	189.92	11,418	0.04%	3.16%	0.00%	15.50%	0.01%
Align Technology Inc	ALGN	78.11	194.30	15,176	0.06%			17.00%	0.01%
Illumina Inc	ILMN	157.30	228.82	35,993	0.13%			6.50%	0.01%
Targa Resources Corp	TRGP	226.56	68.37	15,490		2.05%			
LKQ Corp	LKQ	270.10	55.64	15,028	0.06%	1.98%	0.00%	13.00%	0.01%
Zoetis Inc	ZTS	468.14	150.78	70,586	0.26%	0.86%	0.00%	11.00%	0.03%
Digital Realty Trust Inc	DLR	287.51	100.25	28,823		4.87%		-3.50%	
Equinix Inc	EQIX	91.08	566.44	51,589	0.19%	2.19%	0.00%	15.00%	0.03%
Molina Healthcare Inc	MOH	58.40	358.86	20,957	0.08%			11.00%	0.01%
Las Vegas Sands Corp	LVS	764.17	38.01	29,046	0.11%			13.50%	0.01%

Notes:

[1] Equals sum of Col. [9]
[2] Equals sum of Col. [11]
[3] Equals ([1] x (1 + (0.5 x [2]))) + [2]
[4] Source: Bloomberg Professional as of October 31 2022
[5] Source: Bloomberg Professional as of October 31 2022
[6] Equals [4] x [5]
[7] Equals weight in S&P 500 based on market capitalization [6] if Growth Rate >0% and ≤20%
[8] Source: Bloomberg Professional, as of October 31 2022
[9] Equals [7] x [8]
[10] Source: Value Line, as of October 31 2022
[11] Equals [7] x [10]

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	CASE NO. INT-G-22-07

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 7 TO ACCOMPANY THE

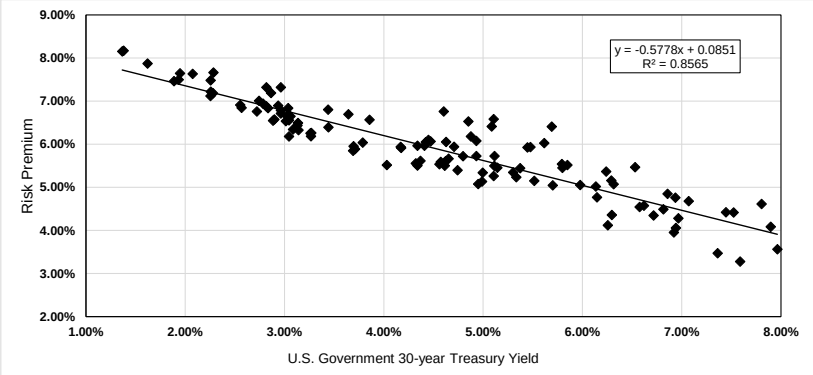
DIRECT TESTIMONY OF ANN E. BULKLEY

BOND YIELD PLUS RISK PREMIUM

Quarter	[1] Average Authorized Natual Gas	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
1992.1	12.42%	7.81%	4.61%
1992.2	11.98%	7.90%	4.09%
1992.3	11.87%	7.45%	4.42%
1992.4	11.94%	7.52%	4.42%
1993.1	11.75%	7.07%	4.68%
1993.2	11.71%	6.86%	4.85%
1993.3	11.39%	6.32%	5.07%
1993.4	11.16%	6.14%	5.02%
1994.1	11.12%	6.58%	4.54%
1994.2	10.84%	7.36%	3.47%
1994.3	10.87%	7.59%	3.28%
1994.4	11.53%	7.96%	3.56%
1995.2	11.00%	6.94%	4.06%
1995.3	11.07%	6.72%	4.35%
1995.4	11.61%	6.24%	5.37%
1996.1	11.45%	6.29%	5.16%
1996.2	10.88%	6.92%	3.95%
1996.3	11.25%	6.97%	4.28%
1996.4	11.19%	6.62%	4.57%
1997.1	11.31%	6.82%	4.49%
1997.2	11.70%	6.94%	4.76%
1997.3	12.00%	6.53%	5.47%
1997.4	10.92%	6.15%	4.77%
1998.2	11.37%	5.85%	5.52%
1998.3	11.41%	5.48%	5.93%
1998.4	11.69%	5.11%	6.58%
1999.1	10.82%	5.37%	5.44%
1999.2	11.25%	5.80%	5.45%
1999.4	10.38%	6.26%	4.12%
2000.1	10.66%	6.30%	4.36%
2000.2	11.03%	5.98%	5.05%
2000.3	11.33%	5.79%	5.54%
2000.4	12.10%	5.69%	6.41%
2001.1	11.38%	5.45%	5.93%
2001.2	10.75%	5.70%	5.05%
2001.4	10.65%	5.30%	5.35%
2002.1	10.67%	5.52%	5.15%
2002.2	11.64%	5.62%	6.03%
2002.3	11.50%	5.09%	6.41%
2002.4	11.01%	4.93%	6.08%
2003.1	11.38%	4.85%	6.53%
2003.2	11.36%	4.60%	6.76%
2003.3	10.61%	5.11%	5.50%
2003.4	10.84%	5.11%	5.73%
2004.1	11.06%	4.88%	6.18%
2004.2	10.57%	5.34%	5.24%
2004.3	10.37%	5.11%	5.26%
2004.4	10.66%	4.93%	5.73%
2005.1	10.65%	4.71%	5.94%
2005.2	10.54%	4.47%	6.07%
2005.3	10.47%	4.42%	6.05%
2005.4	10.32%	4.65%	5.66%
2006.1	10.68%	4.63%	6.05%
2006.2	10.60%	5.14%	5.46%
2006.3	10.34%	5.00%	5.34%
2006.4	10.14%	4.74%	5.40%

BOND YIELD PLUS RISK PREMIUM

	[1]	[2]	[3]
Quarter	Average Authorized Natual Gas	U.S. Govt. 30-year Treasury	Risk Premium
2007.1	10.52%	4.80%	5.72%
2007.2	10.13%	4.99%	5.14%
2007.3	10.03%	4.95%	5.08%
2007.4	10.12%	4.61%	5.50%
2008.1	10.38%	4.41%	5.97%
2008.2	10.17%	4.57%	5.59%
2008.3	10.55%	4.45%	6.10%
2008.4	10.34%	3.64%	6.69%
2009.1	10.24%	3.44%	6.80%
2009.2	10.11%	4.17%	5.94%
2009.3	9.88%	4.32%	5.56%
2009.4	10.31%	4.34%	5.97%
2010.1	10.24%	4.62%	5.61%
2010.2	9.99%	4.37%	5.62%
2010.3	10.43%	3.86%	6.57%
2010.4	10.09%	4.17%	5.92%
2011.1	10.10%	4.56%	5.54%
2011.2	9.85%	4.34%	5.51%
2011.3	9.65%	3.70%	5.95%
2011.4	9.88%	3.04%	6.84%
2012.1	9.63%	3.14%	6.50%
2012.2	9.83%	2.94%	6.89%
2012.3	9.75%	2.74%	7.01%
2012.4	10.06%	2.86%	7.19%
2013.1	9.57%	3.13%	6.44%
2013.2	9.47%	3.14%	6.33%
2013.3	9.60%	3.71%	5.89%
2013.4	9.83%	3.79%	6.04%
2014.1	9.54%	3.69%	5.85%
2014.2	9.84%	3.44%	6.39%
2014.3	9.45%	3.27%	6.18%
2014.4	10.28%	2.96%	7.32%
2015.1	9.47%	2.55%	6.91%
2015.2	9.43%	2.88%	6.55%
2015.3	9.75%	2.96%	6.79%
2015.4	9.68%	2.96%	6.71%
2016.1	9.48%	2.72%	6.76%
2016.2	9.42%	2.57%	6.85%
2016.3	9.47%	2.28%	7.19%
2016.4	9.67%	2.83%	6.84%
2017.1	9.60%	3.05%	6.55%
2017.2	9.47%	2.90%	6.57%
2017.3	10.14%	2.82%	7.32%
2017.4	9.70%	2.82%	6.88%
2018.1	9.68%	3.02%	6.66%
2018.2	9.43%	3.09%	6.34%
2018.3	9.71%	3.06%	6.65%
2018.4	9.53%	3.27%	6.26%
2019.1	9.55%	3.01%	6.54%
2019.2	9.73%	2.78%	6.94%
2019.3	9.95%	2.29%	7.67%
2019.4	9.74%	2.26%	7.48%
2020.1	9.35%	1.89%	7.46%
2020.2	9.55%	1.38%	8.17%
2020.3	9.52%	1.37%	8.15%
2020.4	9.50%	1.62%	7.87%
2021.1	9.71%	2.07%	7.63%
2021.2	9.48%	2.26%	7.22%
2021.3	9.43%	1.93%	7.50%
2021.4	9.59%	1.95%	7.65%
2022.1	9.38%	2.25%	7.12%
2022.2	9.23%	3.05%	6.18%
2022.3	9.52%	3.26%	6.26%
2022.4	9.55%	4.03%	5.52%
AVERAGE	10.41%	4.50%	5.91%
MEDIAN	10.31%	4.57%	5.95%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.925454
R Square	0.856465
Adjusted R Square	0.855248
Standard Error	0.003915
Observations	120.000000

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1.000000	0.010793	0.010793	704.096812	0.000000
Residual	118.000000	0.001809	0.000015		
Total	119.000000	0.012602			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0851	0.0010	81.6111	0.0000	0.0830	0.0872	0.0830	0.0872
U.S. Govt. 30-year Treasury	(0.5778)	0.0218	(26.5348)	0.0000	(0.6209)	(0.5347)	(0.6209)	(0.5347)

	[7] U.S. Govt. 30-year Treasury	[8] Risk Premium	[9] ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	3.92%	6.25%	10.16%
Blue Chip Near-Term Projected Forecast (Q1 2023 - Q1 2024) [5]	4.00%	6.20%	10.20%
Blue Chip Long-Term Projected Forecast (2024-2028) [6]	3.80%	6.32%	10.12%
AVERAGE			10.16%

Notes:
[1] Source: Regulatory Research Associates, rate cases through October 31, 2022
[2] Source: S&P Capital IQ Pro, quarterly bond yields are the average of each trading day in the quarter
[3] Equals Column [1] − Column [2]
[4] Source: Bloomberg Professional, 30-day average as of October 31, 2022
[5] Source: Blue Chip Financial Forecasts, Vol. 41, No. 11, November 1, 2022, at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 41, No. 6, June 1, 2022, at 14
[7] See notes [4], [5] & [6]
[8] Equals 0.085115 + (-0.577800 x Column [7])
[9] Equals Column [7] + Column [8]

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 8 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

SIZE PREMIUM CALCULATION

Proxy Group Market Capitalization and Market-to-Book Ratio

Company	Ticker	[1] Market Capitalization ($ billions)	[2] Market-to-Book Ratio
Atmos Energy Corporation	ATO	14.60	1.58
New Jersey Resources Corporation	NJR	3.99	2.26
NiSource Inc.	NI	10.48	1.92
Northwest Natural Gas Company	NWN	1.59	1.39
ONE Gas Inc.	OGS	4.01	1.63
Spire, Inc.	SR	3.45	1.32
Average		6.35	1.68
Median		4.00	1.60

IMG		
Common Equity ($ millions) [3]	$	193.76
Implied Market Capitalization [4]		310.86
As a percent of Proxy Group Median Market Capitalization		7.77%

Kroll Cost of Capital Navigator -- Size Premium

Breakdown of Deciles 1-10	[5] Market Capitalization of Largest Company ($ millions)	[6] Size Premium
1-Largest	2,324,390.22	-0.22%
2	36,099.22	0.43%
3	16,738.36	0.55%
4	8,212.64	0.54%
5	5,003.75	0.89%
6	3,276.55	1.18%
7	2,164.52	1.34%
8	1,306.04	1.21%
9	627.80	2.10%
10-Smallest	289.01	4.80%
IMG - Implied Market Capitalization	310.86	2.10%
Proxy Group Median Market Capitalization	4,000.68	0.89%
Size Premium [7]		1.21%

Notes:
[1] Source: S&P Capital IQ Pro, equals 30-day average as of October 31, 2022
[2] Source: S&P Capital IQ Pro; equals 30-day average as of October 31, 2022
[3] Data provided by IMG
[4] Equals [3] x proxy group median market-to-book ratio
[5] Kroll Cost of Capital Navigator - Size Premium: Annual Data as of 12/31/2021
[6] Kroll Cost of Capital Navigator - Size Premium: Annual Data as of 12/31/2021
[7] Equals 2.10% − 0.89%

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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 9 TO ACCOMPANY THE

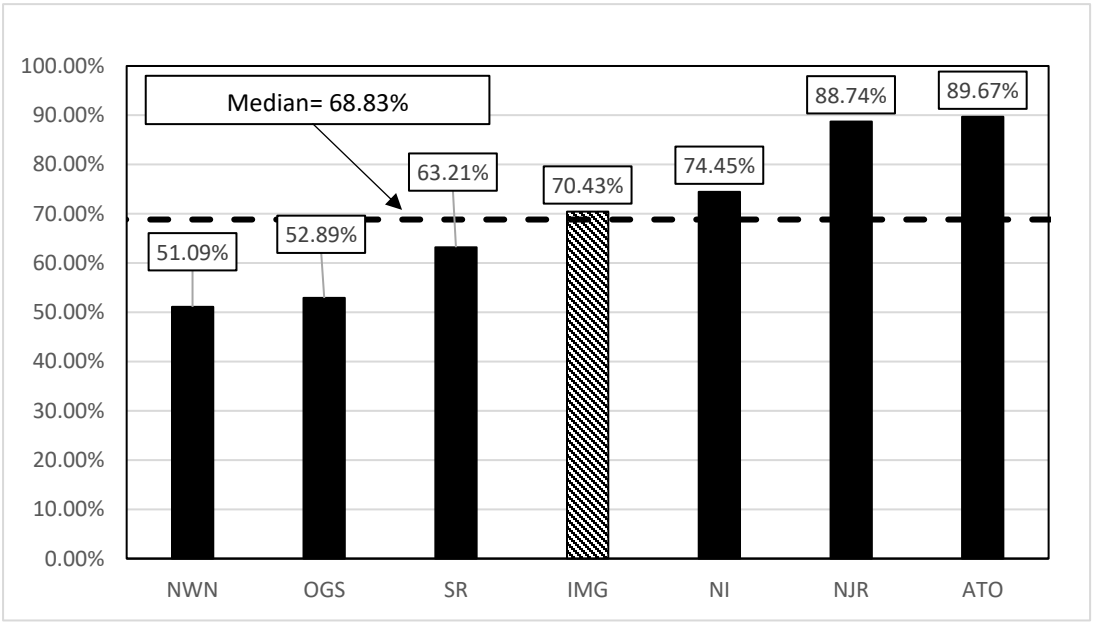
DIRECT TESTIMONY OF ANN E. BULKLEY

2023-2027 CAPITAL EXPENDITURES AS A PERCENTAGE OF2021 NET PLANT

($ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2021	2023	2024	2025	2026	2027	2023-2027 Cap. Ex. / 2021 Net Plant
Atmos Energy Corporation	ATO							
Capital Spending per Share			$ 17.10	$ 17.55	$ 18.00	$ 18.00	$ 18.00	
Common Shares Outstanding			$ 146.00	$ 150.50	$ 155.00	$ 155.00	$ 155.00	
Capital Expenditures			$ 2,496.60	$ 2,641.28	$ 2,790.00	$ 2,790.00	$ 2,790.00	89.67%
Net Plant		$ 15,064						
New Jersey Resources Corporation	NJR							
Capital Spending per Share			$ 5.15	$ 6.83	$ 8.50	$ 8.50	$ 8.50	
Common Shares Outstanding			$ 99.00	$ 99.50	$ 100.00	$ 100.00	$ 100.00	
Capital Expenditures			$ 509.85	$ 679.09	$ 850.00	$ 850.00	$ 850.00	88.74%
Net Plant		$ 4,214						
NiSource Inc.	NI							
Capital Spending per Share			$ 8.10	$ 6.93	$ 5.75	$ 5.75	$ 5.75	
Common Shares Outstanding			$ 408.00	$ 411.50	$ 415.00	$ 415.00	$ 415.00	
Capital Expenditures			$ 3,304.80	$ 2,849.64	$ 2,386.25	$ 2,386.25	$ 2,386.25	74.45%
Net Plant		$ 17,882						
Northwest Natural Gas Company	NWN							
Capital Spending per Share			$ 7.75	$ 8.58	$ 9.40	$ 9.40	$ 9.40	
Common Shares Outstanding			$ 35.50	$ 33.75	$ 32.00	$ 32.00	$ 32.00	
Capital Expenditures			$ 275.13	$ 289.41	$ 300.80	$ 300.80	$ 300.80	51.09%
Net Plant		$ 2,871						
ONE Gas, Inc.	OGS							
Capital Spending per Share			$ 9.55	$ 9.70	$ 9.85	$ 9.85	$ 9.85	
Common Shares Outstanding			$ 54.50	$ 55.75	$ 57.00	$ 57.00	$ 57.00	
Capital Expenditures			$ 520.48	$ 540.78	$ 561.45	$ 561.45	$ 561.45	52.89%
Net Plant		$ 5,191						
Spire, Inc.	SR							
Capital Spending per Share			$ 11.25	$ 11.63	$ 12.00	$ 12.00	$ 12.00	
Common Shares Outstanding			$ 52.50	$ 53.75	$ 55.00	$ 55.00	$ 55.00	
Capital Expenditures			$ 590.63	$ 624.84	$ 660.00	$ 660.00	$ 660.00	63.21%
Net Plant		$ 5,056						
Intermountain Gas Company	IMG							
Capital Expenditures [8]			$ 54.42	$ 70.14	$ 68.41	$ 65.31	$ 64.34	70.43%
Net Plant [9]		$ 458.07						

Notes:
[1] - [6] Source: Value Line, dated August 26, 2022
[7] Equals (Column [2] + [3] + [4] + [5] + [6]) / Column [1]
[8] Source: Company-Provided Data
[9] Source: Company-Provided Data for December 31, 2021



Projected CAPEX/2021 Net Plant

	Company	Ticker	2023-2027 / 2021
1	Northwest Natural Gas Company	NWN	51.09%
2	ONE Gas, Inc.	OGS	52.89%
3	Spire, Inc.	SR	63.21%
4	Intermountain Gas Company	IMG	70.43%
5	NiSource Inc.	NI	74.45%
6	New Jersey Resources Corporation	NJR	88.74%
7	Atmos Energy Corporation	ATO	89.67%

Proxy Group Median	68.83%
Intermountain Gas Company	1.08

Notes:

Source: Exhibit No. 9, pg. 1 col. [7]

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EXHIBIT 10 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

REGULATORY RISK ASSESSMENT
COMPARISON OF INTERMOUNTAIN GAS COMPANY AND PROXY GROUP COMPANIES

Company	Operating Subsidiary	State	Utility Type	Full/Partial Forecasted Test Year	Capital Cost Recovery Mechanism	Non-Volumetric Rate Design	Citations
Atmos Energy Corporation							
	Atmos Energy Corporation	Colorado	Gas	Historical	Yes	No	Test Year: S&P Global - Market Intelligence Rate Case History (Past Rate Cases); ATO LA Tariff; ATO MS Tariff; ATO VA Docket No. PUE-2018-00005.
	Atmos Energy Corporation	Kansas	Gas	Historical	Yes	Partial	
	Atmos Energy Corporation	Kentucky	Gas	Fully Forecast	Yes	Partial	CCRM: 2021 10-K, p. 9
	Atmos Energy Corporation	Louisiana	Gas	Historical	No	FRP	NVRD: 2021 10-K, p. 9; Tariffs (Colorado, Virginia); S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022
	Atmos Energy Corporation	Mississippi	Gas	Historical	Yes	FRP	
	Atmos Energy Corporation	Tennessee	Gas	Historical	No	FRP	
	Atmos Energy Corporation	Texas	Gas	Historical	Yes	FRP	
	Atmos Energy Corporation	Virginia	Gas	Historical	Yes	Partial	
NiSource Inc.							
	Northern Indiana Public Service Co.	Indiana	Electric	Fully Forecast	Yes	Partial	Test Year: S&P Global - Market Intelligence Rate Case History (Past Rate Cases)
	Northern Indiana Public Service Co.	Indiana	Gas	Fully Forecast	Yes	No	CCRM: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022
	Columbia Gas of Kentucky Inc.	Kentucky	Gas	Fully Forecast	Yes	Partial	NVRD: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022
	Columbia Gas of Maryland Inc.	Maryland	Gas	Partially Forecast	Yes	Partial	
	Columbia Gas of Ohio Inc.	Ohio	Gas	Partially Forecast	Yes	SFV	
	Columbia Gas of Pennsylvania Inc.	Pennsylvania	Gas	Fully Forecast	Yes	Partial	
	Columbia Gas of Virginia Inc.	Virginia	Gas	Historical	Yes	Partial	
New Jersey Resources Corporation							Test Year: S&P Global - Market Intelligence Rate Case History (Past Rate Cases)
	New Jersey Natural Gas Co.	New Jersey	Gas	Partially Forecast	Yes	Full	CCRM / NVRD: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022
Northwest Natural Gas Company							
	Northwest Natural Gas Co.	Oregon	Gas	Fully Forecast	Yes	Partial	Test Year: S&P Global - Market Intelligence Rate Case History (Past Rate Cases)
	Northwest Natural Gas Co.	Washington	Gas	Historical	No	No	CCRM / NVRD: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022
ONE Gas, Inc.							
	Kansas Gas Service Co.	Kansas	Gas	Historical	Yes	Partial	Test Year: S&P Global - Market Intelligence Rate Case History (Past Rate Cases)
	Oklahoma Natural Gas Co.	Oklahoma	Gas	Historical	No	FRP	CCRM / NVRD: ONE Gas 2021 10-K, p. 6; S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022
	Texas Gas Service Co. Inc.	Texas	Gas	Historical	Yes	FRP	
Spire, Inc.							
	Spire Alabama Inc.	Alabama	Gas	Fully Forecast	No	FRP	Test Year: 2021 10-K pgs. 119 - 124; S&P Global - Market Intelligence Rate Case History (Past Rate Cases)
	Spire Gulf Inc.	Gulf	Gas	Fully Forecast	No	FRP	
	Spire Mississippi Inc.	Mississippi	Gas	Historical	No	FRP	CCRM / NVRD: 2021 10-K pgs. 119 - 124; S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022
	Spire Missouri Inc.	Missouri	Gas	Partially Forecast	Yes	Partial	

Proxy Group Totals				Fully Forecast	8	Yes	18	Full	1
				Partially Forecast	4	No	7	Partial	11
				Historical	13			FRP	9
								SFV	1
								No	3
				Forecast	48.00%	CCRM	72.00%	NVRD	88.00%
MDU Resources	Intermountain Gas Company	Idaho	Gas	Partially Forecast			No		No

Data provided by IMG

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IN THE MATTER OF THE APPLICATION OF INTERMOUNTAIN GAS COMPANY. FOR AUTHORITY TO INCREASE ITS RATES AND CHARGES FOR NATURAL GAS SERVICE IN THE STATE OF IDAHO	CASE NO. INT-G-22-07

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

EXHIBIT 11 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

FLOTATION COST ADJUSTMENT -- INTERMOUNTAIN GAS PROXY GROUP

Company	Date [i]	[1] Shares Issued (000)	[2] Offering Price	[3] Under-writing Discount [ii]	[4] Offering Expense ($000)	[5] Net Proceeds Per Share	[6] Total Flotation Costs ($000)	[7] Gross Equity Issue Before Costs ($000)	[8] Net Proceeds ($000)	[9] Flotation Cost Percentage
MDU Resources Group	2/4/2004	2,300	$ 23.32	$ 0.7930	$ 350	$ 22.37	$ 2,174	$ 53,636	$ 51,462	4.05%
MDU Resources Group	11/19/2002	2,400	$ 24.00	$ 0.7200	$ 193	$ 23.20	$ 1,921	$ 57,600	$ 55,680	3.33%
							$ 4,094	$ 111,236	$ 107,142	3.68%

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

The flotation cost adjustment is derived by dividing the dividend yield by 1 − F (where F = flotation costs expressed in percentage terms), or by 0.9632, and adding that result to the constant growth rate to determine the cost of equity. Using the formulas shown previously in my testimony, the Constant Growth DCF calculation is modified as follows to accommodate an adjustment for flotation costs:

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

Company	Ticker	[10] Annualized Dividend	[11] Stock Price	[12] Dividend Yield	[13] Expected Dividend Yield	[14] Expected Dividend Yield Adjusted for Flotation Costs	[15] Value Line Earnings Growth	[16] Yahoo! Finance Earnings Growth	[17] Zacks Earnings Growth	[18] Average Earnings Growth	[19] ROE	[20] ROE Adjusted for Flotation Costs
Atmos Energy Corporation	ATO	$2.72	$104.39	2.61%	2.71%	2.81%	7.50%	8.26%	7.50%	7.75%	10.46%	10.56%
New Jersey Resources Corporation	NJR	$1.56	$41.47	3.76%	3.84%	3.99%	5.00%	6.00%	1.70%	4.23%	8.07%	8.22%
NiSource Inc.	NI	$0.94	$25.58	3.67%	3.82%	3.97%	9.50%	7.30%	7.20%	8.00%	11.82%	11.97%
Northwest Natural Gas Company	NWN	$1.94	$45.24	4.29%	4.40%	4.56%	6.50%	4.30%	4.30%	5.03%	9.43%	9.60%
ONE Gas, Inc.	OGS	$2.48	$74.01	3.35%	3.44%	3.57%	6.50%	5.00%	5.00%	5.50%	8.94%	9.07%
Spire, Inc.	SR	$2.74	$65.69	4.17%	4.30%	4.46%	9.00%	4.30%	5.00%	6.10%	10.40%	10.56%
Mean											9.85%	10.00%
Flotation Cost Adjustment											[21]	0.14%

Notes:
[1]-[4] Sources: MDU Resources Group - Prospectus dated February 4, 2004 and Prospectus dated November 19, 2002.
[5] Equals [8]/[1]
[6] Equals [4] + ([1] x [3])
[7] Equals [1] x [2]
[8] Equals [7] - [6]
[9] Equals [6] / [7]
[10] Source: Bloomberg Professional
[11] Source: Bloomberg Professional, equals 30-day average as of October 31, 2022
[12] Equals [10] / [11]
[13] Equals [12] x (1 + 0.5 x [18])
[14] Equals [13] / (1 − Flotation Cost)
[15] Source: Value Line
[16] Source: Yahoo! Finance
[17] Source: Zacks
[18] Equals Average ([15], [16], [17])
[19] Equals [13] + [18]
[20] Equals [14] + [18]
[21] Equals Average ([20]) − Average ([19])

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EXHIBIT 12 TO ACCOMPANY THE

DIRECT TESTIMONY OF ANN E. BULKLEY

CAPITAL STRUCTURE ANALYSIS

COMMON EQUITY RATIO [1]

Proxy Group Company	Ticker	2021	2020	2019	3-yr Avg.
Atmos Energy Corporation	ATO	59.88%	58.31%	58.43%	58.88%
NiSource Inc.	NI	54.85%	54.43%	54.33%	54.54%
New Jersey Resources Corporation	NJR	55.19%	55.45%	58.87%	56.51%
Northwest Natural Gas Company	NWN	49.57%	47.44%	49.19%	48.73%
One Gas Inc.	OGS	61.09%	60.04%	63.28%	61.47%
Spire Inc.	SR	55.50%	58.66%	60.85%	58.34%
Proxy Group					
MEAN		56.02%	55.72%	57.49%	56.41%
MEDIAN		55.35%	56.88%	58.65%	57.42%
LOW		49.57%	47.44%	49.19%	48.73%
HIGH		61.09%	60.04%	63.28%	61.47%

COMMON EQUITY RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2021	2020	2019	3-yr Avg.
Atmos Energy Corporation	ATO	59.88%	58.31%	58.43%	58.88%
Northern Indiana Public Service Company LLC	NI	58.59%	58.01%	56.43%	57.68%
Columbia Gas of Kentucky, Inc.	NI	53.87%	54.68%	54.23%	54.26%
Columbia Gas of Maryland, Inc.	NI	55.26%	54.95%	52.38%	54.20%
Columbia Gas of Ohio, Inc.	NI	50.79%	50.45%	53.00%	51.41%
Columbia Gas of Pennsylvania, Inc.	NI	56.05%	55.68%	55.59%	55.77%
Columbia Gas of Virginia, Inc.	NI	44.52%	43.69%	42.53%	43.58%
New Jersey Natural Gas Company	NJR	55.19%	55.45%	58.87%	56.51%
Northwest Natural Gas Company	NWN	49.57%	47.44%	49.19%	48.73%
Kansas Gas Service Company, Inc.	OGS	61.37%	60.33%	63.55%	61.75%
Oklahoma Natural Gas Company	OGS	60.99%	59.85%	63.10%	61.31%
Texas Gas Service Company, Inc.	OGS	60.98%	59.99%	63.23%	61.40%
Spire Alabama Inc.	SR	58.66%	64.35%	66.82%	63.28%
Spire Gulf Inc.	SR	49.48%	40.55%	37.18%	42.40%
Spire Mississippi Inc.	SR	100.00%	100.00%	100.00%	100.00%
Spire Missouri Inc.	SR	53.96%	56.68%	59.05%	56.56%

Notes:
[1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Operating Subsidiaries.
[2] Natural Gas operating subsidiaries where data was unable to be obtained for 2021, 2020 and 2019 were removed from the analysis.

CAPITAL STRUCTURE ANALYSIS

LONG-TERM DEBT RATIO [1]

Proxy Group Company	Ticker	2021	2020	2019	3-yr Avg.
Atmos Energy Corporation	ATO	40.12%	41.69%	41.57%	41.12%
NiSource Inc.	NI	45.15%	45.57%	45.67%	45.46%
New Jersey Resources Corporation	NJR	44.81%	44.55%	41.13%	43.49%
Northwest Natural Gas Company	NWN	50.43%	52.56%	50.81%	51.27%
One Gas Inc.	OGS	38.91%	39.96%	36.72%	38.53%
Spire Inc.	SR	44.50%	41.34%	39.15%	41.66%
Proxy Group					
MEAN		43.98%	44.28%	42.51%	43.59%
MEDIAN		44.65%	43.12%	41.35%	42.58%
LOW		38.91%	39.96%	36.72%	38.53%
HIGH		50.43%	52.56%	50.81%	51.27%

LONG-TERM DEBT RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2021	2020	2019	3-yr Avg.
Atmos Energy Corporation	ATO	40.12%	41.69%	41.57%	41.12%
Northern Indiana Public Service Company LLC	NI	41.41%	41.99%	43.57%	42.32%
Columbia Gas of Kentucky, Inc.	NI	46.13%	45.32%	45.77%	45.74%
Columbia Gas of Maryland, Inc.	NI	44.74%	45.05%	47.62%	45.80%
Columbia Gas of Ohio, Inc.	NI	49.21%	49.55%	47.00%	48.59%
Columbia Gas of Pennsylvania, Inc.	NI	43.95%	44.32%	44.41%	44.23%
Columbia Gas of Virginia, Inc.	NI	55.48%	56.31%	57.47%	56.42%
New Jersey Natural Gas Company	NJR	44.81%	44.55%	41.13%	43.49%
Northwest Natural Gas Company	NWN	50.43%	52.56%	50.81%	51.27%
Kansas Gas Service Company, Inc.	OGS	38.63%	39.67%	36.45%	38.25%
Oklahoma Natural Gas Company	OGS	39.01%	40.15%	36.90%	38.69%
Texas Gas Service Company, Inc.	OGS	39.02%	40.01%	36.77%	38.60%
Spire Alabama Inc.	SR	41.34%	35.65%	33.18%	36.72%
Spire Gulf Inc.	SR	50.52%	59.45%	62.82%	57.60%
Spire Mississippi Inc.	SR	0.00%	0.00%	0.00%	0.00%
Spire Missouri Inc.	SR	46.04%	43.32%	40.95%	43.44%

Notes:
[1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Operating Subsidiaries.
[2] Natural Gas operating subsidiaries where data was unable to be obtained for 2021, 2020 and 2019 were removed from the analysis.