**STATE OF VERMONT**
**PUBLIC UTILITY COMMISSION**

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| Tariff filing of Green Mountain Power Corporation requesting a change in rates, effective October 1, 2022 | ) ) ) | Case No. 21-____-TF |
| Petition of Green Mountain Power for approval of its new multi-year regulation plan pursuant to 30 V.S.A. §§ 209, 218, and 218d | ) ) ) | Case No. 21-3707-PET |

# PREFILED DIRECT & SUPPLEMENTAL TESTIMONY OF JULIE LIEBERMAN ON BEHALF OF GREEN MOUNTAIN POWER

**January 18, 2022**

## Summary of Testimony

Ms. Lieberman's testimony presents the market information and analyses used to estimate the required Cost of Equity for Green Mountain Power ("GMP"). Ms. Lieberman's recommended Return on Equity ("ROE") range of 10.25–10.76% incorporates a review of GMP's specific business risks and provides an assessment of the reasonableness of GMP's requested ROE of 8.57% on a common equity ratio of 50.0%.

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**OF JULIE F. LIEBERMAN**
**ON BEHALF OF GREEN MOUNTAIN POWER**

## I. Introduction

**Q1. Please state your name, affiliation, and business address.**

A1. My name is Julie F. Lieberman, and I am employed by Concentric Energy Advisors, Inc. ("Concentric") as a Senior Project Manager. Concentric is a management consulting and economic advisory firm, focused on the North American energy and water industries. Based in Marlborough, Massachusetts and Washington, D.C., Concentric specializes in regulatory and litigation support, financial advisory services, energy market strategies, market assessments, energy commodity contracting and procurement, economic feasibility studies, and capital market analyses. My business address is 293 Boston Post Road West, Suite 500, Marlborough, MA 01752.

**Q2. On whose behalf are you testifying?**

A2. I am submitting this testimony on behalf of Green Mountain Power ("GMP") in this proceeding.

**Q3. Please describe your experience in the energy and utility industries and your educational and professional qualifications.**

A3. I have been with Concentric for 17 years and serve as one of Concentric's professionals who provides expert testimony on matters pertaining to cost of capital, regulatory accounting issues, finance, and policy in the energy industry. This work includes analyzing regulatory practices, estimating the cost of capital for the purpose of

ratemaking and providing expert testimony and studies on financial matters pertaining to policy, rates, valuation, and capital costs. I am a licensed Certified Public Accountant ("CPA") in the state of Texas. I am also a Financial Industry Regulatory Authority ("FINRA") licensed securities professional and hold active licenses for Series 7, 63, and 79. I have served as the Treasurer of the New England Women in Energy and the Environment since 2008. I hold a M.S. in Finance from Boston College and a B.S. in Accounting from Indiana University.

I served as project manager for Mr. James M. Coyne's cost of capital testimony before the Vermont Public Utility Commission ("PUC" or "Commission") in two prior GMP rate cases in Docket Nos. 17-3112-INV and 18-0974-TF and in GMP's 2019 Multi-Year Rate Plan proceeding in Docket No. 18-1633-PET. This will be my first direct testimony before the Vermont Public Utility Commission.

My educational and professional background is summarized more fully in **Exh. GMP-JFL-1**.

## II. Purpose and Overview of Testimony

**Q4. What is the purpose of your Direct Testimony?**

A4. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding GMP's ROE and comment on GMP's request to hold its current approved ROE flat at 8.57% rather than at a higher amount that would be justified by the analysis I present below. My Direct Testimony also discusses GMP's capital structure in comparison to the proxy group companies supporting my analysis.

My analyses and recommendations are supported by the data presented in **Exhs. GMP-JFL-2** through **GMP-JFL-12**, which have been prepared by me or under my direction.

**Q5. What is your conclusion regarding the appropriate cost of equity for GMP?**

A5. My analyses support an ROE in the range of 10.25–10.76%. This range reflects the increase in utility risk since GMP last filed testimony in 2019, stemming from the global pandemic, which has depressed dividend yields and interest rates (largely due to federal monetary policy) but has resulted in substantially increased utility betas in the Capital Asset Pricing Model ("CAPM") analysis. When I consider all analyses equally, my mean ROE estimate would be 10.50%. However, my CAPM estimates are significantly above my other analyses and recently awarded ROEs for vertically integrated electric utilities. As such, though I do not discount the importance of my CAPM analysis to highlight the additional risk to publicly traded utilities in current equity markets, I have tempered those results by affording slightly less weight to the CAPM results and more weight to each the Risk Premium results and Discounted Cash Flow ("DCF") model results. I have done this by looking to the low end of my range of results to arrive at my ROE recommendation of 10.25%.

As this Commission has recognized in the past, there is a need to consider the results of the analyses in the context of current capital market conditions and to provide an opinion that is informed by the analyses results but not necessarily determined by

them.[1] I believe the relative weighting I have used is appropriate in these circumstances but may not be appropriate in other more normal capital market conditions where I would anticipate that each methodology should be weighted equally and my recommendation would more likely reflect the mean result of my analyses.

Based on the discussion above, I have arrived at an ROE recommendation of 10.25% on 50.0% equity. I believe this estimate appropriately reflects GMP's business risk profile relative to its proxy group and properly accounts for current capital market conditions and provides adequate compensation to investors for the risks they have to assume in the current market environment.

Currently, GMP's ROE is governed by an automatic adjustment mechanism (or "formula"), that tracks changes in the 10-year Treasury bond. GMP's ROE produced by the formula for the prior FY21 period was 8.20%. The most recent update of ROE under the formula for the current FY22 period produced an ROE of 8.57%. Both formulaic results for FY21 and FY22 are significantly below my ROE recommendation and can be explained by the inability of changes in government bond yields to sufficiently track required equity returns, particularly in volatile and unsettled markets. It is my conclusion, based on the analysis summarized below, that GMP could rebase its ROE formula at the updated ROE of 10.25%. I understand, however, that GMP is willing to hold its ROE flat, under the assumption that it will continue to operate under a Multi-Year Regulation Plan ("MYRP") in the FY23 period and going forward with

[1] *See Investigation into Green Mountain Power Corporation's tariff filing requesting an overall rate increase in the amount of 4.98%, to take effect January 1, 2018*, Case No. 17-3112-INV, Final Order at 15 (December 21, 2017) ("2018 Rate Case Final Order").

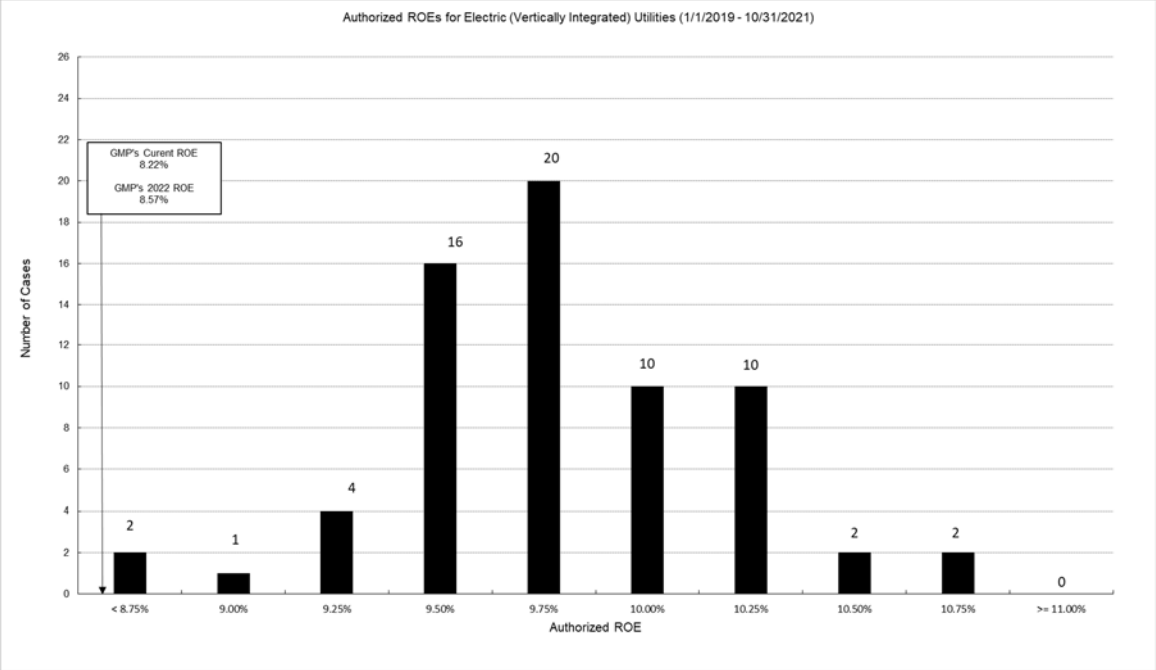
similar regulatory features as those proposed by GMP in its New Regulation Plan, as filed in September 2021, Case No. 21-3707-PET ("New Plan"), which largely follows the structure of GMP's current MYRP approved in Case No. 18-1633-PET ("Current Plan"). The results of my analyses that would support a higher ROE are presented in **Exh. GMP-JFL-2** accompanying this testimony.

**Q6. Does GMP's current ROE of 8.57% align with recently authorized equity returns for vertically integrated electric utilities?**

A6. No. In fact, GMP's recent formula update of 8.57% for 2022, as well as its prior ROE rate of 8.20%, fall at the absolute low end of allowed ROEs for vertically integrated electric utilities; indeed these are the lowest authorized returns for any vertically integrated electric utility in U.S. history going back as far as 1980[2] (as far back as SNL publishes historical regulatory data). Notwithstanding, GMP continues to deliver strong outcomes for customers—high reliability, high customer satisfaction, and is at the forefront of innovation in the regulated electric utility sector.

[2] Data from SNL RRA database. The next lowest ROE was issued to Otter Tail Power Co. by the South Dakota PUC at 8.75% on 52.92% equity in Decision D-EL18-021 dated May 14, 2019.

**Figure 1: Recently Authorized Vertically Integrated Electric ROEs**




As Figure 1 (above) indicates, for the recent historical period from January 2020 through October 2021, the average ROE for vertically integrated electric utilities was 9.61%, and the median was 9.50%. The highest ROE issued during that period was 10.60% and the lowest was GMP's ROE of 8.20%. Figure 1 shows that an ROE of 8.57% for 2022 is still the lowest in the U.S., and based on my current analyses as summarized in this testimony, it would be well below the low end of reasonable range of recommended ROEs for 2022. My recommendation of 10.25% would fall just above the average ROE for vertically integrated utilities and is justified in my opinion based on the factors discussed further below.

**Q7. Is it your opinion that utility risk has changed since GMP's last ROE testimony in 2019?**

A7. Yes. In my opinion there has been a marked shift in the financial risk profile of electric utilities risk as a result of the global COVID-19 pandemic. Evidence of this shift in risk can be found in utility betas that now average 0.869 as I prepare my testimony, versus 0.647, the average in February 2018, when Mr. Coyne prepared his ROE testimony for GMP's prior rate case. This increase in beta of roughly 34% reflects the greater influence market forces exert on electric utility market returns and brings to light the possibility of a changed investor perspective that has lessened its regard for utility stocks as a safe haven against cyclical market downturns, or at a minimum, the impacts of a global pandemic. In this regard, the Brattle Group released a brief international assessment of the global impacts of COVID-19 on utility finance. In the assessment, Brattle noted that four-month daily betas increased across the U.S. Utilities sector and more than doubled between January 31 to May 31, 2020. As we can see today, utility betas remain elevated. In its assessment, Brattle noted that "[I]t is possible these changes are transitory, but there are structural reasons to expect them to persist, esp. utility funded moratoriums on shutting off delinquent accounts, and increased utility exposure to macro recovery of the commercial sectors of the economy."[3]

Whether investors' perception of utility risk is fundamentally changed post COVID-19 will remain to be seen, but as of now, there has been an undeniable increase in the utility risk premium. While incorporating pandemic-related risk into regulatory

[3] The Brattle Group, *Global Impacts and Implications of COVID-19 on Utility Finance* (2020).

determinations remains challenging, there is no doubt that it is having a direct impact on utilities, and therefore must be taken into account. As I have discussed above, my results place slightly less weight on the CAPM results, where the spike in utility market risk premium is evident, which I believe is the appropriate balance as we emerge from the grasp of the COVID-19 pandemic. Accordingly, since risk has increased, authorized returns should also move higher than in the last rate proceeding in 2018.

**Q8. Please provide a brief overview of the analyses that you conducted to support your ROE recommendation.**

A8. My ROE recommendation is based on the range of results produced from three modeling methodologies, the DCF model, the CAPM analysis, and the Risk Premium approach. Analysts and academics understand that ROE models are tools to be used in the ROE estimation process, and that strict adherence to any single approach, or the specific results of any single approach, can lead to flawed conclusions. No model can exactly pinpoint the correct return on equity, but rather each model brings its own perspective and set of inputs that inform the estimate of ROE. Therefore, my analysis appropriately considers the range of results produced by these three different models. The DCF model is based on reputable third-party growth rate projections, as well as market-based information on current annualized dividends and recent stock prices. The CAPM analysis is based on both current and forecasted interest rates and projected market risk premiums. The Risk Premium approach calculates the risk premium as the spread between authorized ROEs for electric distribution companies and Treasury bond yields to estimate the ROE.

My recommendation also considers the general economic and capital market environment and the influence capital market conditions exert over the results of the DCF and CAPM models. In addition, I also consider GMP's business and regulatory risks in relation to a set of proxy companies to assist in the determination of the appropriate ROE from the range of my analytical results.

**Q9. How is the remainder of your Direct Testimony organized?**

A9. The remainder of my Direct Testimony is organized as follows. Section III provides background on the regulatory principles that guide the determination of ROE. Section IV presents a review of current and projected economic and capital market conditions and their impacts on utility cost of capital. Section V describes the criteria and approach for the selection of a proxy group of comparable companies. Section VI provides a description of the data and methodologies used to estimate the cost of equity, as well as the results of the DCF, CAPM, and Risk Premium analyses. Section VII provides an assessment of the business risk factors I have considered in arriving at an appropriate ROE for Green Mountain Power. Section VIII reviews GMP's capital structure in the context of the proxy group. Section IX summarizes my results, conclusions, and recommendation.

## III. Regulatory Principles

**Q10. Please describe the guiding principles used in establishing the cost of capital for a regulated utility.**

A10. The foundations of public utility regulation require that utilities receive a fair rate of return sufficient to attract needed capital to maintain important infrastructure for customers at reasonable rates. The basic tenets of this regulatory doctrine originate from several bellwether decisions by the United States Supreme Court, notably *Bluefield Waterworks and Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) ("*Bluefield*"), and *Federal Power Commission v. Hope Natural Gas Company,* 320 U.S. 591 (1944) ("*Hope*"). In *Bluefield*, the Court stated:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties…
>
> The return should be reasonably sufficient to assure investor confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.

Later, in *Hope*, the Court established a standard for the ROE that remains the guiding principle for ratemaking regulatory proceedings to this day:

> [T]he return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.

**Q11. Please briefly discuss how these principles apply in the context of the regulated rate of return.**

A11. Regulated utilities are capital intensive entities that rely primarily on common stock and long-term debt to finance their capital (i.e., permanent property, plant, and equipment), and rely on short-term debt to finance working capital requirements for expenditures such as power purchases. The weighted average cost of capital ("WACC") for a regulated utility is based on the costs of the individual sources of capital (i.e., debt and equity), weighted by their respective book values of equity and debt in its capital structure. The ROE represents the cost of raising and retaining equity capital and is estimated by using one or more analytical techniques that use market data to quantify investor requirements for equity returns.

The Commission has acknowledged that the ROE estimates derived from analytical techniques are not determinative in themselves but must be considered in the context of capital market conditions and what is truly reasonable. The Commission has noted:

> Neither the law nor regulatory precepts prescribe a specific methodology for setting the appropriate return on equity. Instead, the [Commission] has substantial discretion to weigh factors so as to achieve the overarching goal of authorizing a return on equity that is fair and reasonable to all stakeholders. The critical element is the reasonableness of the result, not necessarily the methodology used to achieve it.[4]

The DCF, CAPM and Risk Premium approaches, while fundamental to the ROE determination, are analytical tools; one should not assume that the results of these tools

[4] 2018 Rate Case Final Order at 15, (quoting *In re. Investigation into tariff filing of Vermont Gas Systems, Inc. re: proposed cost of service*, Docket 7843, Final Order at 26 (August 25, 2012)).

can be mechanistically applied without also using informed judgment to consider economic and capital market conditions and the relative risk of GMP as compared to the proxy group companies, as well as the overall reasonableness of the result.

Based on these widely recognized standards, the Commission's order in this case should provide GMP with the opportunity to earn a return on equity that is:

- Commensurate with returns on investments in enterprises having comparable risks;
- Adequate to attract capital on reasonable terms, thereby enabling Green Mountain Power to provide safe, reliable service; and
- Sufficient to ensure the financial soundness of Green Mountain Power's operations for customers.

Importantly, a fair return must satisfy all three of these standards. The allowed ROE should enable GMP to finance capital expenditures on reasonable terms and provide GMP with the ability to raise capital under a full range of capital market circumstances. The importance of this financial flexibility was particularly evident during the financial crisis of 2008-09, and more recently during the global pandemic, when lesser rated companies, including utilities, struggled to raise capital and/or paid substantial premiums for access to capital.

**Q12. What are your conclusions regarding regulatory principles?**

A12. The ratemaking process is premised on the principle that, in order for investors and companies to commit the capital needed to provide safe and reliable utility service, the

utility must have the opportunity to recover the return of invested capital, and the market-required return on that capital. Because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital on fair and reasonable terms. The financial community carefully monitors the current and expected financial condition of utility companies, as well as the regulatory environment in which they operate. In that respect, the regulatory environment is one of the most important factors considered by both debt and equity investors in their assessments of risk. It is important that the ROE authorized in this proceeding takes into consideration the current and expected capital market conditions that GMP faces, as well as investors' expectations and requirements regarding both risks and returns. A reasonable ROE meets all three criteria of fairly compensating continued investment, affording continued access to capital by the utility on reasonable terms, and provides adequate financing flexibility to maintain the financial integrity of the utility. These returns typically are set on a stand-alone basis.[5]

## IV. Economic and Capital Market Conditions

**Q13. What are the key factors affecting the cost of equity for regulated utilities in the current and prospective capital markets?**

A13. The cost of equity for regulated utility companies is being affected by several key factors in the current and prospective capital markets, including: (1) the prevailing

[5] The Commission has an established history of setting return on equity based on the analytical results of a proxy group analysis of comparable-risk, investor-owned utilities, as was done in several of the most recent GMP's rate proceedings. *See, e.g.*, Docket Nos. 8190, 8191, Final Order at 21–22 (August 25, 2014); and more recently, the 2018 Rate Case Final Order at 15.

economic conditions, including the still relatively low interest rate environment and the corresponding effect on valuations and dividend yields of utility stocks relative to historical levels, as well as the elevated utility market risk premium as evidenced by increased utility betas; (2) tapering of the federal asset purchase program that has supported capital markets during the global pandemic; (3) COVID-19 and the vaccine rollout; and (4) supply chain concerns that have contributed to recent spikes in inflation and could enable inflation to linger. Most of which will lead the market to anticipate higher interest rates and higher risk premiums. In this section, I discuss each of these factors and how it affects the models used to estimate the cost of equity for regulated utilities.

### *A. Prevailing Economic Conditions—Including the Low Interest Rate Environment and Effect on Utility Dividend Yields*

**Q14. Why is it important to consider the effects of prevailing economic conditions when setting the appropriate ROE?**

A14. It is important to consider prevailing and expected conditions in the general economy and financial markets because the authorized ROE for a public utility should allow the utility to attract investor capital at a reasonable cost under a variety of economic and financial market conditions, as underscored by the *Hope* and *Bluefield* decisions. The standard ROE estimation tools, such as the DCF, CAPM, and Risk Premium models, each reflect the state of the general economy and financial markets by incorporating specific economic and financial data. These inputs are, however, only proxies for the various economic and market forces that determine a utility's required return. Consideration must be given to whether the assumptions relied on in the current or

projected data are appropriate. Therefore, an assessment of fluctuating market conditions is integral to any ROE recommendation.

**Q15. How do market conditions affect the traditional ROE estimation models?**

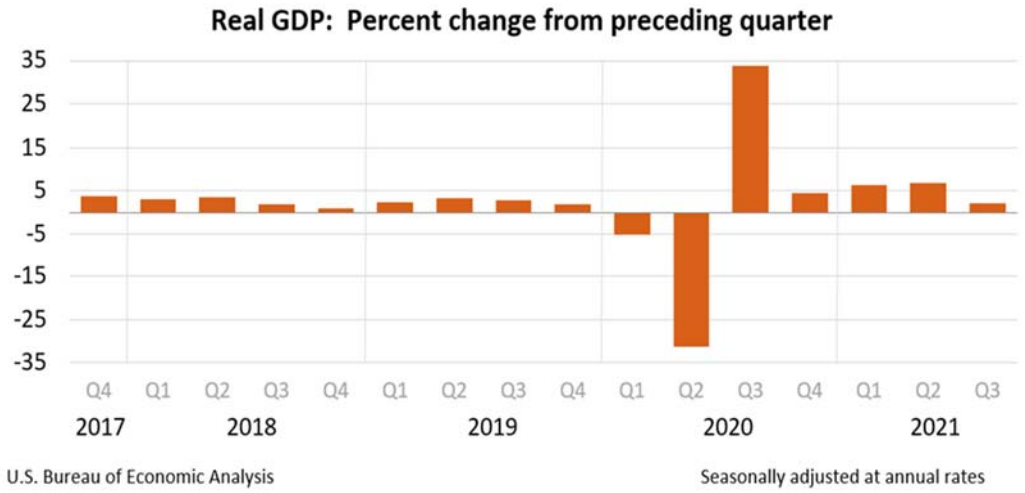
A15. Each of the ROE estimation models is affected by market conditions. The historically low bond yields prevailing over the last several years have caused a shift in investments away from low-return Treasury bonds into lower-risk equities, such as utility stocks. As prices for utility stocks have increased, the dividend yield (calculated as the dividend divided by price) has decreased, resulting in a lower ROE using the DCF model than would occur during more normal economic conditions. Interest rates also have significant influence in the CAPM and Risk Premium models. Treasury bond yields are used as inputs for the risk-free rate in the CAPM, and similarly, corporate bond yields are priced off Treasury bonds and generally move in tandem. Accordingly, Risk Premium models that use either Treasury or corporate utility bond yields are also directly impacted by the level of interest rates.

The lowering influence that Treasury bond yields exert on CAPM and Risk Premium model ROE estimates, has been more than offset by increases in the utility market risk premium, largely due to increases in utility betas. Since the global COVID-19 pandemic came to the fore in early 2020, utility betas have sustained higher than pre-pandemic levels by roughly 36%. This suggests that markets no longer view utilities as a safe counter-cyclical investment that will generate cash flow despite market conditions, but instead view utilities as less immune to the negative market impacts of the COVID-19 pandemic.

**Q16. Please describe prevailing economic and capital market conditions.**

A16. After experiencing steady economic growth from 2017– 2019, measures taken to contain COVID-19 and associated impacts on business and consumer behavior forced the U.S. economy into a sharp recession in 2020. As shown in Figure 2, according to the Bureau of Economic Analysis, real Gross Domestic Product ("GDP") decreased at an annual rate of 5.1% in the first quarter of 2020 and at an annual rate of 31.2% in the second quarter of 2020 (the sharpest decline in modern history) before rebounding in the third quarter at an annual rate of 33.8% and expanding at an annual rate of 4.5% in the fourth quarter of 2020. Real GDP growth in the U.S. expanded in the first quarter of 2021 at an annual rate of 6.3%, in the second quarter of 2021 at an annual rate of 6.7%, and moderated in the third and fourth quarters at annual rates of 2.3 and 5.1%, respectively.[6]

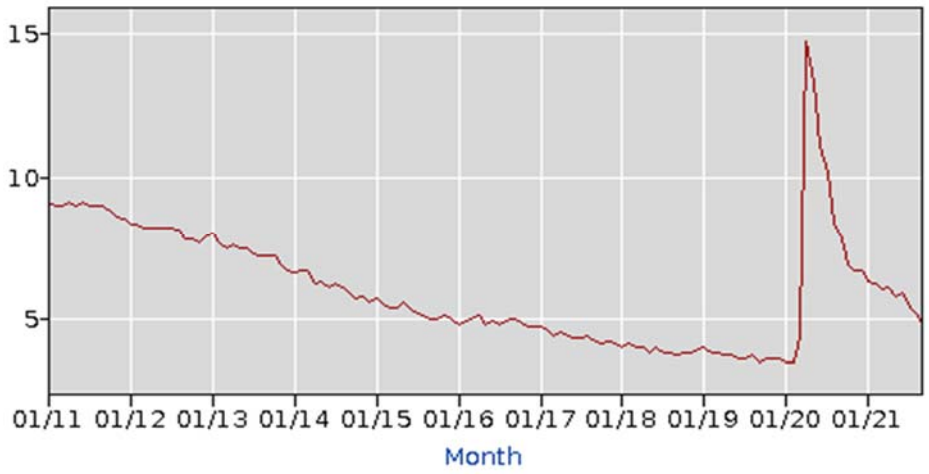
**Figure 2: U.S. Real GDP Growth[7]**




[6] *Blue Chip Financial Forecasts*, Vol. 41, No. 1 (January 1, 2022) at 2.
[7] U.S. Bureau of Economic Analysis, available at https://www.bea.gov/data/gdp/gross-domestic-product.

As shown in Figure 3, the U.S. unemployment rate steadily declined over the past ten years from 9.1% in January 2011 to 3.6% in December 2019. After reaching a low of 3.5% in January 2020, the unemployment rate spiked to 14.8% in April 2020 as businesses were forced to close due to COVID-19, before steadily falling to 4.8% in September 2021 as most businesses were allowed to re-open and many sectors of the U.S. economy returned to something closer to normal.

**Figure 3: U.S. Unemployment Rate 2011-2021**




The Consumer Price Index ("CPI") in the U.S., the primary measure of inflation, increased at an annual rate of 1.8% in 2019 and 1.2% in 2020. The average annual increase in consumer prices from 2011 through 2020 was 1.73%. More recently, however, the Bureau of Labor Statistics announced in December 2021 that the CPI increased at an annualized rate of 6.8% before seasonal adjustment from December 2020 through November 2021, which is the largest 12-month increase since the period ending

June 1982.[8] Further, Blue Chip reports that inflation for the second quarter of 2021 spiked at 8.4% and the third and fourth quarters of 2021 were only slightly lower at 6.6% and 5.6%, respectively.[9] Since a large contributor to inflation is supply chain issues causing scarcity, the Federal Reserve's current tightening of monetary policy has little positive effect. For this reason, the majority of analysts surveyed by Blue Chip believed that inflationary conditions were "likely to linger" rather than being "temporary".[10] Nonetheless, inflation is anticipated to moderate to 3.7% by the first quarter of 2022 and is expected to normalize to around 2.4% by the second quarter of 2023.[11]

*B. Federal Stimulus*

**Q17. Please discuss how the Federal Reserve's monetary policy has influenced capital market conditions.**

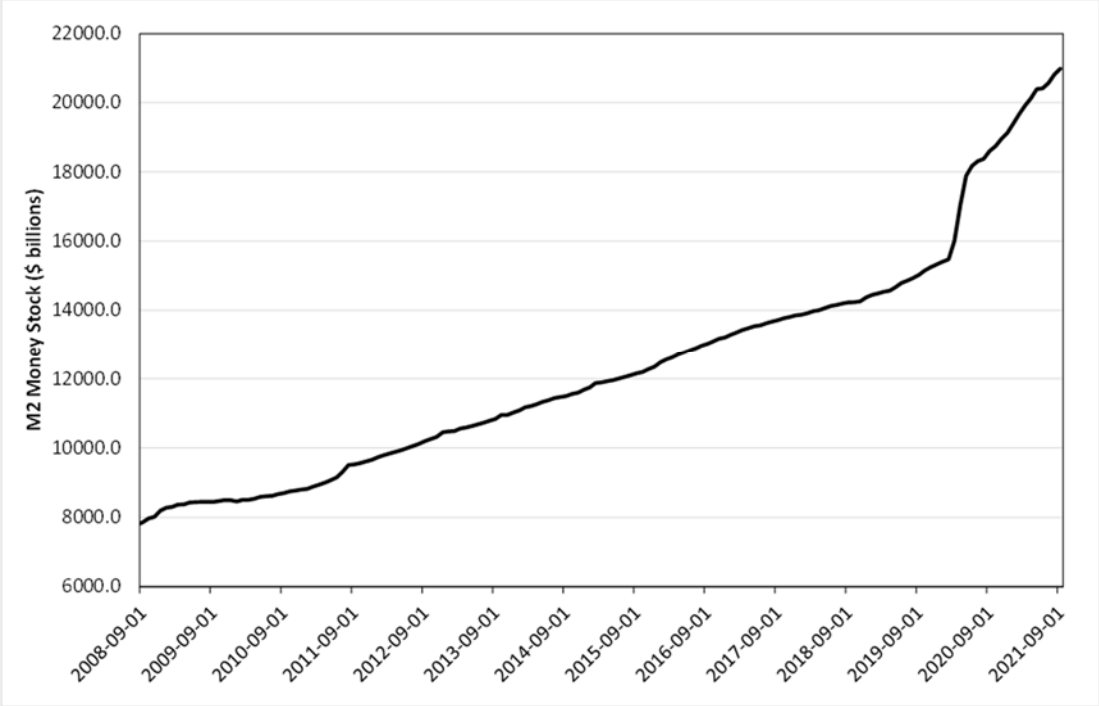
A17. In response to the economic effects of COVID-19, the U.S. Federal Reserve took aggressive steps to stabilize financial markets in the Spring of 2020 and to provide ongoing support for the economy. Similar to the Great Recession of 2008-09, the Federal Open Market Committee ("FOMC") used monetary policy (both reductions in short-term interest rates and purchases of Treasury bonds and mortgage-backed securities) to stimulate the U.S. economy. The Federal Reserve decreased the federal funds rate twice in March 2020, resulting in a target range of 0.00% to 0.25%. In

[8] U.S. Bureau of Labor Statistics, December 10, 2021.
[9] *Blue Chip Financial Forecasts*, Vol. 41, No. 1 at 2 (January 1, 2022).
[10] *Blue Chip Financial Forecasts*, Vol. 40, No. 11 at 14 (November 1, 2021).
[11] *Id.* at 1.

addition, on March 23, 2020, the Federal Reserve began expansive programs to support credit to large employers, including the Primary Market Corporate Credit Facility to provide liquidity for new issuances of corporate bonds, and the Secondary Market Corporate Credit Facility to provide liquidity for outstanding corporate debt issuances. Further, the Federal Reserve supported the flow of credit to consumers and businesses through the Term Asset-Backed Securities Loan Facility. These bond buying programs by the Federal Reserve provided $700 billion in liquidity to financial markets, through purchases of government and corporate bonds and mortgage-backed securities. The Federal Reserve has been buying $80 billion of Treasury bonds and $40 billion of mortgage-backed securities each month. On November 3, 2021, the Federal Reserve announced that it would begin "tapering" its bond buying program in November 2021, reducing the amount of monthly purchases by $15 billion.

These federal actions have increased the money supply, which keeps short term interest rates low and increases the ability of banks to make loans to consumers and businesses. Continued access to capital has been very important for consumers and businesses to sustain their households and businesses despite the negative impacts of the pandemic. The increase in the money supply has been dramatic, far exceeding that which was provided in response to the Great Recession in 2008/2009, demonstrating the level of intervention necessary to stabilize markets during the pandemic.

**Figure 4: M2 Money Stock – September 2008 – September 2021[12]**




**Q18. What other measures had the U.S. Federal Government taken to stabilize the economy and capital markets?**

A18. In addition to the Federal Reserve's response, the U.S. Congress also passed fiscal stimulus programs. On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act was signed into law, providing a large fiscal stimulus package aimed at mitigating the economic effects of COVID-19. These expansive monetary and fiscal programs have provided for greater stability in capital markets. The extraordinary measures taken by the Federal Reserve to stabilize the economy and financial markets have thus far been successful, but in doing so have kept interest abnormally low.

[12] Board of Governors of the Federal Reserve System (US), M2 Money Stock [M2], retrieved from FRED, Federal Reserve Bank of St. Louis; available at https://fred.stlouisfed.org/series/M2, September 1, 2021.

Furthermore, in March 2021, the U.S. Congress approved an additional fiscal stimulus package of $1.9 trillion in response to the ongoing economic effects of COVID-19. Additional fiscal stimulus has increased pressure on the inflation rate, and the bond market is carefully monitoring each economic report for signs that inflation is more than transitory.

**Q19. How has the period of abnormally low interest rates affected the valuations and dividend yields of utilities?**

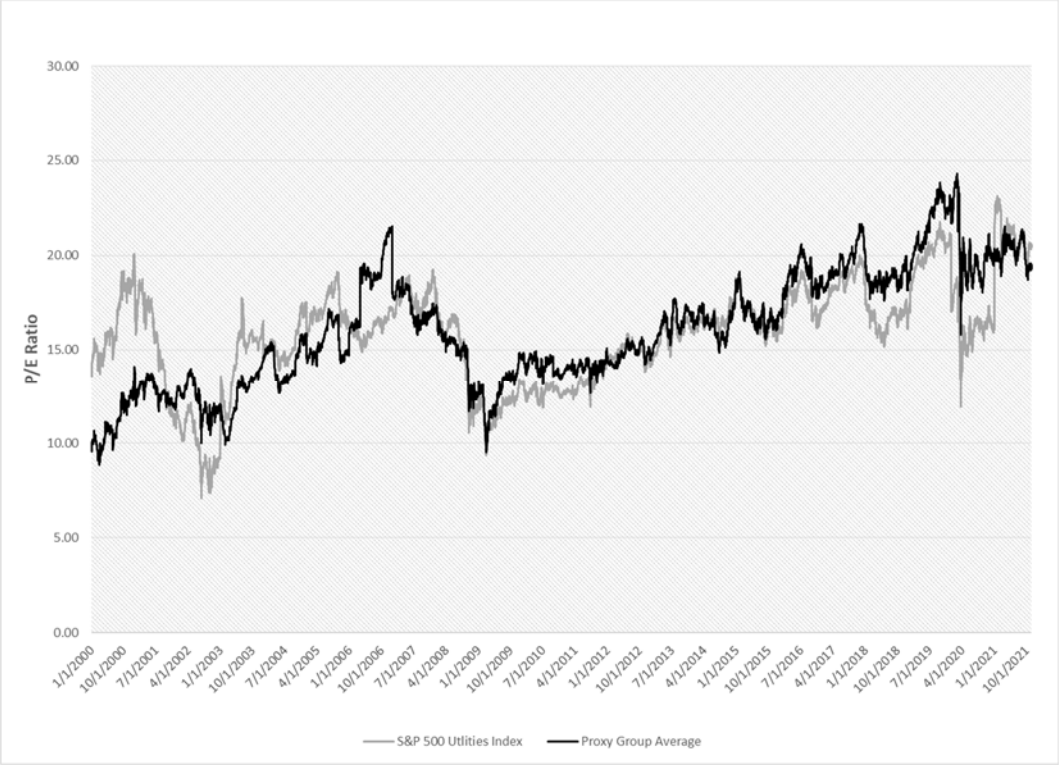
A19. The Federal Reserve's accommodative monetary policy resulted in higher asset prices for many common stocks, including shares of public utility companies, as investors sought higher returns and more attractive yields than were being offered by bonds. Consequently, the share prices for many common stocks, especially dividend-paying stocks such as utilities, have been driven higher while the dividend yields (which are computed by dividing the dividend payment by the stock price) have decreased. According to Value Line's most recent report on electric utilities in the Eastern U.S., electric utility stocks are currently trading above their target range, specifically:

> Most electric utility stocks have risen in price this year. Among the equities reviewed in Issue 1, Exelon and FirstEnergy have seen their quotations climb 28% and 27%, respectively. Only a few issues have declined in price. The outlier is Pinnacle West (covered in Issue 11). Unfavorable developments in the rate case of its utility subsidiary, Arizona Public Service, have caused the stock price to plummet 19%.
>
> The average dividend yield of the stocks in the Electric Utility Industry is 3.5%. Some issues in this group offer attractive potential for the next 18 months, but our model expects others to decline in price over that time

> frame. The recent prices of numerous utility stocks are within their 2024-2026 Target Price Range, making long-term total return potential unappealing.[13]

As Figure 5 (below) reflects, electric utility price/earnings (P/E) ratios (a measure of what the market is willing to pay today for a stock based on its past or future earnings) have been climbing since the pandemic shocked markets in March 2020 and are only slightly off their highest levels in the past twenty years. A high P/E ratio could mean that a utility stock's price is high relative to its earnings or is overvalued.

**Figure 5: P/E Ratios for Electric Utility Stocks**



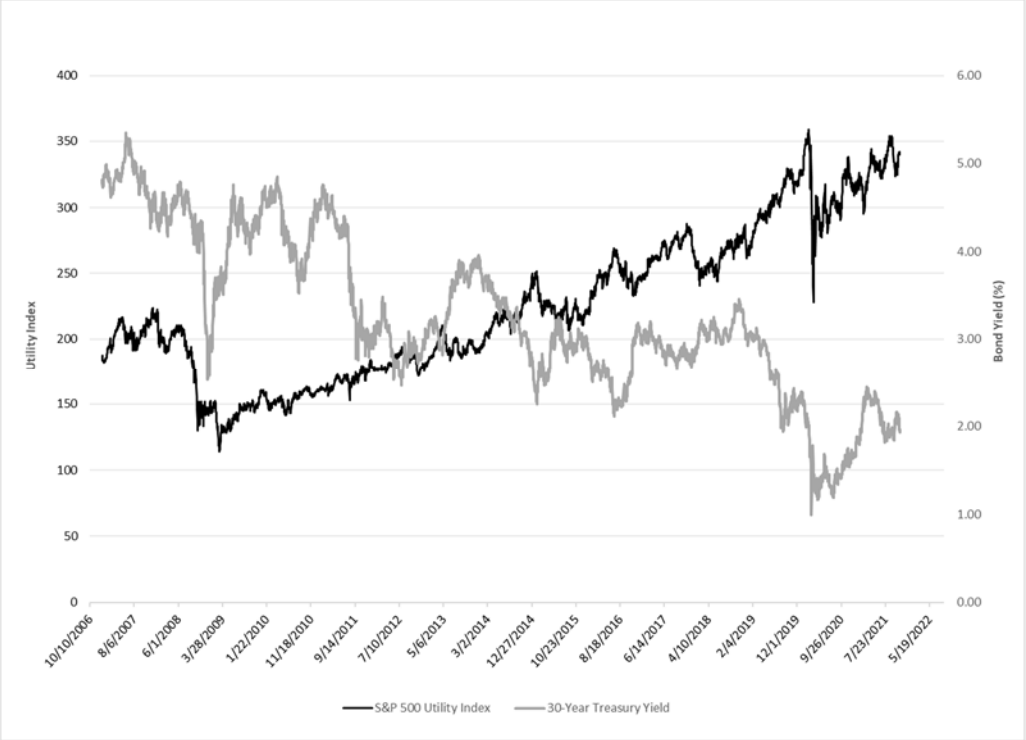

*Source: Bloomberg*

[13] *Value Line Industry Report*, Electric Utility Industry (East), November 12, 2021.

**Q20. How has the Standard & Poor's ("S&P") Utilities Index responded to recent changes in market conditions?**

A20. Figure 6 (below) compares the S&P Utilities index to the yield on the 30-year Treasury bond from January 2007 through October 2021. As shown in the chart, the S&P Utilities index increased steadily after its precipitous drop during the global financial crisis of 2008/2009 through early March 2020, where both government bond yields and the S&P 500 utility stock index fell and have both been trending upwards since. Generally, when interest rates are falling, the utility stock index increases, and vice versa. But post-COVID-19 outbreak, the indices have been largely moving together, suggesting that markets remain unsettled, and investors may no longer view utilities as defensive stocks that will provide safe reliable earnings during a market downturn.

**Figure 6: S&P Utilities Index and U.S. Treasury Bond Yields 2007-2021**




*Source: Bloomberg*

*C. Pandemic and Perceived Risk*

**Q21. How has the Pandemic impacted electric utilities and perceived risk for this sector?**

A21. The electric utilities sector has been notably impacted by the pandemic but has demonstrated an ability to manage its risk with the assistance of supportive regulation. According to S&P,

> Most utility companies will be able to manage the impacts of COVID-19 as existing recovery mechanisms and rate proceedings will allow management teams to recapture lost cash flow with little disruption to financial risk profiles. Bad debts from mandated and voluntary policies not to cut power to vulnerable ratepayers will add to utility pressures, but

> we expect that utilities will collect most of this through rate cases and the creation of deferred regulatory assets.[14]

With respect to shifts in demand, S&P contends,

> We certainly do not contend that demand does not matter to utility credit risk: it can at the margin. However, we do not see the pronounced swings in demand typical of more cyclical companies. The extent to which reduced demand prompts ratings actions, which does not occur often, depends on the individual utility and its management of regulatory risk. The relative stability of demand during a recession reflects the essential nature of the commodities provided and the fact that residential customers typically account for the majority of sales. Industrial and commercial demand can vary more, but the picture remains relatively predictable overall. What really differentiates utilities during severe downturns is the consistency and transparency of regulation, which can protect utility top lines.[15]

These incremental challenges are exacerbated by the downturn in financial markets and high unemployment. Without an adequate financial cushion and supportive regulation, many utilities have been stretched financially due to the Pandemic and have undergone negative ratings actions. However, though electric utilities have experienced some ratings pressure as a result of the Pandemic, their ability to manage these challenges is highly dependent on its financial strength and the supportiveness of its regulation.

**Q22. How as the Pandemic impacted the broader U.S. economy?**

A22. As in the electric sector, volatility was seen across the U.S. economy during the pandemic. Questions remain regarding vaccine uptake and the impact of new variants on the overall economic recovery, and it may take some time to return to pre-pandemic levels of normalcy. But, the economy has exhibited significant strength, as I indicated

[14] S&P Global Ratings, *North American Regulated Utilities Face Tough Financial Policy Tradeoffs To Avoid Ratings Pressure Amid The COVID-19 Pandemic* (December 1, 2020) at 4.
[15] *Id.* at 3–4.

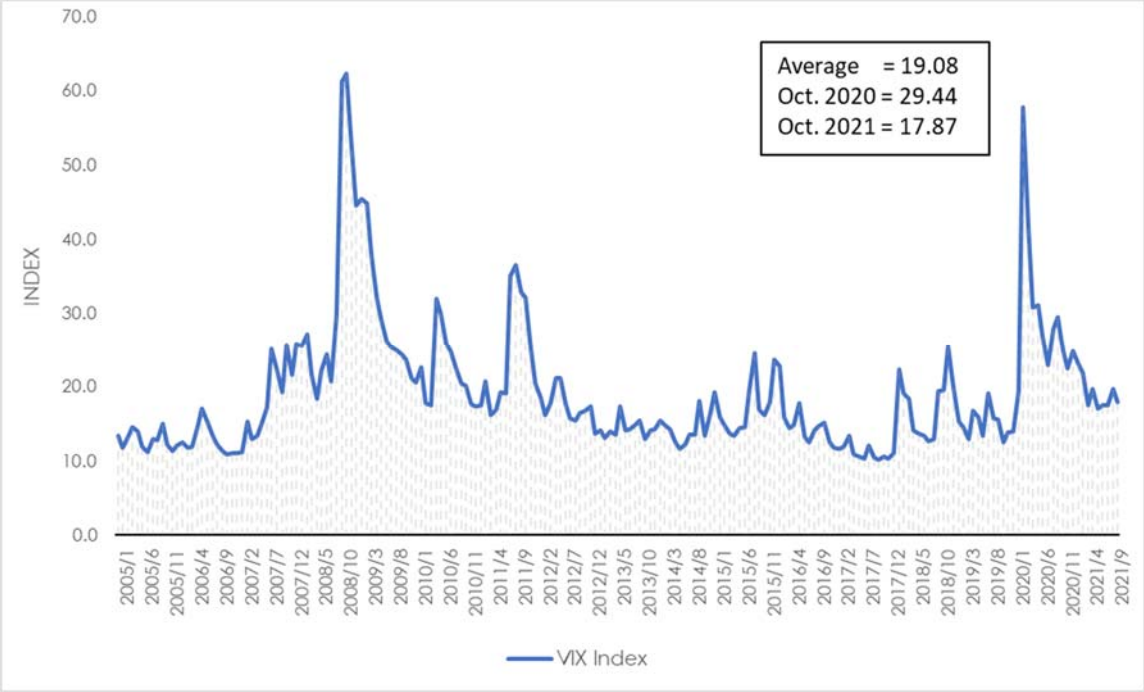
previously, with significant quarterly GDP growth in 2021 (6.3%, 6.7%, and 2%) and stock market indices have been trading at record levels. Investors are eager to see the economy return to pre-pandemic levels, but with each new variant that shocks the stock market, it is evident that we have not seen the end to pandemic-related market volatility.

**Q23. What do increases in market volatility convey about the cost of equity?**

A23. Though investor confidence remains relatively high,[16] market volatility (as measured by the Chicago Board Options Exchange ("CBOE") Volatility Index, or "VIX index") has been highly volatile over the past several years but has settled down to pre-pandemic levels. The VIX index measures the implied volatility of the S&P 500 index option over the next 30 days (annualized for the upcoming 12 months) and is understood to be a leading indicator of market stress. As shown in Figure 10 (below), the market volatility index averaged 17.87, compared to 23.62 on April 2, 2018 (when Mr. Coyne last prepared his evidence for GMP). The average over the period January 2005 to October 29, 2021 is 19.08. Generally, increased volatility implies greater investment risk and increasing cost of equity. It appears that from an investor confidence perspective, markets are returning to more normal levels of volatility.

[16] The State Street Investor Confidence Index (accessed through Bloomberg) averaged 99.74 from January 2005 to October 29, 2021. In April 2018 (when Mr. Coyne filed evidence on behalf of GMP in its 2019 rate case) the confidence metric was 111.9. As of October 29, 2021, the State Street confidence metric was very close to the same level at 106, down slightly from September 2021 at 109.723. During the pandemic the monthly confidence was as low as 73.0 in May 2020.

**Figure 7: VIX Index (Monthly Averages - 2005 to October 2021)**




*Source: Bloomberg*

**Q24. Are financial markets concerned about the vaccine rollout?**

A24. Yes. In a recent Blue Chip Financial Forecast, financial market experts were surveyed on what in their view was the biggest threat to global economic stability over the next 12 months. The greatest number of market participants (45%) answered that "[a]n uneven global vaccination rollout and various mutations including the Delta variant" was the biggest threat.[17] The same Blue Chip Report, cited international supply chain disruption as the next greatest concern with 29% of market participants selecting that as their greatest concern for global economic stability.[18]

[17] *Blue Chip Financial Forecasts*, Vol. 40, No. 11 at 14 (November 1, 2021).
[18] *Ibid.*

With respect to the perceived risk of the COVID-19 pandemic, a recent New York Times article comments that the COVID-19 virus is more likely to be "managed" than it is to be "defeated", and that herd immunity is not attainable in our foreseeable future.[19] According to the article, "the virus is changing too quickly, new variants are spreading too easily and vaccination is proceeding too slowly for herd immunity to be within reach anytime soon."[20] Yet, the article goes on to state, "vaccinations remain the key to transforming the virus into a controllable threat."[21] So it seems that we may not be able to rid ourselves of COVID-19 entirely any time soon, but vaccines provide valuable tools to manage the threat. Nonetheless, concerns about timing and the ability of vaccines to successfully manage the Pandemic continue to plague markets.

### *D. Supply Chain Interruptions and Inflation Risk and Increasing Expectations for Higher Interest Rates*

**Q25. Please explain what is causing the supply chain interruptions and how they are impacting our economy.**

A25. According to the Harvard Business Review, the supply chain issues began in February 2020 with the U.S.-China trade war which shocked the U.S. supply of Chinese goods. This was closely followed by the shutdown of the global economy due to the COVID-19 pandemic, which exposed vulnerabilities in production strategies and supply chains across the globe, particularly with respect to trade restrictions, shortages of

[19] Madavilli, *Reaching 'Herd Immunity' Is Unlikely in the U.S., Experts Now Believe*. The New York Times (May 3, 2021). Available at https://www.nytimes.com/2021/05/03/health/covid-herd-immunity-vaccine.html
[20] *Ibid.*
[21] *Ibid.*

pharmaceuticals, and critical medical supplies.[22] As production halted due to the safeguards put in place to respond to the COVID-19 pandemic, the reduced production of goods essentially eliminated inventories. Many of the supply chain issues we are now experiencing are the result of the economy attempting to return to pre-pandemic levels. Further straining the production and distribution of goods is the record number of Americans that are quitting their low-paying jobs in warehouses and trucking. The supply chain issues could take months or even years to be resolved. Ultimately, it means more competition for scarce products and translates to more expensive products for consumers, setting off inflationary pressures.

**Q26. What tools does the U.S. government have to combat inflation?**

A26. Most often, the U.S. government turns to monetary policy to combat inflation. By raising interest rates, the Federal Reserve is able to reduce demand in the economy, which leads to lower economic growth and lower overall inflation. The Fed can impact interest rates by controlling monetary supply. Less supply of money in the economy increases the cost of obtaining money through interest rates, thereby also dampening economic growth and slowing inflation. Increases in interest rates also tend to result in increases in currency exchange rates which also serve to slow the economy and reduce inflationary pressures.

[22] Shih, *Global Supply Chains in a Post-Pandemic World*. Harvard Business Review (October 2020).

**Q27. What actions has the Fed taken to address inflation while supporting the economic recovery?**

A27. In its last Open Meeting, the Federal Reserve indicated that it would continue tapering its asset purchases by $10 billion per month for Treasury securities and $5 billion per month for agency mortgage-backed securities and undertake open market policies to maintain a federal funds target rate of 0 to 0.25%, among other things. The Fed indicated it would maintain its accommodative stance until labor market conditions have reached levels consistent with the Federal Open Market Committee's assessment of maximum employment and inflation has risen to 2% over the long term.[23]

**Q28. What is the financial market's perspective on the future path of interest rates?**

A28. According to the January 2022 issue of Blue Chip Financial Forecasts, the greatest percentage (63%) of those surveyed expected that the Federal Reserve would begin raising short-term interest rates by the end of the second quarter of 2022.[24] The same survey revealed that respondents think the neutral fed funds target rate is approximately 2.34% and the greatest number of respondents believe that the neutral fed funds rate would be achieved by the end of 2024 (55% of respondents) or 2025 (29% of respondents).[25] If these projections come to pass, we would see over a 200 basis-point increase in federal interest rates over the next three to four years.

[23] FOMC Press Release (November 3, 2021).
[24] *Blue Chip Financial Forecasts*, Vol. 41, Issue No. 1 at 14 (January 1, 2022).
[25] *Id.*

Data compiled by CME Group[26] corroborates these views and shows that investors expect the federal funds rate will remain between 0 and 25 basis points for the first several months of 2022 and anticipate a 25 basis-point increase either towards the end of the first quarter or during the second quarter of 2022 and another 25 basis-point increase towards the end of the second quarter or during the third or fourth quarter of 2022. CME predicts a 30.6% probability that there will be a third interest rate hike by the end of 2022. Figure 6 summarizes the federal funds probabilities developed by CME group. The probability of a rate hike is calculated by adding the probabilities of all target rate levels above the current target rate for a given meeting date, e.g., the table indicates a 66.2% probability that the federal funds rate will reach a target rate of 75 to 100 basis points by the December 2022 meeting, and a 2.5% chance it will increase to between 150 and 175 basis points by December 2022, thus the probability of a rate hike above the current level of 0 and 25 basis points by the December meeting is 100.0%. The market expects further rate increases in 2023, shown by high expectations for a third increase in the federal funds rates in either December 2022 or February 2023.

[26] The company was formed from the merger of the Chicago Mercantile Exchange and the Chicago Board of Trade in 2007, and has now expanded to include the New York Mercantile Exchange, The Commodity Exchange, Inc., NEX Group, Kansas City Board of Trade, and has an ownership interest in the S&P Dow Jones Indices.

**Figure 8: Investor Expectations of Future Federal Funds Rate Increases[27]**

| MEETING PROBABILITIES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MEETING DATE | 0-25 | 25-50 | 50-75 | 75-100 | 100-125 | 125-150 | 150-175 | 175-200 |
| 1/26/2022 | 96.9% | 3.1% | 0.0% | 0.0% | 0.0% | 0.0% | | |
| 3/16/2022 | 36.8% | 61.3% | 1.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 5/4/2022 | 23.8% | 52.6% | 22.9% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% |
| 6/15/2022 | 9.5% | 35.3% | 40.7% | 14.0% | 0.4% | 0.0% | 0.0% | 0.0% |
| 7/27/2022 | 6.3% | 26.7% | 38.9% | 23.0% | 5.0% | 0.1% | 0.0% | 0.0% |
| 9/21/2022 | 4.1% | 19.4% | 34.5% | 28.7% | 11.4% | 1.9% | 0.0% | 0.0% |
| 11/2/2022 | 3.1% | 15.9% | 31.1% | 30.0% | 15.4% | 4.0% | 0.5% | 0.0% |
| 12/14/2022 | 1.5% | 9.2% | 23.1% | 30.6% | 23.1% | 10.0% | 2.3% | 0.2% |
| 2/1/2023 | 1.2% | 7.5% | 20.0% | 28.9% | 24.7% | 12.9% | 4.0% | 0.7% |

**Q29. What effect will rising interest rates have on the cost of equity?**

A29. As interest rates increase, the cost of equity for the proxy companies will also increase.

## V. Proxy Group Selection

**Q30. Please provide a summary profile of GMP.**

A30. GMP is an investment holding of Énergir, serving more than 265,000 electric residential and business customers in Vermont. GMP self-generates approximately 20% of its energy requirements, primarily with hydroelectric, renewable, and nuclear power, and a small amount of fossil-fuel-fired peaking facilities. The remainder of GMP's energy requirements are supplied through contracted power purchase agreements and state-mandated energy programs. GMP is credited with being at the forefront of electric

[27] CME Group, *FedWatch* as of January 4, 2022.

utility innovation, ranked in 2018 as the #1 Most Innovative Companies in Energy by *Fast Company*, for partnering with its customers to use solar and battery storage to drive down electricity costs; earned a spot on Fast Company's Most Innovative Companies in the World list for four years in a row (2017-2020); and recently was again highlighted as an innovator among electric utilities.[28] GMP was also the first utility to be certified as a B Corporation.("B Corp.") B Corps. are companies that believe business can be a force for good and are certified by the non-profit B Lab to meet rigorous standards of social and environmental performance, accountability, and transparency. GMP received its initial certification in 2014 and was recertified in 2017 and 2021. GMP's Long-Term Issuer credit rating was recently upgraded from "A-" (Outlook: Stable) to "A" (Outlook: Stable) by S&P Global Ratings in August 2021, primarily based on the credit strength of its parent company Énergir and the expectation of higher commitments from Énergir to GMP.[29] S&P notes that GMP's stand-alone credit profile (SACP) is unchanged from its previous rating of "BBB+".[30]

**Q31. Why is it necessary to select a proxy group to estimate the cost of equity for GMP?**

A31. Since the ROE is a market-based concept and GMP is not publicly traded, it is necessary to establish a group of companies that is both publicly traded and comparable to GMP. Even if GMP was a publicly traded entity, it is possible that transitory events could bias

[28] *See* Fast Company, *Most Innovative Companies: Green Mountain Power*, available at: https://www.fastcompany.com/company/green-mountain-power; *see also* Time, *This Vermont Utility Is Revolutionizing Its Power Grid to Fight Climate Change. Will the Rest of the Country Follow Suit?* available at: https://time.com/6082973/vermont-electric-grid/.

[29] S&P Global Ratings, *Research Update: Green Mountain Power Corp. Upgraded To 'A' From 'A-'; Outlook Stable* (August 18, 2021).

[30] *Ibid.*

GMP's market value in one way or another in a given period of time. A significant benefit of using a proxy group is the ability to mitigate the effects of anomalous events that may be associated with any one company. The proxy companies used in my ROE analyses possess a set of business and operating characteristics similar to GMP's vertically integrated electric distribution operations, and thus provide a reasonable basis for the estimates of ROE.

**Q32. Please describe the specific screening criteria you have utilized.**

A32. I began with the 37 investor-owned electric utilities covered by Value Line and then screened companies according to the following criteria:

1. Consistently pays quarterly cash dividends;
2. Maintains an investment grade long-term issuer rating (BBB- or higher) from S&P;
3. Is covered by more than one equity analyst;
4. Has positive earnings growth rates published by at least two of the following sources: Value Line, Thomson First Call (as reported by Yahoo! Finance), and Zack's Investment Research ("Zacks");
5. The majority of electric generation produced by the company is regulated by a state commission (based on a 3-year average);
6. Self-generates at least 20% of its utility electricity sales to customers (based on a 3-year average);
7. Regulated revenues make up more than 60% of the consolidated company's total revenues (based on a 3-year average);

8. Regulated net operating income makes up more than 60% of the consolidated company's net operating income (based on a 3-year average);
9. Regulated electric revenues make up more than 80% of the consolidated company's total regulated revenues (based on a 3-year average);
10. Regulated net operating income from regulated electric operations makes up more than 80% of the consolidated company's regulated operating income (based on a 3-year average); and
11. Is not involved in a merger or other transformative transaction for an approximate six-month period prior to my analysis.

**Q33. What is the composition of your resulting proxy group?**

A33. Based on the screening criteria discussed above, and financial information through October 31, 2021, I arrived at a proxy group consisting of the companies shown in Figure 9. The results of my screening process are shown in **Exh. GMP-JFL-3**.

**Figure 9: Proxy Group**

| | |
|---|---|
| ALLETE, Inc. | ALE |
| Alliant Energy Corporation | LNT |
| Ameren Corporation | AEE |
| American Electric Power Company, Inc. | AEP |
| Duke Energy Corp | DUK |
| Entergy Corporation | ETR |
| Evergy, Inc. | EVRG |
| Hawaiian Electric Industries, Inc. | HE |
| IDACORP, Inc. | IDA |
| NextEra Energy, Inc. | NEE |

| | |
|---|---|
| Pinnacle West Capital Corporation | PNW |
| Portland General Electric Company | POR |
| Southern Company | SO |
| Xcel Energy Inc. | XEL |

**Q34. Do your screening criteria result in a group of companies that investors would view as comparable to Green Mountain Power?**

A34. Yes. I have selected this group of electric utilities to best align with the financial and operational characteristics of GMP. The proxy group screening criterion requiring an investment grade credit rating ensures that the proxy group companies, like GMP, are generally in sound financial condition. Because credit ratings take into account business and financial risks, the ratings provide a broad measure of investment risk for investors. I have only accepted proxy companies that self-generate at least 20% of their retail electric requirements to adequately represent the operating characteristics and unique set of risks of a vertically integrated electric utility with electric generation in rate base. Such risks include unplanned outages and/or maintenance, changing environmental regulations applicable to the generation portfolio, delays or overages in plant construction costs, etc. These unique risks are not shared by pure transmission and distribution ("T&D") utilities. Additionally, I have screened on the percent of revenues and net operating income from regulated operations to differentiate between utilities that are protected by regulation and those with substantial unregulated operations or market-related risks. Also, I have screened based on the percentage that electric utility operations contribute to regulated consolidated financial results to ensure that the selected utilities, like GMP, derive the majority of their regulated revenues and

operating income from electric operations. These screens collectively reflect key risk factors that investors consider in making investments in electric utilities.

**Q35. Your proxy group has changed since GMP's prior rate filing. Can you explain why?**

A35. Yes. Though I have applied the same screening criteria as Mr. Coyne applied in his prior testimony, I have included several companies in my proxy group in this proceeding that previously did not satisfy the proxy group screening criteria. In the prior rate proceeding, Entergy was excluded from the proxy group since it lacked at least two positive growth rates, whereas this year, Entergy had two positive growth rates. In addition, Evergy is included in the proxy group this year. Evergy was formed by the merger of Great Plains and Westar, both of which were excluded from Mr. Coyne's proxy group in GMP's prior rate case due to the pending merger. El Paso Electric is excluded from the group this year because it was acquired by Sun Jupiter Holdings LLC in 2020 and is no longer covered by equity analysts to provide estimates of earnings growth. I have also excluded OGE Energy Corporation from my proxy group due to the pending acquisition of Enable Midstream (a significant holding of OGE) by Energy Transfer Partners; and similarly, I have excluded PNM Resources from the proxy group due to its pending acquisition by Avangrid. Lastly, I have excluded PPL from the proxy group due to its lack of positive growth rates from any of the three sources of growth rates I am using (Value Line, Yahoo Finance, and Zacks) and its pending transaction with National Grid to sell Western Power Distribution PLC and acquire Narragansett Electric Company. I believe my group of 14 vertically integrated electric utilities

adequately reflects the broad set of risks that investors consider when investing in a U.S.-regulated vertically integrated electric utility. Later in my testimony, I will evaluate whether an adjustment should be made to the results of my analyses for differences in GMP's specific risks compared to the collective proxy group.

## VI. Determination of the Appropriate Cost of Equity

**Q36. What models did you use in your ROE analyses?**

A36. I have considered the results of several ROE estimation models, including the Constant Growth DCF, Multi-Stage DCF, Risk Premium, and CAPM models. When faced with the task of estimating the cost of equity, analysts are inclined to gather and evaluate as much relevant data (both quantitative and qualitative) as can be reasonably obtained. Consistent with the *Hope* finding, "[I]t is the result reached, not the method employed, which is controlling."[31]

### *A. Constant Growth DCF Model*

**Q37. Please describe the DCF approach.**

A37. The DCF approach, which is widely used in regulatory proceedings, is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its simplest form, the DCF model expresses the ROE as the sum of the expected dividend yield and long-term growth rate:

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

[31] Hope *op. cit.*

Where "*k*" equals the required return, "*D*" is the current dividend, "*g*" is the expected growth rate, and "*P*" represents the subject company's stock price.

Assuming a constant growth rate in dividends, the model may be rearranged to compute the ROE accordingly, as shown in Formula [2]:

$$r = \frac{D}{P} + g \qquad [2]$$

Stated in this manner, the cost of common equity is equal to the dividend yield plus the dividend growth rate.

**Q38. What are the assumptions underlying the Constant Growth DCF model?**

A38. The Constant Growth DCF model is based on the following assumptions: (1) a constant average growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings multiple; and (4) a discount rate greater than the expected growth rate.

**Q39. Please summarize your application of the Constant Growth DCF model.**

A39. I calculated DCF results for each of the proxy group companies using the following inputs:

1. Average stock prices for the historical period, over 30, 90, and 180 trading days through December 31, 2021;
2. Annualized dividend per share as of December 31, 2021; and
3. Company-specific earnings growth forecasts for the term g.

My application of the Constant Growth DCF model is provided in **Exh. GMP-JFL-4**.

**Q40. Why did you use averaging periods of 30, 90, and 180 trading days?**

A40. It is important to use an average of recent trading days to calculate the term P in the DCF model to ensure that the calculated ROE is not skewed by anomalous events that may affect stock prices on any given trading day. At the same time, it is important to reflect the conditions that have defined the financial markets over the recent past. In my view, consideration of those three averaging periods reasonably balances those interests.

**Q41. Did you adjust the dividend yield to account for periodic growth in dividends?**

A41. Yes, I did. Utility companies tend to increase their quarterly dividends at different times throughout the year, so it is reasonable to assume that such increases will be evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half of the expected annual dividend growth for the purposes of calculating this component of the DCF model. This adjustment ensures that the expected dividend yield is representative of the coming 12-month period. Accordingly, the DCF estimates reflect one-half of the expected growth in the dividend yield.[32]

**Q42. What sources of growth have you used in your DCF analysis?**

A42. I have used the consensus analyst five-year growth estimates in earnings per share ("EPS") from Thomson First Call and Zacks, as well as EPS growth rate estimates published by Value Line.

[32] The expected dividend yield is calculated as $d_1 = d_0 (1 + ½ g)$.

**Q43. Why did you focus on earnings per share growth?**

A43. The Constant Growth DCF model assumes that dividends grow at a constant rate in perpetuity. Accordingly, in order to reduce the long-term growth rate to a single measure, one must assume a constant payout ratio, and that earnings per share, dividends per share, and book value per share all grow at the same constant rate. Over the long term, however, dividend growth can only be sustained by earnings growth. As noted by Brigham and Houston in their text, *Fundamentals of Financial Management*: "Growth in dividends occurs primarily as a result of growth in *earnings per share* (EPS)."[33] It is therefore important to focus on measures of long-term earnings growth from credible sources as an appropriate measure of long-term growth in the DCF model.

**Q44. Are other sources of dividend growth available to investors?**

A44. Yes, although that does not mean that investors incorporate such estimates into their investment decisions. Academic studies suggest that investors base their investment decisions on analysts' expectations of growth in earnings.[34] I am not aware of any similar findings regarding non-earnings-based growth estimates. In addition, the only forward-looking growth rates that are available on a consensus basis are analysts' EPS growth rates. The fact that earnings growth projections are the only widely accepted

[33] Brigham and Houston, *Fundamentals of Financial Management* (Concise Fourth Edition) at 317. Thomson South-Western. Emphasis added.

[34] *See*, *e.g.*, Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts Growth Forecasts* at 65. Financial Management (Summer 1992); s*ee also* Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History* at 81. The Journal of Portfolio Management (Spring 1988). Please note that while the original study was published in 1988, it was updated in 2004 under the direction of Dr. Vander Weide. The results of that updated study are consistent with Vander Weide and Carleton's original conclusions.

estimates of growth provides further support that earnings growth is the most meaningful measure of growth among the investment community.

**Q45. What are the results of your Constant Growth DCF analysis?**

A45. The results of my Constant Growth DCF analysis are provided in **Exh. GMP-JFL-4** and summarized in Figure 13.

**Figure 10: Constant Growth DCF Results**

| | Mean Low | Mean | Mean High |
|---|---|---|---|
| 30-day average | 8.19% | 9.25% | 10.36% |
| 90-day average | 8.22% | 9.27% | 10.39% |
| 180-day average | 8.17% | 9.23% | 10.34% |

**Q46. How did you calculate the Mean High, Mean Low, and Overall Mean DCF results?**

A46. I calculated the Mean High DCF result using the maximum growth rate (i.e., the maximum of the First Call, Value Line, and Zacks EPS growth rates) in combination with the expected dividend yield for each of the proxy group companies. I used a similar method to calculate the Mean Low DCF results, using the minimum growth rate for each company. The Mean results reflect the average growth rate from each source for each company in combination with the expected dividend yield.

*B. Multi-Stage DCF Model*

**Q47. Have you considered any other forms of the DCF model?**

A47. Yes, in order to address some of the limiting assumptions underlying the constant growth form of the DCF model, I also considered the results of a multi-period (three-stage) DCF model (the "Multi-Stage DCF" model). The Multi-Stage DCF model tempers the assumption of constant growth in perpetuity in the constant growth DCF model with a three-stage approach: near-term, transitional, and long-term growth.

**Q48. Please describe your Multi-Stage DCF analysis.**

A48. My Multi-Stage DCF analysis approaches the ROE from the perspective of an investment in the stock of each of the proxy group companies. The model calculates the internal rate of return of the cash flow stream such that the present value of the annual dividend cash flows exactly equal the average current stock price of the proxy group companies. The model assumes dividends grow according to the assumed growth rate for each stage.

**Q49. Please explain the dividend growth rates in your Multi-Stage DCF analysis.**

A49. The near-term growth rate refers to the Value Line, Thomson First Call (Yahoo! Finance) and Zacks EPS forecasts for Years 1–5, using the mean of these rates as the Overall Mean scenario and the high and low of these rates as Mean High and Mean Low scenarios, respectively. I then transition to a long-term forecast of gross domestic product ("GDP") growth for Years 11 forward. Years 6–10 are linear interpolations of

the near-term and long-term growth rates. The Multi-Stage DCF model is useful for testing the assumption that dividends will grow at a constant growth rate over time.

**Q50. How did you calculate the long-term GDP growth rate?**

A50. The long-term GDP growth rate is based on a real (constant dollar) GDP growth rate, combined with estimates for inflation. I have used two sources of real GDP growth: (1) the consensus Blue Chip Financial Forecast of 2.00%; and (2) the historical real GDP growth rate for the period from 1929-2021 of 3.13%, based on data from the Bureau of Economic Analysis. I have applied the inflation estimate to the estimate of real GDP growth to develop the nominal (i.e., post-inflation) GDP growth rate. I have used two alternative estimates for inflation: (1) the Blue Chip Financial forecast for the Consumer Price Index from 2028-2032 (2.20%); and (2) the 30-day average spread between the 30-year Treasury bond and the 30-year Treasury Inflation-Protected Securities ("TIPS") bond (2.28%), which is an inflation-indexed bond that presents the broader market's view of forward-looking inflation. The results, as shown in **Exh. GMP-JFL-5**, are nominal GDP growth estimates of 4.29% (using projected real GDP growth) and 5.44% (using historical real GDP growth).

**Q51. What are the results of your Multi-Stage DCF analysis?**

A51. The results of my Multi-Stage DCF analysis are provided in **Exh.s GMP-JFL-6.1– GMP-JFL-6.6**, and the mean results are summarized in Figure 11.

**Figure 11: Multi-Stage DCF Results**

| | Mean Low | Mean | Mean High |
|---|---|---|---|
| | **Projected GDP Growth** | | |
| 30-day average | 7.95% | 8.25% | 8.58% |
| 90-day average | 7.98% | 8.28% | 8.61% |
| 180-day average | 7.94% | 8.23% | 8.56% |
| | **Historical GDP Growth** | | |
| 30-day average | 8.89% | 9.18% | 9.50% |
| 90-day average | 8.92% | 9.21% | 9.53% |
| 180-day average | 8.88% | 9.16% | 9.48% |

**Q52. What is your conclusion regarding the results of the Multi-Stage DCF model?**

A52. While the Multi-Stage DCF model allows for the selection of different growth rates in the three stages of the model, like the Constant Growth DCF model, the Multi-Stage DCF model relies on the historic dividend yield (which is low by historical standards). Consequently, as discussed earlier in my testimony, when capital market conditions influence the analysis such that on the surface may appear to be unreasonable, it is important to consider the results of alternative analyses such as the CAPM and Bond Yield Risk Premium analysis which may serve to moderate apparent extremes and develop a reasonable estimate from multiple perspectives of the appropriate equity return.

*C. CAPM Analysis*

**Q53. Please briefly describe the general form of the Capital Asset Pricing Model.**

A53. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium (to compensate investors for the non-diversifiable or "systematic" risk of that security).[35] As shown in Equation [3], the CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

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

where:

$K_e$ = the required ROE for a given security;

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

$\beta$ = the beta of an individual security; and

$r_m$ = the required return for the market as a whole.

The term $(r_m - r_f)$ represents the market risk premium ("MRP"). According to the theory underlying the CAPM, since unsystematic risk can be diversified away, investors should be concerned only with systematic or non-diversifiable risk. Non-diversifiable risk is measured by beta, which is defined as:

[35] Systematic risks are fundamental market risks that reflect aggregate economic measures and therefore cannot be mitigated through diversification. Unsystematic risks reflect company-specific risks that can be mitigated and ultimately eliminated through investments in a portfolio of companies and/or market sectors.

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

where:

$r_e$ = the rate of return for the individual security or portfolio.

The variance of the market return, noted in Equation [4], is a measure of the uncertainty of the general market, and the covariance measures the extent to which the returns on a specific security varies with the market. Thus, beta represents the extent to which a given security will respond to a given change in the market return, and for portfolio investors it reflects the risk that the selected security will not be effective in diversifying systemic market risks.

**Q54. What risk-free rate did you use in your CAPM analysis?**

A54. I have used an average of the Blue Chip forecast quarterly projections of the yield on 30-year Treasury bonds from the first quarter of 2022 to the first quarter of 2023 (5 quarterly projections) to arrive at 2.38% as my estimate of the risk-free rate.[36] I believe this time period is most appropriate as it brings my ROE recommendation up to the period of the base rate filing for 2023 rates.

**Q55. What measures of beta did you use in your CAPM analysis?**

A55. As shown in **Exh. GMP-JFL-7.1**, I considered two measures of beta for the proxy group companies: (1) the reported beta coefficients from Bloomberg (which are calculated using 60 months of weekly data, regressed against the returns of the S&P 500

[36] *Blue Chip Financial Forecasts*, Volume 40, No. 6 at 14 (June 1, 2021).

Index) and yielded a beta of 0.863; and (2) the reported beta coefficients from Value Line (which are calculated using 60 months of weekly data, regressed against the returns of the New York Stock Exchange Index) and yielded a beta of 0.875. Both beta sources employ an adjustment for mean reversion to their raw beta estimate.

**Q56. What Market Risk Premium ("MRP") did you use in your CAPM analysis?**

A56. I conducted a Constant Growth DCF analysis on each of the S&P 500 companies and calculated the expected total market return, weighted by market capitalization. This market return is implied by current stock prices and projected earnings growth for each of these companies as of December 31, 2021. I then used the MRP that results from subtracting the risk-free rate (based on the 5-quarterly projections of the 30-year Treasury bond, or 2.38%) from the total market return. My calculation as shown in **Exh. GMP-JFL-7.2** yielded a market derived ex-ante MRP of 12.42%. This approach to deriving the forward-looking MRP is consistent with the approach used by the Federal Energy Regulatory Commission ("FERC") in developing a forward-looking MRP in Opinion No. 531.[37]

**Q57. What are the results of your CAPM analyses?**

A57. As shown in **Exh. GMP-JFL-7.3**, the CAPM results are 13.09% (using Bloomberg betas) and 13.24% (using Value Line betas), or an average of 13.17%. These forward-looking CAPM results are higher than my Risk Premium results and my DCF results due largely to the increased level of beta which I discussed earlier in my testimony.

[37] FERC Opinion No. 531 at para. 147, footnote 292.

*D. Risk Premium Analysis*

**Q58. Please describe the Risk Premium approach that you used.**

A58. In general terms, this approach recognizes that equity is riskier than debt because equity investors bear the residual risk associated with ownership. Equity investors, therefore, require a greater return (i.e., a premium) than a bondholder would. The Risk Premium approach estimates the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds.

ROE = RP + Y [5]

Where:

RP = risk premium (difference between allowed ROE and the 30-Year Treasury Yield) and

Y = applicable bond yield.

Since the equity risk premium is not directly observable, it is typically estimated using a variety of approaches, some of which incorporate ex-ante, or forward-looking estimates of the cost of equity, and others that consider historical, or ex-post, estimates. For my Risk Premium analysis, I have relied on authorized returns from a large sample of electric utility companies.

**Q59. What did your Risk Premium analysis reveal?**

A59. To estimate the relationship between risk premia and interest rates, I conducted a regression analysis using the following equation:

$RP = a + (b \times Y)$ [6]

where:

*RP* = risk premium (difference between allowed ROEs and the 30-Year Treasury Yield);

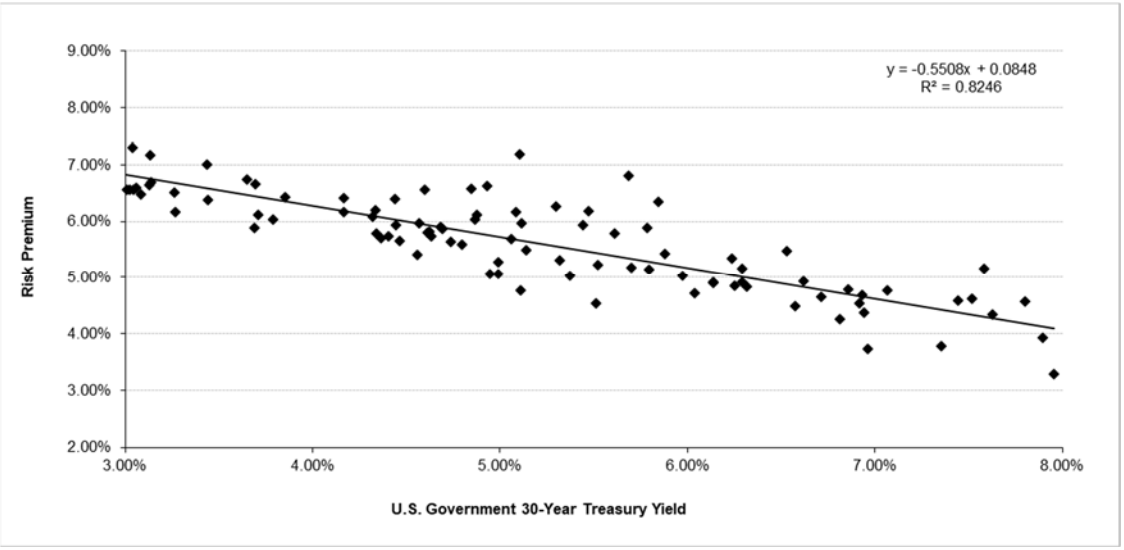
*a* = Intercept term;

*b* = Slope term; and

Y = 30-Year Treasury Yield.

Data regarding allowed ROEs were derived from 732 electric utility company rate cases from January 1992 through December 31, 2021, as reported by Regulatory Research Associates.

**Figure 12: Risk Premium Results**




As illustrated by Figure 12 (above), the risk premium varies with the level of bond yield, and generally increases as the bond yields decrease, and vice versa. In order to apply this relationship to current and expected bond yields, I consider two estimates of

the 30-year Treasury yield, including the current 30-day average and a near-term Blue Chip consensus forecast for Q1 2022 – Q1 2023. Based on the regression coefficients in **Exh. GMP-JFL-8**, which allow for the estimation of the risk premium at varying bond yields, the results of my Risk Premium analysis are shown in Figure 13.

**Figure 13: Risk Premium Results Using 30-Year Treasury Yield**

| | **Using 30-Day Average Yield on 30-Year Treasury Bond** | **Using Q1 2022–Q1 2023 Forecast for Yield on 30-Year Treasury Bond[38]** |
|---|---|---|
| Yield | 1.87% | 2.38% |
| Risk Premium | 7.45% | 7.17% |
| Resulting ROE | 9.32% | 9.55% |

[38] *Blue Chip Financial Forecasts*, Vol. 41, No. 1 at 2 (January 1, 2022).

## VII. Business Risks and Flotation Costs

**Q60. Are there factors specific to GMP's operating environment that you considered in your ROE recommendation?**

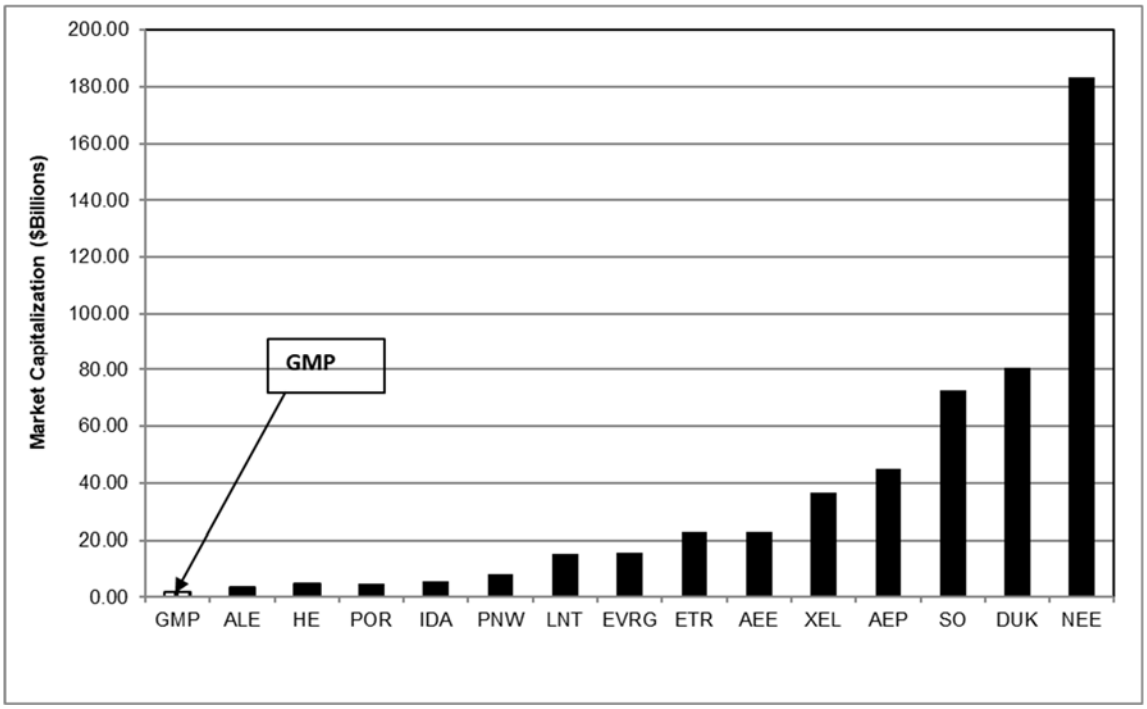
A60. Yes, there are several additional factors that have a direct bearing on GMP's ability to earn a fair return and on GMP's riskiness relative to the proxy group. Those factors include GMP's small size and greater risks relative to the proxy group companies. Those risk factors slightly elevate GMP's risk relative to the proxy group.

### *A. Business Risk*

**Q61. To what extent does GMP's relatively small size affect its risk profile?**

A61. Substantial academic literature recognizes that smaller companies require higher returns than larger companies, even after the relative illiquidity of smaller company stock is taken into account. Figure 14 (see also **Exh. GMP-JFL-9**) shows GMP's implied market capitalization relative to the proxy group companies.

**Figure 14: Market Capitalization of Green Mountain Power vs. Proxy Group**




GMP's small size relative to the proxy group companies means that the Company's earnings and cash flows may be disproportionately affected by declining demand, conservation measures, storm outages, and changes in weather in contrast to a larger utility. Similarly, capital expenditures for non-revenue producing investments such as generation outages, system maintenance, and replacements will put proportionately greater pressure on customer costs. Taken together, these risks affect the return required by investors for smaller companies. As the data above indicates, GMP is very small compared to the proxy group companies used for the ROE analysis which adds risk to GMP's risk profile.

**Q62. Is GMP experiencing declining demand on its distribution system?**

A62. As discussed in GMP's recent forecast report by Itron Inc., residential and small commercial and industrial ("C&I") sales have been declining since 2014; and increases in customers and business activity have been countered by efficiency improvements (both market and program driven) and strong solar market penetration.[39] COVID-19 presented a notable increase in residential load, while C&I load declined. It is expected that these effects will continue to linger but have begun to normalize as workers return to the office. However, by 2023 average residential use begins to turn positive again with the increase in electric sales from state heat pump program and electric vehicle adoption and continues to grow as electric vehicle adoption expands. GMP's rates provide for decoupled sales and power supply costs, which protects GMP against declines in sales volume while, conversely, also protecting customers by removing any marginal revenue benefits from increased sales, particularly in a period of increased electrification. As a result, while GMP's decoupling mechanism limits earnings volatility for GMP, it also protects customers from unexpected volume increases and serves the important purpose of aligning GMP's interests with those of customers and state policymakers.

[39] Itron, Inc., *Green Mountain Power FY 2022 Budget Forecast Report* (April 22, 2021) at 3.

*B. Regulatory Risks*

**Q63. Do credit rating agencies consider regulatory risk in establishing a company's credit rating?**

A63. Yes. The credit rating agencies consider regulatory risk in establishing credit ratings for public utilities. In particular, Moody's has published a report quantifying the importance of this metric. 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 those criteria, regulatory framework and the ability to recover costs and earn returns are each given a broad rating factor of 25%. Therefore, Moody's assigns regulatory risk a 50% weighting in the overall assessment of business and financial risk for regulated utilities.[40]

**Q64. How does the regulatory environment affect a utility's access to and cost of capital?**

A64. The regulatory environment affects 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."[41] Moody's further notes:

> Utility rates are set in a political/regulatory process rather than a competitive or free-market process; thus, the Regulatory Framework is a

[40] Moody's Investors Service, *Regulated Electric and Gas Utilities* (December 23, 2013) at 6.
[41] *Ibid.* at 9.

> key determinant of the success of the utility. The Regulatory Framework has many components: the governing body and the utility legislation or decrees it enacts, the manner in which regulators are appointed or elected, the rules and procedures promulgated by those regulators, the judiciary that interprets the laws and rules and that arbitrates disagreements, and the manner in which the utility manages the political and regulatory process. In many cases, utilities have experienced credit stress or default primarily or at least secondarily because of a break-down or obstacle in the Regulatory Framework – for instance, laws that prohibited regulators from including investments in uncompleted power plants or plants not deemed "used and useful" in rates, or a disagreement about rate-making that could not be resolved until after the utility had defaulted on its debts.[42]

It also is important to recognize that regulatory decisions regarding the authorized ROE and capital structure have direct consequences for the utility's internal cash flow generation (sometimes referred to as "Funds Flow from Operations," or "FFO"). Since credit ratings are intended to reflect a company's ability to fund financial obligations, the ability to internally generate the cash flows required to meet those obligations (and to provide an additional amount for unexpected events) is of critical importance to debt investors.

**Q65. How does GMP's regulatory jurisdiction compare to that of the proxy companies?**

A65. The regulatory environment has generally been constructive, allowing GMP to maintain a healthy financial profile and to pursue innovative electric initiatives for customers. I have performed an analysis that compares the Regulatory Research Associates ("RRA") ranking of the regulatory commissions for each proxy group to the Vermont PUC. RRA performs this ranking based on its assessment of how investors perceive the regulatory

[42] *Ibid.*

risk associated with ownership of utility securities in that jurisdiction, specifically reflecting its assessment of the probable level and quality of earnings to be realized by the State of Vermont's ("State") utilities as a result of regulatory, legislative, and court actions. As shown in **Exh. GMP-JFL-10**, the relative perception of regulatory risk for GMP is very similar to the jurisdictions for the proxy group companies. The Vermont regulatory environment is currently ranked "Average", while the proxy group is also ranked as "Average." Maintaining a fair and reasonable ROE in relation to other jurisdictions will be a key factor in keeping this ranking.

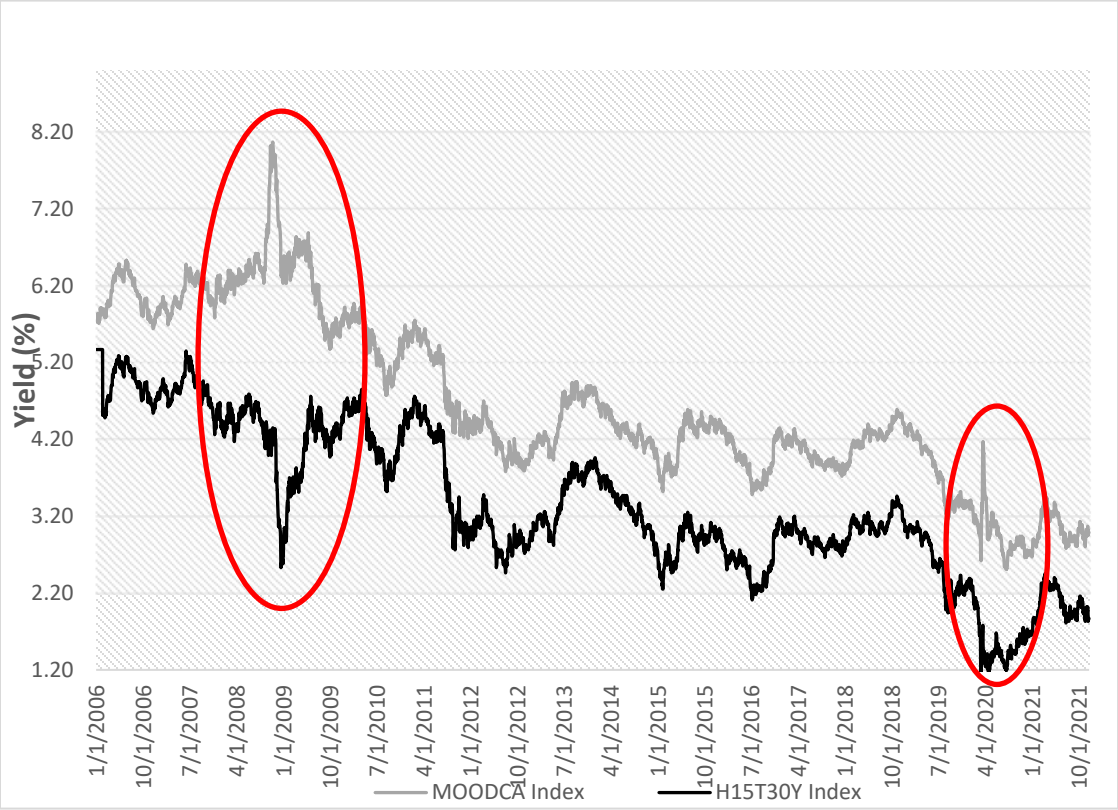
**Q66. Does GMP's ROE Adjustment Mechanism Impacts its Risk Profile?**

A66. In my opinion, it does. The ROE adjustment mechanism is intended to reduce the risk that GMP's ROE becomes unreasonable in the context of a changing capital market environment. As interest rates increase, the ROE adjustor would provide an increase to ROE (50% of the change in 10-year bond yields); and conversely as interest rates decrease, the ROE adjusts downward. However, the problem is that corporate returns on equity simply do not track closely to government bond yields, particularly in times of economic strife and monetary policy intervention. When the government is engaged in economic stimulus, they keep interest rates low, even though corporate credit does not follow suit. In extreme cases, corporate yields and government Treasury yields may actually move in opposite directions. Below is a figure tracking corporate credit and government Treasury yields. As the figure shows, in periods of economic crisis, the yields may become dislocated and move opposite each other. The corporate credit spread element of an ROE formula becomes important during such times since corporate

equity is always riskier than corporate debt and should track corporate debt directionally. In addition, Treasury yields are generally more volatile than corporate bond yields,[43] thus providing opportunities for ROE formulas based entirely on government bond yields to get off track. As mentioned earlier in this testimony, GMP's ROE Adjustor has produced the two lowest ROEs of any vertically integrated electric utility ever. This is a risk that GMP has emphasized in prior cases, and its impact on current ROE levels is evident. However, as noted below, so long as the other critical components of its proposed new regulation plan ("New Plan") remain the same, GMP has indicated that it is willing to accept this risk. Nonetheless, it is an important risk that should be acknowledged.

[43] For example, in the data series listed in Figure 15, 30-year Treasury yields have a coefficient of variation of 0.32, and corporate bonds have a coefficient of variation of 0.27, meaning that Treasurys are slightly more volatile relative to their average.

**Figure 15: 30-Year Treasury Yields vs. Corporate A Bond Yields (2006-present)**




**Q67. Does GMP's proposed New Plan create significant new risk for the Company?**

A67. On balance, no. The New Plan continues important risk mitigation components of the former plan, but there are some proposed modifications in the New Plan that transfer risk to GMP that had traditionally been borne by customers. The New Plan provides for more certainty by fixing a greater share of expenses/and or costs and provides for more aggressive performance targets. In the New Plan, capital expenditures, depreciation charges, and property taxes are largely fixed and will be based on known and measurable amounts from the fiscal year 2023 rate case and subsequent years will be based on budgets provided and approved in the 2023 rate case. Like the former plan,

GMP's capital additions, depreciation and property tax amounts will be held to annual approved expenditure amounts, unless explicitly excepted from such treatment. Similarly, power supply costs are established at the beginning of the New Plan, though there is a power supply adjustor to true up power costs and retail revenue from forecast amounts as there was in the former plan, essentially decoupling power costs and retail revenues. Debt financing costs will be fixed starting in FY24, subject to any additional expenditures approved by the Commission; and equity finance costs continue to be modified in accordance with a formula tied to 50% of the change in the 10-year Treasury. Operations and Maintenance ("O&M") costs will either be fixed for the term of the Plan, adjusted annually by inflation factor; or reforecast annually. The exogenous adjustor account, which recovers significant exogenous costs, continues to include a $1.2M major storm deductible threshold. The Earnings Sharing Adjustment Mechanism is the same as in the former plan, with asymmetrical sharing bands and differing sharing percentages that favor customers when earnings are above the sharing threshold. The New Plan continues the Innovative Pilot Program with small adjustments, provides for Tariffed New Initiatives, and provides an opportunity to submit a Cybersecurity Plan in the future. The New Plan also sets out new performance metrics for fleet electrification and low/moderate income programs.

In the New Plan, there are several instances where GMP has assumed greater risk than in the former plan. For example, in the former plan O&M expenses had been subject to a Merger Savings Platform, which required GMP to return $144M in merger savings to customers, but also obligated it to return any savings above this guaranteed

level to customers in accordance with pre-determined sharing percentages (50% in 2020 and 100% in 2021 and 2022). Under the new approach approximately one-third of O&M costs would be fixed for the term of the Plan, based on a forecast at the beginning of the Plan. An additional one-third of O&M costs will be adjusted annually for inflation, and the final third will be reforecast annually. These are important changes that could create risk if GMP O&M costs exceed its base year forecast (a forecast that extends out three periods beyond the base year, as opposed to two years out in the prior plan) or in the case of an unexpected adverse event. Similarly, the Company has locked in its capital expenditures budget in fiscal year 2023, as well as its debt costs starting in FY24, with some limited exceptions. In addition, the shifting to fixed or locked in costs in the MYRP creates new risk for the Company.

**Q68. Do you anticipate that GMP's risk profile will be impacted by the transition to a new regulatory plan?**

A68. Not significantly, if adopted as proposed, since the New Plan is substantially similar to the former plan, with the exception of the above noted instances where GMP has assumed slightly more risk. However, none of the above-mentioned proposals will significantly impact GMP's risk profile. Given the generally constructive regulatory environment, I would not expect the transition to a new regulatory plan to impact GMP's risk profile. As I stated earlier in my testimony, my recommendations are based on the assumption that GMP will have the same level of regulatory and credit support during the rate period as it does currently.

**Q69. What do you conclude with respect to GMP's regulatory risk relative to the proxy group?**

A69. In the areas I evaluated, GMP has greater business risk than the proxy group, due primarily to its small size, the continued loss of load from behind-the-meter generation and efficiency measures during the rate period, and the shifting of risk to GMP by locking in elements of its new Multi-Year Plan. Further, there is a systemic gap between the equity return that GMP is allowed versus that which is actually earned from an equity investor perspective. The inability in the past to earn a return on construction work in progress, the exclusion of certain operating expenses from consideration in rates, the earnings sharing and power supply deadbands, as well as the $1.2 million major storm deductible, all are not recovered through rates and serve to reduce earnings below that which is allowed by the Commission. For example, in 2021, when all costs are considered, GMP's actual earned ROE is 105 bps lower than its allowed ROE, i.e.,7.05% vs. 8.20%.[44] I do not, however, propose an explicit risk adjustment, but provide this example to illustrate the risk already present, which GMP has assumed in its proposed New Plan. If the Commission were to approve a plan with significantly changed regulatory protections, or if the transition to a new Multi-Year Plan brings unexpected risks, GMP's decision to accept its current ROE rather than the ROE shown by my recommendation would need to be re-evaluated in the context of the New Plan.

[44] GMP's Fiscal Year 2021 ESAM Annual Report (November 29, 2021) at 2. Report No. 21A-5079.

*C. Flotation Costs*

**Q70. What are flotation costs and how do they affect the cost of capital?**

A70. 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 costs of issuance of common stock. 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 diminishing the utility's ability to attract adequate capital on reasonable terms. To appropriately reflect flotation costs, the DCF calculation should be modified to provide a dividend yield that would reimburse investors for issuance costs. Based on the proxy group issuance costs shown in **Exh. GMP-JFL-11.1**, I conclude that flotation costs for the proxy companies have equaled roughly 2.08% of gross equity raised; and to properly reflect these issuance costs in my cost of capital estimates, it would be appropriate to increase ROE by seven basis points for GMP, as shown on **Exh. GMP-JFL-11.2**.

**Q71. Do your final results include an adjustment for flotation cost recovery?**

A71. 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 DCF, CAPM, and Risk Premium analyses.

## VIII. Capital Structure

**Q72. What is GMP's historical and proposed capital structure?**

A72. The Company is currently authorized a common equity ratio of 49.80% and is proposing in this proceeding that its regulatory capital structure allow 50.0% equity (plus or minus 1%).

**Q73. How does the capital structure affect the cost of equity?**

A73. The capital structure relates to a company's financial risk, which represents the risk that a company may not have adequate cash flows to meet its financial obligations and is a function of the percentage of debt (or financial leverage) in its capital structure. In that regard, as the percentage of debt in the capital structure increases, so do the fixed obligations for the repayment of that debt. Consequently, as the degree of financial leverage increases, the risk of financial distress (i.e., financial risk) also increases.[45] Since the capital structure can affect a company's overall level of risk, it is an important consideration in establishing the rate of return.

**Q74. How did you assess the reasonableness of GMP's capital structure with respect to the proxy group?**

A74. The proxy group has been selected to reflect comparable companies in terms of business and financial risks. Therefore, it is appropriate to compare the capital structures of the proxy group companies to that of GMP in order to assess whether the Company's capital structure is reasonable and consistent with industry standards for companies with

[45] *See* Morin, *New Regulatory Finance* at 45–46. Public Utility Reports, Inc. (2006).

commensurate risk. I calculated the weighted average capital structures for each of the proxy group operating companies on a quarterly basis for the four quarters through Q2 2021. As shown in **Exh. GMP-JFL-12**, the Company's historical common equity ratio of approximately 50% is slightly below the mean common equity ratio for the proxy group operating companies over this period.

**Q75. What is your conclusion regarding the appropriateness of GMP's capital structure in this proceeding?**

A75. Based on the analysis presented in **Exh. GMP-JFL-12**, my conclusion is that a capital structure for GMP of 53.0 to 54.0% would be appropriate. GMP's proposed equity ratio of 50.0% is below the mean and median of the proxy group companies but is within the range of proxy group equity ratios and is reasonable but conservative, given the additional risk borne by the Company relative to the proxy group.

## IX. Conclusions and Recommendation

**Q76. What is your conclusion regarding a fair ROE for GMP?**

A76. Based on the quantitative analyses provided in my testimony, I have established a range of ROE results shown in Figure 16 (below). I consider a reasonable range of ROE for GMP to be between the mean of all methods on the lower end, and the mean high result on the upper end. In creating this range, I average the Multi-Stage and Constant Growth DCF approaches to obtain a single average DCF result that is averaged with the results of my CAPM and Bond Yield Risk Premium Methodologies. I have looked to the lower end of my range for my recommendation as I believe this provides an appropriate weighting of my DCF results in today's economic conditions, when utility valuations are unusually high and results from the DCF model are low and utility betas are high and results from the CAPM model are quite high. The resulting reasonable range is 10.25 to 10.76%. I recommend an ROE of 10.25% based on this analysis.

**Figure 16[46]: Summary of ROE Analyses Results**

| Constant Growth DCF | | | |
|---|---|---|---|
| | Mean Low | Mean | Mean High |
| 30-Day Average | 8.19% | 9.25% | 10.36% |
| 90-Day Average | 8.22% | 9.27% | 10.39% |
| 180-Day Average | 8.17% | 9.23% | 10.34% |
| **Average** | **8.19%** | **9.25%** | **10.36%** |
| **Multi-Stage DCF - Forecasted GDP Growth** | | | |
| | Mean Low | Mean | Mean High |
| 30-Day Average | 7.95% | 8.25% | 8.58% |
| 90-Day Average | 7.98% | 8.28% | 8.61% |
| 180-Day Average | 7.94% | 8.23% | 8.56% |
| **Average** | **7.95%** | **8.25%** | **8.58%** |
| **Multi-Stage DCF - Historical GDP Growth** | | | |
| | Mean Low | Mean | Mean High |
| 30-Day Average | 8.89% | 9.18% | 9.50% |
| 90-Day Average | 8.92% | 9.21% | 9.53% |
| 180-Day Average | 8.88% | 9.16% | 9.48% |
| **Average** | **8.90%** | **9.18%** | **9.50%** |
| **Overall DCF Average Result** | **8.35%** | **8.90%** | **9.48%** |
| **Capital Asset Pricing Model** | | | |
| | Bloomberg Beta | | Value Line Beta |
| CAPM | 13.09% | | 13.24% |
| **Overall CAPM Average Result** | **13.17%** | | |
| **Treasury Yield Plus Risk Premium** | | | |
| | Current 30-day Average Treasury Bond Yield | Near-Term Blue Chip Forecast Yield | Near-Term Blue Chip Forecast Yield |
| Risk Premium Analysis | 9.32% | | 9.55% |
| **Overall RP Average Result** | **9.44%** | | |
| **Average of Results** | | | |
| | **Mean Low** | **Mean** | **Mean High** |
| **All Methods** | **10.25%** | **10.50%** | **10.76%** |

**Q77. Does this conclude your prefiled direct testimony?**

A77. Yes, it does.

[46] A similar summary is also provided in **Exh. GMP-JFL-2**.