Rocky Mountain Power
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Direct Testimony of Ann E. Bulkley

May 2020

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

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

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

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

Q. On whose behalf are you submitting this direct testimony?

A. I am submitting this direct testimony before the Utah Public Service Commission ("Commission") on behalf of PacifiCorp d/b/a Rocky Mountain Power ("RMP" or the "Company"), which is an indirect wholly owned subsidiary of Berkshire Hathaway Energy ("BHE").

Q. Please describe your education and experience.

A. I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University, with more than 20 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes. I have included my resume and a summary of testimony that I have filed in other proceedings as Exhibit RMP___(AEB-1) to this testimony.

Q. Have you previously testified before the Commission or other regulatory authorities?

A. Yes. A list of proceedings in which I have provided testimony is also provided in Exhibit RMP___(AEB-1) to this testimony.

II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

Q. What is the purpose of your direct testimony?

A. The purpose of my direct testimony is to present evidence and provide a recommendation regarding the appropriate Return on Equity ("ROE") for RMP's electric utility operations in Utah and to provide an assessment of its proposed capital structure to be used for ratemaking purposes.[1] My analyses and recommendations are supported by the data presented in Exhibit RMP___(AEB-2) through Exhibit RMP___(AEB-11), which were prepared by me or under my direction.

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

A. As discussed in more detail in Section VII, I applied the Constant Growth and Projected forms of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), the Empirical Capital Asset Pricing Model ("ECAPM"), the Risk Premium Approach, and the Expected Earnings Analysis. My recommendation also takes into consideration: (1) RMP's capital expenditure requirements; (2) the regulatory environment in which RMP operates; and (3) RMP's planned investments in renewable generation assets compared to its current generation portfolio. Finally, I considered RMP's proposed capital structure as compared to the capital structures of the proxy

[1] Throughout my direct testimony, I interchangeably use the terms "ROE" and "cost of equity".

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

Q. How is the remainder of your direct testimony organized?

A. Section III provides a summary of my analyses and conclusions. Section IV reviews the regulatory guidelines pertinent to the development of the cost of capital. Section V discusses current and projected capital market conditions and the effect of those conditions on RMP's cost of equity in Utah. Section VI explains my selection of a proxy group of electric utilities. Section VII describes my analyses and the analytical basis for the recommendation of the appropriate ROE for RMP. Section VIII provides a discussion of specific regulatory, business, and financial risks that have a direct bearing on the ROE to be authorized for RMP in this case. Section IX assesses the proposed capital structure of RMP as compared with the capital structures of the utility operating subsidiaries of the proxy group companies. Section X presents my conclusions and recommendations for the market cost of equity.

III. SUMMARY OF ANALYSES AND CONCLUSIONS

Q. What is your recommended ROE for RMP?

A. Based on the analytical results presented in Figure 1 below, and considering the level of regulatory, business, and financial risk faced by RMP's electric operations in Utah relative to the proxy group, I believe a range from 9.75 percent to 10.25 percent is reasonable. This recommendation reflects the range of results for the proxy group companies, the relative risk of RMP's electric operations in Utah as compared to the

[2] The selection and purpose of developing a group of comparable companies will be discussed in detail in Section VI of my direct testimony.

proxy group, and current capital market conditions. Within that range, a return of 10.20 percent is reasonable.

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

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

- The *Hope* and *Bluefield* decisions that established the standards for determining a fair and reasonable allowed ROE, including consistency of the allowed return with other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and the capacity of the result to lead to just and reasonable rates.[3]
- The effect of current and projected capital market conditions on investors' return requirements.
- The results of several analytical approaches that provide a range of estimates of the cost of equity for RMP.
- RMP's regulatory, business, and financial risks relative to the proxy group of comparable companies and the implications of those risks.

Q. Please explain how you considered those factors.

A. I relied on several analytical approaches to estimate RMP's cost of equity based on a proxy group of publicly traded companies. As shown in Figure 1, those ROE estimation models produce a wide range of results. My conclusion about where within that range of results RMP's ROE falls is based on RMP's business and financial risk relative to the proxy group. Although the companies in my proxy group are generally comparable

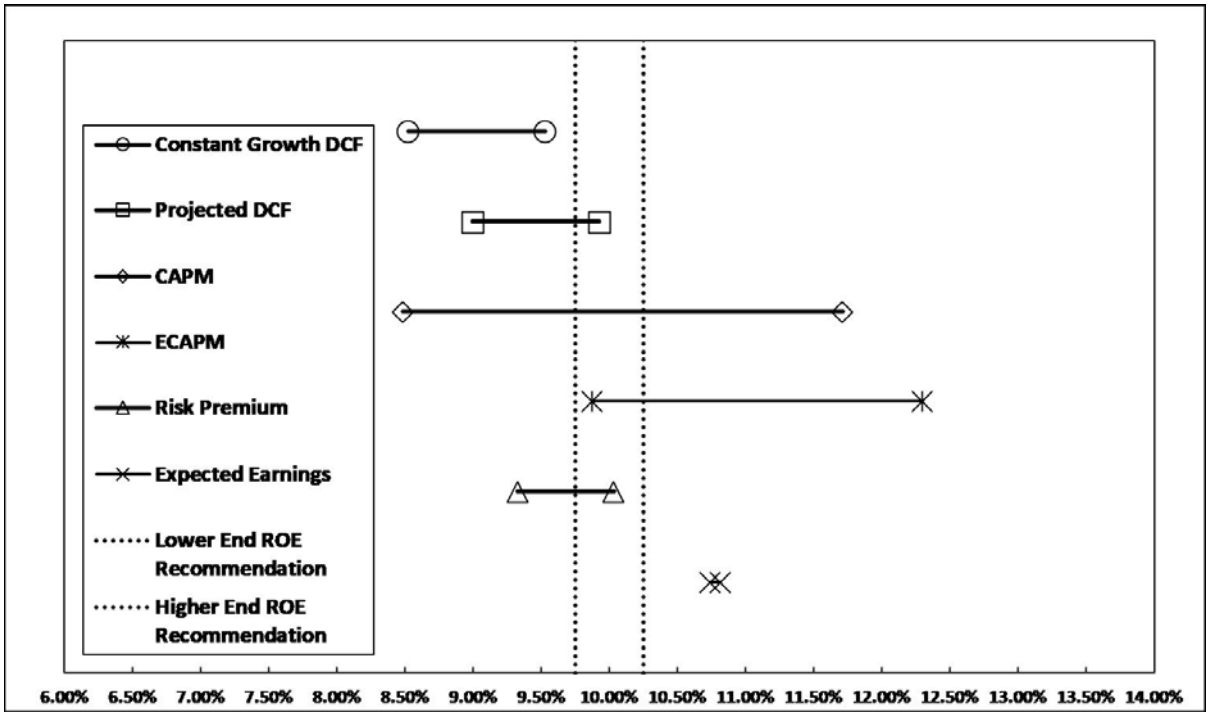
[3] *Fed. Power Comm'n v. Hope Natural Gas Co*., 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co. v. Public Serv. Comm'n of W. Virginia*, 262 U.S. 679 (1923).

to RMP, each company is unique, and no two companies have the exact business and financial risk profiles. Accordingly, I selected a proxy group with similar, but not identical risk profiles; and I adjusted the results of my analysis either upward or downward within the reasonable range of results to account for any residual differences in risk.

Q. Please summarize the results of the ROE estimation models that you considered to establish the range of ROEs for RMP.

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

Figure 1: Summary of Cost of Equity Analytical results[4]



As shown in Figure 1 (and in Exhibit RMP___(AEB-4)), the range of the DCF model results is below the results of the other methodologies. While it is common to consider

[4] The analytical results reflect the results of the Constant Growth and Projected DCF analyses excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

multiple models to estimate the cost of equity, it is particularly important when the range of results for the DCF diverges from the results of other prominent cost of equity estimation models.

Furthermore, as shown in Exhibit RMP___(AEB-4), the mean low Constant Growth DCF results (prior to exclusions for outliers) for the proxy group, range from 7.72 percent to 7.96 percent for the 30-, 90-, and 180-day assumption.[5] Thus, the mean low Constant Growth DCF results are below any authorized ROE for an electric utility or natural gas utility in the U.S. since at least 1980.[6] Therefore, I conclude that the mean low DCF results do not provide a sufficient risk premium to compensate equity investors for the residual risks of ownership, including the risk that they have the lowest claim on the assets and income of RMP.

Although I have concerns about the results produced by the DCF models, my ROE recommendation considers the range between the mean and mean-high results of the DCF models. In addition, I consider the results of forward-looking CAPM and ECAPM analyses, a Bond Yield plus Risk Premium analysis, and an Expected Earnings analysis. I also consider company-specific risk factors, and current and prospective capital market conditions.

Q. Please summarize the analysis you conducted in determining that RMP's requested capital structure is reasonable and appropriate.

A. Based on the analysis presented in Section IX of my testimony, I conclude that RMP's proposed 53.67 percent common equity is reasonable. To make this determination, I

[5] My DCF models generated a mean low, mean, and mean high result. The mean low result is the mean of the proxy group DCF results calculated using the lowest earnings growth rate for each company from Value Line, Yahoo! Finance or Zacks.

[6] Source: Regulatory Research Associates, Rate Case History, January 1, 1980 - March 31, 2020.

reviewed the capital structures of the utility subsidiaries of the proxy companies. As shown in Exhibit RMP___(AEB-11), the results of that analysis demonstrate that the average equity ratios for the utility operating companies of the proxy group range from 47.49 percent to 61.54 percent with an average of 52.73 percent. RMP's proposed common equity ratio of 53.67 percent closely approximates the average equity ratio for the utility operating subsidiaries of the proxy group companies and is well below the high-end of the range. Moreover, RMP's proposed common equity ratio is reasonable considering that federal tax reform legislation has had a negative effect on the cash flows and credit metrics of regulated utilities.

Furthermore, a fundamental aspect of the financial regulation of utilities is the assurance that the subject utility has a reasonable opportunity to earn a return on capital consistent with the return available on investments of similar risk. While this principle is most often discussed in terms of the allowed ROE, it is equally applicable to all aspects of the overall Rate of Return ("ROR"). The equity return, which is the product of the ROE and the equity ratio, (*i.e.*, the Weighted Return on Equity ("WROE")), ultimately defines the return to shareholders, and the product of the cost of debt and the debt ratio ensures that a company's debt obligations are met. Therefore, it is necessary to consider both the rates that are applied to debt and equity and the composition of the capital structure to determine the reasonableness of the ROR. Taken together, RMP's proposed common equity ratio of 53.67 percent and its requested ROE of 10.20 percent, result in a WROE of 5.47 percent. This return reasonably balances the interests of customers and shareholders by enabling RMP to

maintain its financial integrity and therefore its ability to attract capital at reasonable terms and conditions under a variety of economic and financial market conditions.

IV. REGULATORY GUIDELINES

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

A. The United States Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the standards for determining the fairness or reasonableness of a utility's allowed ROE. Among the standards established by the Court in those cases are: (1) consistency with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and access to capital; and (3) that the result, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[7]

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

A. Yes. In a 2002 Questar Gas Company rate case, the Commission stated that:

> We are guided by U. S. Supreme Court decisions in the *Hope* (*FPC v. Hope Natural Gas Company*, 320 US 591 (1944)) and the *Bluefield* (*Bluefield Water Works v. PSC*, 262 US 659 (1923)) cases. From them, we learn that our rate-of-return decision should give investors the opportunity to earn a return on an investment in the Company comparable to the return the investor might earn in other investments of similar risk, and it should be a return sufficient to attract capital on reasonable terms and to maintain a financially viable utility. This points to the importance of an analysis of risk, and to the selection of comparable companies for that purpose. Investors' required return, the opportunity cost of capital, is thus the utility's cost of capital.
>
> In prior rate-of-return decisions, this Commission has been concerned to state that rate-of-return analysis is a subjective exercise, even though use of financial models conveys an appearance of objectivity.

[7] *Hope,* 320 U.S. 591; *Bluefield*, 262 U.S. 679.

> Applying these models requires judgment at each important step and with this role for judgment comes the possibility of bias. We repeat this here not as criticism but to indicate how important it is for us to ascertain that each witness's judgments are finely and carefully made. Considered in this light, financial model analysis will provide a good framework for analysis and a useful means of organizing relevant information, but not objective cost-of-equity estimates. Assessment of other, including qualitative, information is necessary. (*Bluefield*, directing the Commission to "exercise. . . fair and enlightened judgment, having regard to all relevant facts. . . ," and stating that, "A rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally.")[8]

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

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

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

[8] *In the Matter of the Application of Questar Gas Company for a General Increase in Rates and Charges,* Docket No. 02-057-02, Report and Order, at 20-21 (December 30, 2002).

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

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

Q. Has the Commission considered the authorized ROEs in other jurisdictions?

A. Yes. In its Order in Docket No. 13-057-05 for Questar Gas Company, the Commission referenced authorized ROEs by other jurisdictions as support for an authorized ROE that was greater than the proposals recommended by the Office of Consumer Services and the Division of Public Utilities:

> In light of the evidence discussed above, we find that Questar's request for continuation of its currently authorized 10.35 percent return on equity is not justified. While we decline to grant Questar's request to maintain a 10.35 percent return on equity, we also find the evidence of record shows a 9.25 or 9.45 return on equity is too low to support properly Questar's operations. In surrebuttal testimony, the Division's witness provides 2013 authorized returns on equity for natural gas distribution companies through December 27, 2013, resulting in a range from 9.08 percent to 10.25 percent, with a mean of 9.66 percent. When looking at authorized returns on equity for the last quarter of 2013, there appears to be an upward trend in authorized returns on equity with an average authorized return on equity of 9.81 percent.

> These data support a return on equity that is meaningfully higher than the proposals of the Office and the Division. Moreover, this conclusion is consistent with the range of model results presented by the various expert witnesses.[9]

Thus, the Commission has considered the returns that have been authorized nationally in prior rate cases and should continue to consider nationally authorized returns in the current case for RMP.

Q. What are your conclusions regarding regulatory guidelines?

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

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

[9] *In the Matter of the Application of Questar Gas Company to Increase Distribution Rates and Charges and to Make Tariff Modifications,* Docket No. 13-057-05, Report and Order, at 34 (February 21, 2014).

with similar risk. To the extent RMP is authorized to earn its market-based cost of capital, the proper balance is achieved between customers' and shareholders' interests.

V. CAPITAL MARKET CONDITIONS

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

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

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

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

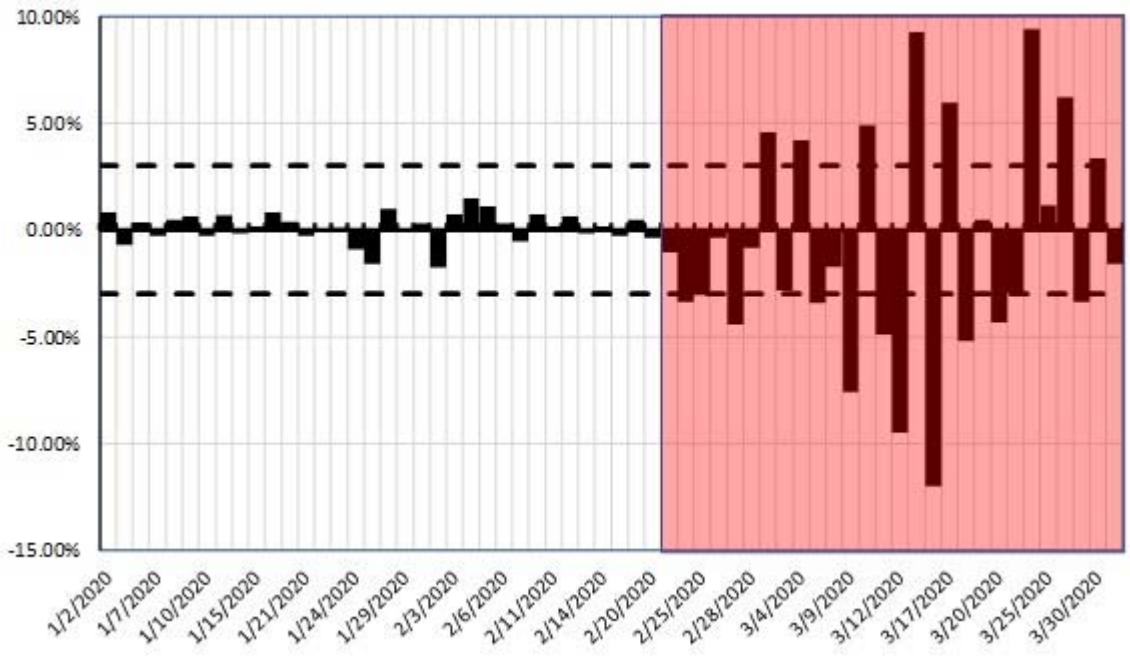
A. The cost of equity for regulated utility companies is being affected by several factors in the current and prospective capital markets, including: (1) the current market volatility has created a short-term aberration in the market which must be carefully considered when selecting the inputs for the ROE estimation models; 2) utility stock valuations, which are inversely related to dividend yields, are currently unsustainably high given investors demand for defensive sectors during the short-term market dislocation; and (3) recent Federal tax reform. 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. Current Market Conditions

Q. Please summarize current market conditions.

A. In 2020, market conditions have been extremely volatile. In January and early February 2020, major market indices were generally increasing, many reaching new threshold levels. By mid-February, as the global health pandemic became more apparent, market conditions became increasingly more volatile. In mid-February utility stock prices reached an all-time high, followed by a significant decline in the overall market and utility stocks. Market conditions in March 2020 were more volatile than the last half of February. As shown in Figure 2 below, the Standard & Poor's ("S&P") 500 Index swung more than 3 percent in 16 of the 22 trading days in the month of March.

Figure 2: S&P 500 Index - Daily Price Change - January-March 2020

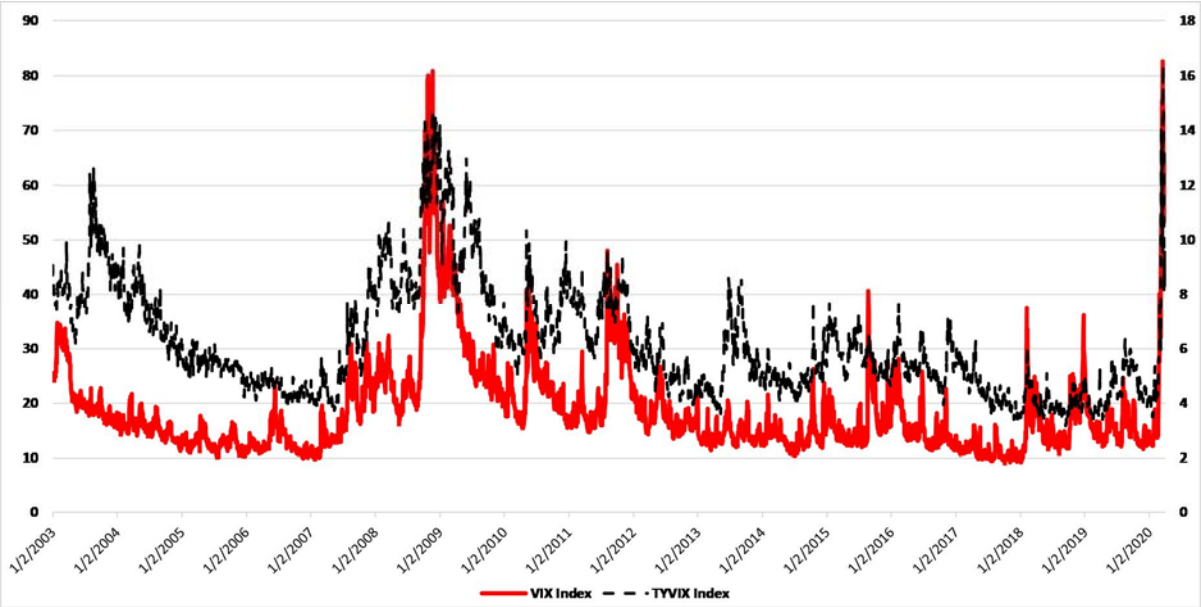


Q. Have you reviewed any other indicators that measure volatility in the financial markets?

A. Yes, I reviewed two other measures of volatility in financial markets, which are the Chicago Board Options Exchange ("CBOE") Volatility Index ("VIX") and the U.S. Treasury Note Volatility Index ("TYVIX"). The VIX measures investors' expectation of volatility in the S&P 500 over the next 30 days. The TYVIX, also published by CBOE, measures investors' expectation of volatility in the 10-year Treasury Bond over the next 30 days. As shown in Figure 3, the VIX and TYVIX have recently reached levels not seen since the Great Recession of 2008/09. For example, the VIX was 82.69 on March 16, 2020. The VIX has not reached 80.00 since November of 2008; however, it is important to note that the highest level reached during the Great Recession of 2008/09 was 80.86. Similarly, the TYVIX was 16.39 on March 19, 2020. Since at least January 2003, the TYVIX has never exceeded 15.00, including during the Great

Recession of 2008/09. These indicators show that COVID-19 has caused an increase in the level of uncertainty in the market even greater than in the Great Recession of 2008/09.

Figure 3: CBOE VIX and TYVIX - January 2003 - March 2020



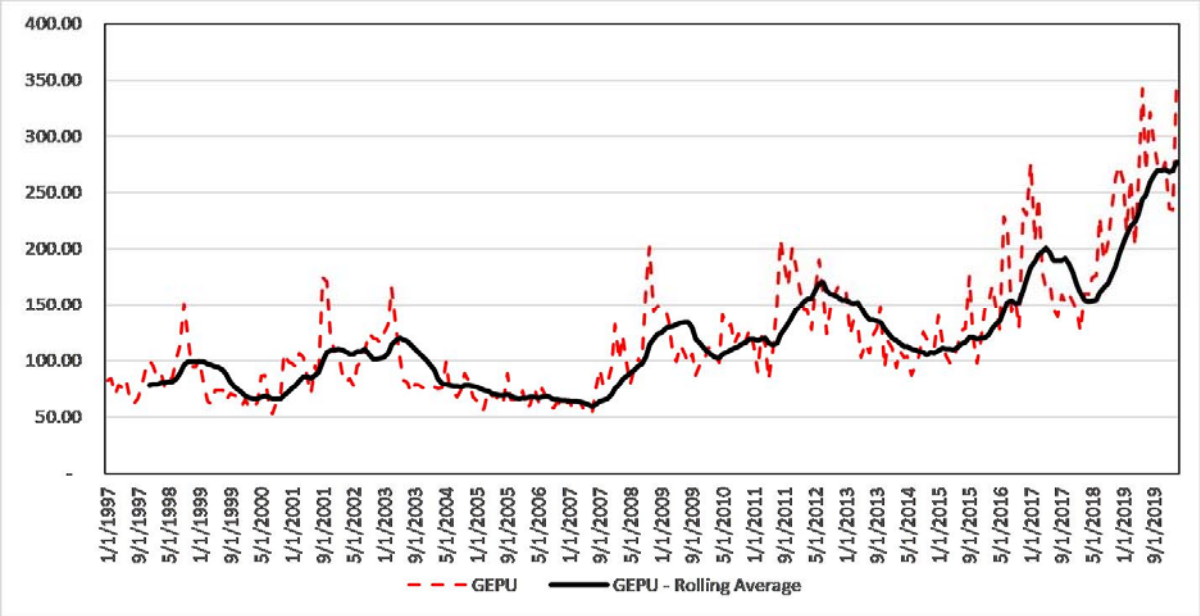
Q. Have you reviewed any indicators that measure the uncertainty in the global economy related to COVID-19?

A. Yes, I have. I reviewed the global economic policy uncertainty index developed by economists Scott Baker, Nicholas Bloom, and Steven Davis. The index is a GDP-weighted average of the economic policy uncertainty index of 21 countries. The economic policy uncertainty index measures the frequency that articles in publications of a country discuss economic policy uncertainty.[10] As shown in Figure 4, uncertainty regarding global economic policy is at its highest level since at least 1997, with the

[10] Source: Economic Policy Uncertainty: https://www.policyuncertainty.com/index.html.

largest increase occurring in the last two years as a result of the escalating trade dispute between the U.S. and China and the spread of COVID-19.

Figure 4: Global Economic Policy Uncertainty Index

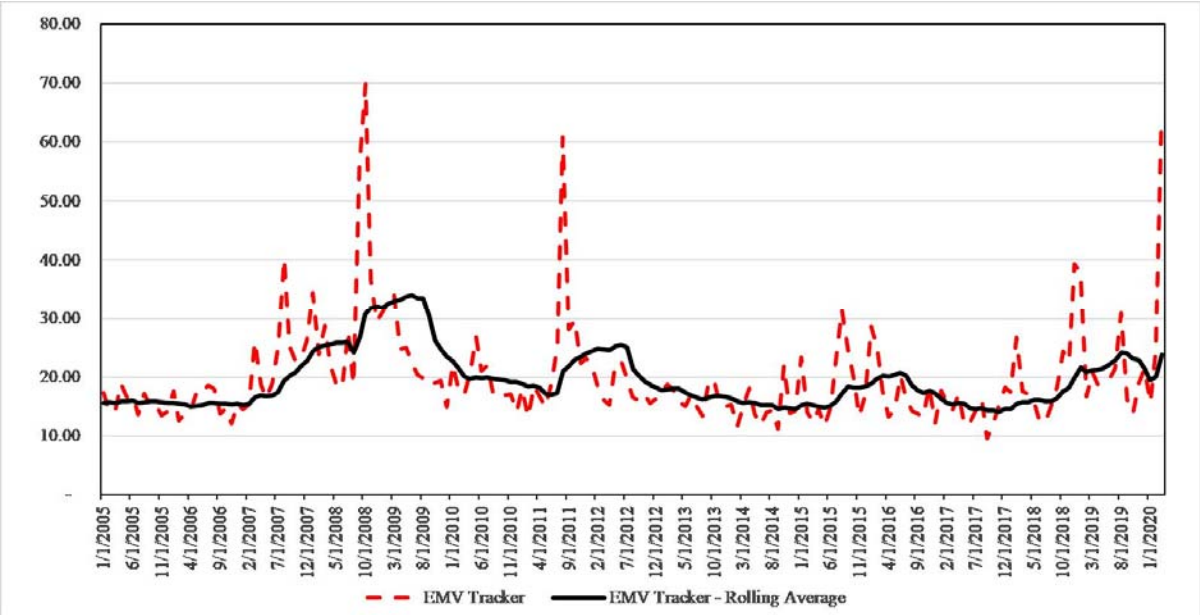


Q. Has the increased global economic uncertainty resulted in increased volatility in financial markets?

A. Yes, it has. As shown in Figure 3 above, the VIX is currently at levels exceeding the Great Recession of 2008/09. However, in addition to the VIX, I also reviewed the U.S. equity market volatility index which similar to the global economic policy uncertainty index is an index developed by Scott Baker, Nicholas Bloom and Steven Davis from the National Bureau of Economic Research. The U.S. equity market volatility index measures the frequency that articles in U.S. publications discuss equity market volatility. In addition, this index tracks VIX and realized volatility of returns on the S&P 500. As shown in Figure 5, the U.S. equity market volatility index has recently increased to its highest level since at least 2011. The increase in the index between 2017 and 2020 can be attributed to recent external events, such as the trade war between the

U.S. and China and COVID-19 as investors have become increasingly concerned regarding the short-term effects that these events may have on the U.S. economy.

Figure 5: US Equity Market Volatility Index



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

A. Yes. S&P recently downgraded the outlook on the entire North American utilities sector indicating that 25 percent of the industry was previously on a negative outlook or CreditWatch with negative implications and that S&P expected that COVID-19 would create incremental pressure and that a recession would lead to an increasing number of downgrades and negative outlooks.[11]

Q. How has the recent uncertainty in the market affected the yields on long-term government bonds?

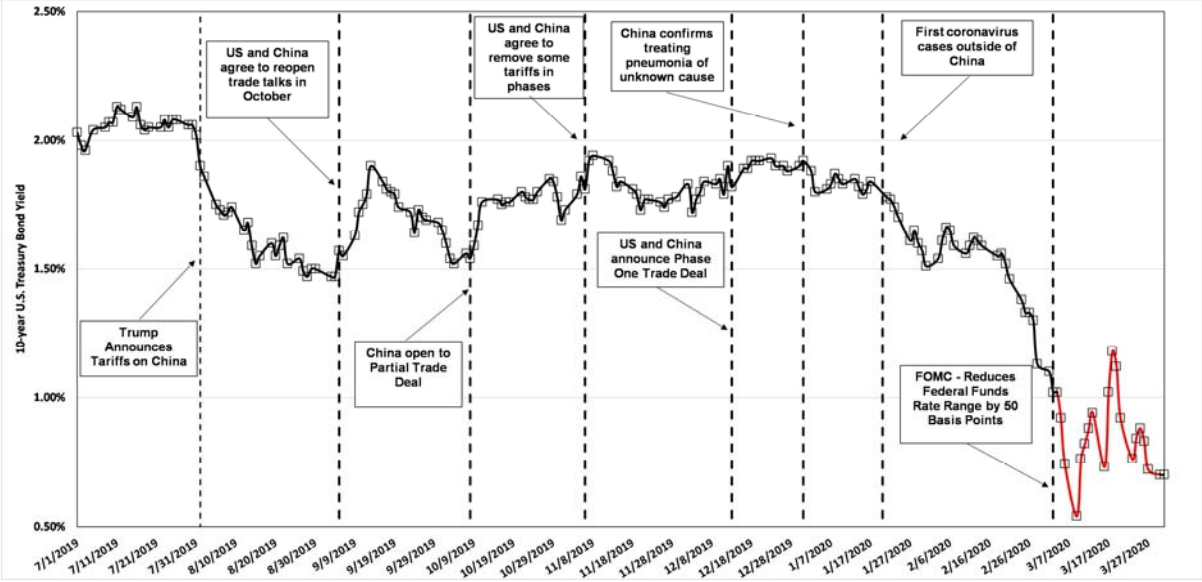
A. The uncertainty surrounding the trade dispute between the U.S. and China and the

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

spread of COVID-19 has resulted in a flight-to-quality as investors have purchased safer assets such as U.S. Treasuries due to increased fears of a possible recession. This has been increasingly evident over the past few months as investors responded to news of increases in tariffs by both China and the U.S. and the number of coronavirus cases outside of China as the effects of the virus spread globally.

To illustrate the recent reactions of investors, I conducted an event study of the yield on the 10-year U.S. Treasury bond between July 1, 2019, and March 31, 2020. As shown in Figure 6, investors responded to both positive and negative developments regarding the trade dispute with China as well as policy announcements from the Federal Reserve. As a result, the yield on the 10-year Treasury Bond has fluctuated between 1.50 percent and 2.00 percent between July and December 2019. However, recently investors have become increasingly concerned with the economic effects of the spread of COVID-19. As a result, the yield on the 10-year Treasury Bond fell to a low of 0.54 percent as of March 9, 2020. Since March 9th, the 10-year Treasury Bond yield has experienced extreme volatility as it has ranged from 0.70 percent to 1.18 percent as investors respond to both positive and negative news regarding the spread of COVID-19 and its economic effects. Therefore, the emergence of COVID-19 in China and subsequent spread across the globe has resulted in unprecedented volatility in the markets.

Figure 6: 10-year U.S. Treasury Bond Yield



Q. What are your conclusions regarding the recent market volatility and its effect on the cost of equity for RMP?

A. As discussed above, investors have responded to the recent escalation in the trade war between the U.S. and China and more recently the spread of COVID-19 by divesting higher-risk assets and purchasing lower-risk assets such as U.S. Treasury bonds or defensive sector equites such as utilities. Furthermore, the constant news regarding the spread of COVID-19 and its economic effects has resulted in an abundance of information for investors to consider. This has resulted in unprecedented volatility in financial markets as investors have rotated in and out of various asset classes responding to both positive and negative developments. Therefore, ROE estimation models which rely on recent market data must be interpreted with extreme caution. For example, the Constant Growth DCF model relies on the average share prices for the proxy companies, which have been extremely volatile in the last several months and are not likely representative of what should be expected during the period that RMP's

rates will be in effect. This highlights two key factors that must be considered when determining the ROE for RMP: (1) current and prospective market conditions should be considered when determining where among the range of results RMP's ROE should fall, and (2) where possible it is necessary to consider projected market data in each of the models which reflect economists' expectations for the market conditions that will exists during the period that RMP's rates will be in effect.

B. The Effect of Market Conditions on Valuations

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

A. The Federal Reserve held a meeting on March 15, 2020, and acknowledged that the recent spread of COVID-19 poses increased risks to economic activity in the U.S. and therefore lowered the federal funds rate by 100 basis points, which resulted in a range of 0.00 percent to 0.25 percent.[12] This is the second unscheduled meeting to occur in March with the first occurring on March 3rd when the Federal Reserve decreased the federal funds rate by 50 basis points. In addition to the reduction in the federal funds rate, the Federal Reserve also announced plans to increase its holdings of both Treasury and mortgage-backed securities.[13] It is important to view the recent Fed policy decisions in the context of the reactions to global exogenous events in particular COVID-19. The recent spread of COVID-19 has affected the global economy and caused a rise in volatility in the financial markets; thus, the Federal Reserve reacted by reducing the federal funds rate to minimize the effect of COVID-19 on the U.S.

[12] FOMC, Federal Reserve Press Release, March 15, 2020, at 1.
[13] *Id.,* at 2.

economy. During a recent webinar for the Brookings Institute, Chairman Powell noted the following regarding the length of the effects of COVID-19:

> When the virus does run its course and it's safe to go back to work and it's safe for businesses to open, then we would expect there to be a fairly quick rebound. I think most people expect that to happen in the second half of this year after the second quarter. To try to be precise about where that will be, I don't think that would be appropriate.[14]

Q. How has the Federal Reserve's monetary policy affected capital markets in recent years?

A. Extraordinary and persistent federal intervention in capital markets artificially lowered government bond yields after the Great Recession of 2008-2009, as 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. As a result of very low or zero returns on short-term government bonds, yield-seeking investors have been forced into longer-term instruments, bidding up prices and reducing yields on those investments. As investors have moved along the risk spectrum in search of yields that meet their return requirements, there has been increased demand for dividend-paying equities, such as natural gas and electric utility stocks.

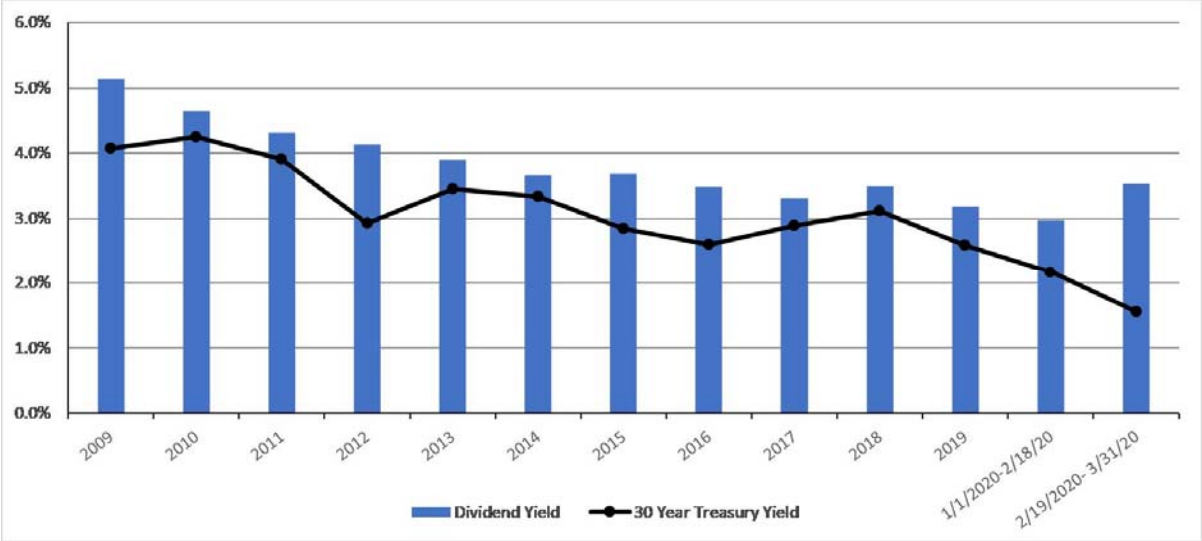
Q. How have recent market conditions affected the valuations and dividend yields of utility shares?

A. The Federal Reserve's accommodative monetary policy has caused investors to seek alternatives to the historically low interest rates available on Treasury bonds. A result

[14] Cox, Jeff. "Powell Says the Economic Recovery Can Be 'Robust' after the Coronavirus Is Contained." CNBC, CNBC, 9 Apr. 2020, www.cnbc.com/2020/04/09/fed-chair-powell-says-the-economic-recovery-can-be-robust-after-coronavirus.html.

of this search for higher yield is that 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 to levels well below the historical average. As shown in Figure 7, over the period from 2009 through February 18, 2020 (i.e., the peak of the market prior to the recent decline resulting from the effects of COVID-19), Treasury bond yields and utility dividend yields had declined. While investors have responded to the economic effects of COVID-19 resulting heightened volatility and in a recent decline in the market, it is important to highlight the relative performance of electric utilities during this time period. As shown in Figure 7, while the stock prices of electric utilities have declined, which has resulted in an increase in dividend yields, the average dividend yield for electric utilities over the period of February 19, 2020 through March 31, 2020 was 3.53 percent which is still unreasonably low when compared to historical dividend yields.

Figure 7: Dividend Yields for Electric Utility Stocks[15]



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

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

> Utilities are usually seen as a safe haven when the markets are in turmoil. Most of these stocks have declined far less than the broader market averages, but have been much more volatile than their high Price Stability Indexes suggest. Even a Safety rank of 1 (Highest) does not necessarily mean that a sharp decline cannot occur. Additionally, there has been a wide variance in the performance of these equities. The stock of Xcel Energy has advanced modestly in price this year, but the stock of Edison International has fallen more than 20% in price. The average dividend yield of stocks in this industry has risen to 3.55% after having fallen below 3% before the market tumbled in late February. Because the broader market has declined far more than the Electric Utility Industry, the median yield of dividend-paying stocks in The Value Line Investment Survey is not considerably lower than the median of the equities in this group.[16]

[15] Source: Bloomberg Professional. Figure 7 includes 2020 data through March 31, 2020.

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

This is further supported by a recent Edward Jones report on the utility sector:

> Utility valuations have become more attractive as shares have fallen from recent highs. On a price-to-earnings basis, shares are now trading closer to their historical averages, after trading near all-time highs. Until early this year, we have seen utility valuations moving with interest rate movements, although there have been exceptions to this. Overall, however, we believe the low-interest-rate environment has been the biggest factor in pushing utilities higher since many investors buy them for their dividend yield.[17]

As noted by equity analysts, utility stocks have experienced high valuations and low dividend yields, driven by investors moving into dividend paying stocks. This has occurred as a result of (a) the low interest rates in the bond market and (b) as discussed above, the increased economic uncertainty in the market which has resulted in equity investors rotating into defensive sectors such as utilities from cyclical sectors which are more likely to be affected by economic downturns. Conversely, if economic conditions improve and interest rates increase, bonds become a substitute for utility stocks and equity investors are more likely to rotate back to cyclical sectors, which results in an increase in dividend yields. As noted in the prior section of my testimony, this change in market conditions that is expected over the long-term implies that the ROE calculated using historical market data in the DCF model may understate the forward-looking cost of equity.

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

A. High valuations have had the effect of depressing the dividend yields, which results in overall lower estimates of the cost of equity resulting from the DCF model.

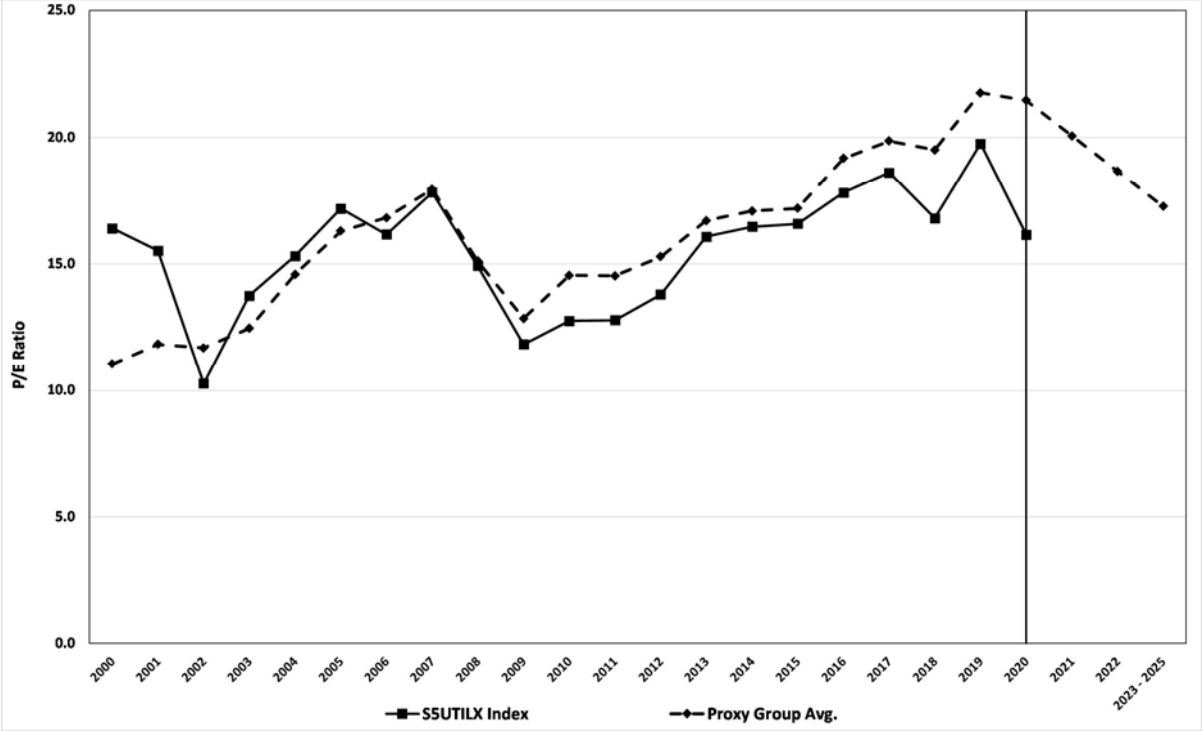
[17] Andy Smith. Edward Jones, Utilities Sector Outlook (March 24, 2020), at 2.

Q. How do the valuations of public utilities compare to the historical average?

A. Figure 8 summarizes the average historical and projected Price-to-Earnings ("P/E") ratios for the proxy companies calculated using data from Bloomberg Professional and Value Line.[18] As shown in Figure 8, the average P/E ratio for the proxy companies increased from 2018 to 2019 as a result of uncertainty in market surrounding the trade dispute between the U.S. and China and the spread of COVID-19. The uncertainty resulted in investors shifting to defensive sectors such as utilities and consumer staples. However, the P/E ratios for the proxy companies have declined slightly in 2020 as investors have rotated from utilities to Treasury Bonds due to the economic effects of COVID-19. Although, as of March 31, 2020, the prices of utility stocks and thus the P/E ratios are still at unsustainable levels. For example, the average P/E ratio for the proxy group from February 19, 2020 through March 31, 2020 (i.e., the period since the decline in the market as a result of COVID-19) was 20.18 which is well above the average for the period of 2000-2020 of 15.89. It is not reasonable to expect the proxy companies to maintain P/E ratios that are well above long-term averages. As shown in Figure 8, Value Line is projecting that P/E ratios will decline over the period of 2020 through 2023. All else equal, if P/E ratios for the proxy companies decline, as Value Line projects, the ROE results from the DCF model would be higher. Therefore, the DCF model using historical market data is likely understating the forward-looking cost of equity for the proxy group companies.

[18] Selection of the Proxy Companies is discussed in detail in Section VI of my direct testimony.

Figure 8: Average Historical Proxy Group P/E Ratios[19]



Q. Have you reviewed any other market indicators that compare the current valuation of utilities to the historical average?

A. Yes. To further assess how the current low interest rate environment has affected the valuations of the companies in my proxy group, I reviewed the price/earnings to growth ("PEG") ratio for the S&P Utilities Index. The PEG ratio is commonly used by investors to determine if a company is considered over- or under-valued. The ratio compares the P/E ratio of a company to the expected growth rate of future earnings. This allows investors to compare companies with similar P/E ratios but different earnings growth projections. If two companies have a P/E ratio of 20, but company A

[19] Bloomberg Professional, Data through March 31, 2020, and Value Line Investment Survey January 24, 2020, February 14, 2020, and March 13, 2020.

is growing at a rate of 6 percent and company B is growing at a rate of 15 percent, then on a relative valuation basis company B is the better investment.

As shown in a report published by Yardeni Research, Inc., the PEG ratio for the S&P Utilities Index is significantly higher than it has historically been because of the accommodative monetary policy pursued by the Federal Reserve following the Great Recession of 2008-2009.[20] While the PEG ratio has slightly declined recently as investors have rotated out of defensive sectors and into Treasury Bonds due to the short-term economic effect of COVID-19, the PEG ratio for the S&P Utilities Index is still above the historical average. In general, stocks with lower long-term PEG ratios are considered better values. As the PEG ratio increases above the long-term historical average, as has been the case with the S&P Utilities Index, then the stocks are considered relatively over-valued unless the growth rate increases to support the higher valuation. As of April 2020, the PEG ratio for the S&P Utilities Index is close to 4.0, which indicates that many of the stocks in the index are currently trading at levels well above the historical average. This analysis supports Value Line's expectation that the P/E ratios of utilities will decline over the near to intermediate term.

Q. How do equity investors view the utilities sector based on these recent market conditions?

A. Investment advisors have suggested that defensive sectors such as utility stocks perform well in periods of uncertainty, but underperform in periods of economic expansion. Barron's recently noted the following regarding the recent performance of

[20] Yardeni Research, Inc. *S&P 500 Industry Briefing: Utilities* at 5 (April 17, 2020).

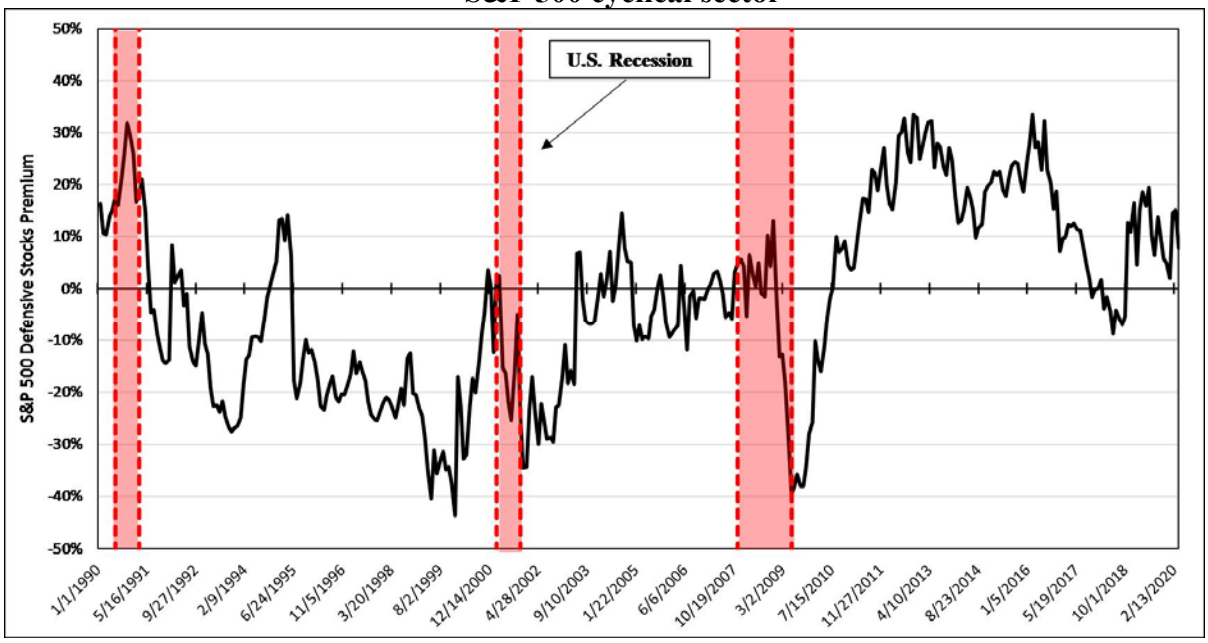
utilities considering the increased uncertainty associated with the spread of COVID-19:

> The outperformance of low-volatility stocks goes further back as well. The group has been holding up relatively well since the stock market stumbled into its current highly volatile phase two weeks ago. As of Tuesday, the S&P 500 had gained or lost at least 3% over nine of the past 12 trading days and declined 13.6% through the entire period. During the same period, the Invesco Low Volatility ETF has lost only 10.7%.
>
> That's not surprising. Low-volatility is historically a risk-off strategy, with large exposure to defensive sectors such as utilities and real estate. Nine out of the top 10 holdings in the Invesco fund are utility stocks, including Eversource Energy (ES), Duke Energy Corp. (DUK), and Consolidated Edison (ED). The group is therefore less affected by the ups and downs of the business cycle, and tends to beat the market during downturns, while underperforming during rallies.[21]

Moreover, to show the current high valuations of defensive sector stocks, I compared the forward P/E ratio of defensive sector stocks in the S&P 500 to the forward P/E ratio of cyclical sector stocks in the S&P 500. This comparison is shown in Figure 9 below. As shown this figure, the defensive stock premium is currently approximately 7.80 percent, above the long-term average (i.e., a cyclical stock premium) from 1990 to 2020 of -2.09 percent. Thus, defensive sector stocks are currently trading at a premium over cyclical sectors stocks, indicating that the valuations of defensive sectors such as utilities are currently too high.

[21] Liu, Evie. "Low-Volatility Stocks Are Winning as the Market Swings. Thank Falling Interest Rates." Barron's, 11 Mar. 2020, www.barrons.com/articles/low-volatility-stocks-win-as-market-swings-51583876123.

Figure 9: Forward P/E Ratio Comparison of the S&P 500 defensive sector to the S&P 500 cyclical sector[22]



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

Q. Are there other factors that should be considered in determining the cost of equity for RMP?

A. Yes. The effect of the Tax Cuts and Jobs Act ("TCJA") should also be considered in the determination of the cost of equity. It is also relevant to setting the equity ratio in the capital structure, which I address in Section IX of my testimony. The credit rating agencies have commented on the effect of the TCJA on regulated utilities. In summary, the TCJA is expected to reduce utility revenues due to the lower federal income taxes, the end of bonus depreciation, and the requirement to return excess Accumulated Deferred Income Taxes ("ADIT"). This change in revenue is expected to reduce Funds From Operations ("FFO") metrics across the sector, and absent regulatory mitigation

[22] Bloomberg Professional, Data through March 31, 2020.

strategies, is expected to lead to weaker credit metrics and possibly ratings downgrades for some utilities.[23]

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

A. Yes. Each of the credit rating agencies has indicated that the TCJA would have an overall negative credit impact on regulated operating companies of utilities and their holding companies due to the reduction in cash flow that results from the change in the federal tax rate and the loss of bonus depreciation.

Moody's noted that regulated utility rates are based on a cost-plus model, with tax expense being one of the pass-through items. Utilities will collect less income tax at a lower rate, reducing revenue. In addition, with the loss of bonus depreciation, the timing of future cash tax payments will be accelerated. Therefore, utilities will collect less tax revenue as a result of the lower tax rate and retain less of the collected taxes as a result of the loss of bonus depreciation. All else being equal, the changes will have a negative effect on utility cash flows and will, ultimately, negatively impact the utilities' ability to fund ongoing operations and capital improvement programs.

In S&P's 2019 trends report, the rating agency explains how the utility industry's financial measures weakened in 2018 due to tax reform, capital spending, and negative load growth. In addition, S&P expects that weaker credit metrics will continue for those utilities operating with minimal financial cushion. S&P further expects that these utilities will look to offset the revenue reductions from tax reform with equity issuances. That rating agency reported that in 2018, regulated utilities

[23] Fitchratings, Special Report, *What Investors Want to Know, Tax Reform Impact on the U.S. Utilities, Power & Gas Sector (*Jan. 24, 2018).

issued nearly $35 billion in equity, which is more than twice the equity issuances in either 2016 or 2017.[24]

FitchRatings ("Fitch") also indicated that any ratings actions will be guided by the response of regulators and the management of the utilities. Fitch notes that the solution will depend on the ability of utility management to manage the cash flow implications of the TCJA. Fitch offered several solutions to provide rate stability and to moderate changes to cash flow in the near term, including increasing the authorized ROE and/or equity ratio.[25]

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

A. In January 2018, Moody's issued a report changing the rating outlook for several regulated utilities from Stable to Negative.[26] At that time, Moody's noted that the rating change affected companies with limited cushion in their ratings for deterioration in financial performance. In June 2018, Moody's issued a report that downgraded the outlook for the entire regulated utility industry from Stable to Negative for the first time ever, citing ongoing concerns about the negative effect of the TCJA on cash flows of regulated utilities. Since mid-2018, Moody's has downgraded the credit ratings of several utilities based in part on the effects of tax reform on financial metrics. As shown in Figure 10, the downgrades have continued in recent months.

[24] Standard & Poor's Ratings, *Industry Top Trends 2019, North America Regulated Utilities*, November 8, 2018.
[25] FITCHRATINGS, Special Report, *What Investors Want to Know, Tax Reform Impact on the U.S. Utilities, Power & Gas Sector* (Jan. 24, 2018).
[26] MOODY'S INVESTOR SERVICE, Global Credit Research, *Rating Action: Moody's changes outlooks on 25 US regulated utilities primarily impacted by tax reform* (Jan. 19, 2018).

Figure 10: Credit Rating Downgrades Resulting from TCJA

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

Q. Is it reasonable to expect that investors have included the negative effects of the TCJA on the cash flows of utilities in their valuation models?

A. Not entirely. It is reasonable to expect that investors have reviewed the reports

published by the credit rating agencies such as Moody's, S&P, and Fitch and are therefore considering the effects of the TCJA. However, utilities are still managing the negative effects of the TCJA and are working with regulators to determine appropriate solutions to mitigate the effect of the TCJA on cash flows. As Moody's noted in its November 2018 report, the TCJA is expected to continue to have a near-term effect on the cash flows of utilities, which resulted in Moody's negative outlook on the industry for 2019. [27] Furthermore, as shown in Figure 10, Moody's is continuing to evaluate the effect of the TCJA on the cash flows of individual utilities. As part of the credit evaluation, rating agencies are specifically considering the recent rate case decisions of utilities to determine if the results of these cases help to mitigate the effect of the TCJA on cash flows. Therefore, the credit rating agencies appear to be continuing to monitor the effects of the TCJA on utilities.

Q. Has the Commission recognized that the TCJA has had an adverse impact on utility cash flows and credit ratings?

A. Yes. In a recent decision involving Dominion Energy Utah ("DEU", formerly Questar Gas Company), the Commission considered factors that had changed since DEU's prior rate case to determine if the Company's authorized ROE should be increased or decreased. One of the issues considered by the Commission was the TCJA. Specifically, the Commission stated that:

> Issues that can be viewed as "credit negative" for DEU, potentially leading to an increase in its authorized ROE, include the federal tax reform enacted in late 2017 and the Federal Reserve's cessation of injecting capital into the market.[28]

[27] MOODY'S INVESTORS SERVICE, Research Announcement: Moody's: US regulated utilities sector outlook for 2019 remains negative, November 8, 2018.
[28] Report and Order, Docket No. 19-057-02, Dominion Energy Utah, February 25, 2020, at 6.

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

A. Yes. In a recent rate case for Consumers Energy Company in Michigan, Case No. U-18322, the Michigan Public Service Commission ("Michigan PSC") Staff ("Michigan PSC Staff") recommended a 9.80 percent ROE based on the results of the DCF, CAPM, and Risk Premium approaches, which was supported by the Administrative Law Judge ("ALJ").[29] In its Order issued on March 29, 2018, however, the Michigan PSC partly disagreed with the ALJ and Michigan PSC Staff regarding expected market conditions and authorized a 10.00 percent ROE for Consumers Energy Company. The Michigan PSC noted that:

> [i]n setting the ROE at 10.00%, the Commission believes there is an opportunity for the company to earn a fair return during this period of atypical market conditions. This decision also reinforces the Commission's belief that customers do not benefit from a lower ROE if it means the utility has difficulty accessing capital at attractive terms and in a timely manner. The fact that other utilities have been able to access capital despite lower ROEs, as argued by many intervenors, is also a relevant consideration. It is also important to consider how extreme market reactions to singular events, as have occurred in the recent past, may impact how easily capital will be able to be accessed during the future test period should an unforeseen market shock occur. The Commission will continue to monitor a variety of market factors in future rate cases to gauge whether volatility and uncertainty continue to be prevalent issues that merit more consideration in setting the ROE.[30]

The Michigan PSC references "singular events" and the overall effect the events could have on the ability of a utility to access capital. Consistent with the Michigan PSC's views, it is important to consider that the TCJA has had a negative effect on the cash flows of utilities. In addition, it is important to consider this reduced cash flow in

[29] *In the matter of the Application of Consumers Energy Company for Authority to Increase Its Rates for the Generation and Distribution of Electricity and for Other Relief*, Case No. U-18322, Order at 37 (March 29, 2018).
[30] *Id.,* at 43.

the context of overall market conditions when determining the appropriate ROE and equity ratio to enable RMP the ability to attract capital at reasonable terms during the period that rates will be in effect.

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

A. Yes. The Oregon Public Utilities Commission ("Oregon PUC") and the Wyoming Public Service Commission ("Wyoming PSC") have acknowledged the negative effect of the TCJA on the cash flow of utilities. In February 2019, the Oregon PUC adopted Oregon PUC Staff's memo recommending approval of an application by Avista Corp. ("Avista") to issue stock. Oregon PUC Staff's memo included the following statements about the TCJA and the importance of maintaining strong credit ratings:

> Staff finds that the Tax Cuts and Jobs Act of 2017 created unanticipated stresses on the Company's credit ratings. The requested authorization signals to rating agencies that the Company is committed to the equity portion of its capital structure. However, it is Staff's finding that restoring a notch in credit ratings involves more than just remedying the cause for the downgrade. On December 21, 2018, Moody's stated, "Avista's credit profile reflects its low-risk vertically integrated electric and gas utility business, regulatory uncertainty in WA and the expected negative cash flow impact of tax reform." Authorization herein as recommended by Staff starts the process of addressing rating agency concerns and restoring a positive credit outlook.[31]

In July 2019, the Oregon PUC approved Avista's application to issue debt securities, adopting Oregon PUC Staff's memo stating that "Raising the Company's credit ratings back up a notch will require hard work and persistence on the part of

[31] *In the Matter of Avista Corporation, dba Avista Utilities, Application for Authorization to Issue 3,500,000 Shares of Common Stock*, Docket UF 4308, Order No. 19-067 (Feb. 23, 2019).

Avista's finance group as well as a supportive regulatory environment and achieving target metrics."[32]

In January 2019, the Oregon PUC adopted Oregon PUC Staff's memo recommending approval of Portland General Electric Company's ("PGE") application to refresh a revolving credit facility. Staff's memo contained similar observations about the TCJA and credit ratings:

> Of concern to Staff is Moody's approach to the impacts of the Tax Reform and Jobs Act of 2017. While one might expect lower taxes would be inherently positive news for utilities, Moody's has focused in on cash flow metrics that are stressed by the recent tax reform. Timely refreshment of this credit facility while PGE is under no heavy time or market pressure is consistent with provision for ongoing liquidity in support of current credit ratings. While approval of this Application does not by itself answer all of Moody's concerns regarding tax reform impacts on the utility sector, the proposed replacement credit facility is consistent with prudent financial management by the Company and will likely be seen as credit positive by both Standard and Poor's and Moody's. As the spreads over benchmark interest rates applicable to PGE depend on the level of the Company's credit ratings, this will be an area for the Commission to continue to monitor.[33]

Additionally, in a recent decision involving Questar Gas Company dba Dominion Energy Wyoming ("DEW"), the Wyoming PSC approved a modification to the stipulation in the Questar-Dominion merger case.[34] The original stipulation required DEW to maintain an equity ratio in the range of 50-55 percent, and the modification partially lifted the 55 percent cap on the equity ratio. In approving the modification, the

[32] *In the Matter of Avista Corporation, dba Avista Utilities, Application for Authorization to Issue and Sell $600,000,000 of Debt Securities*, UF 4313, Order No. 19-249 (July 30, 2019).
[33] *In the Matter of Portland General Electric Company, Request for Authority to Extend the Maturity of an Existing $500 Million Revolving Credit Agreement*, Docket UF 4272(3), Order No. 19-025 (Jan. 23, 2019).
[34] *In the Matter of Questar Gas Company dba Dominion Energy Wyoming's Application for Approval of Amended Stipulation Previously Approved in Docket No. 30010-150-GA-16*, Docket No. 30010-180-GA-18 (Record No. 15138) (Aug. 20, 2019).

Wyoming PSC found that an "unintended consequence of the [TCJA] is that it has put pressure on Dominion's credit metrics," by reducing cash flow and negatively affecting the Funds From Operations (FFO) metric. The Wyoming PSC explained that "a deterioration of the Company's credit metrics could result in a downgrade in Dominion's credit rating, which would in turn result in a higher cost of debt for the Company and its customers." The Wyoming PSC also noted that, to improve its credit metrics in response to the TCJA and avoid a downgrade, DEW believed it was necessary to issue additional equity to replace debt potentially exceeding the 55 percent equity cap. The Wyoming PSC approved the requested modification, finding it to be in the public interest.

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

A. The important conclusions resulting from capital market conditions are:

- The assumptions used in the ROE estimation models have been affected by recent historical, atypical market conditions.
- Recent market conditions reflect short-term exogenous shocks that are not expected to persist over the long-term. As a result, the recent atypical market conditions do not reflect the market conditions that should be expected to be present when the rates for RMP will be in effect.
- Recent market conditions demonstrate significant volatility and risk to equity that would be reflected as higher expected returns for investors to take on incremental equity risk. As a result, it is critical to consider the results of a variety of ROE estimation models, using forward-looking assumptions to estimate the cost of equity.

- Without adequate regulatory support, the TCJA will have a negative effect on utility cash flows, which increases investor risk expectations for utilities. Therefore, it is increasingly important to consider a rate of return and capital structure that support the Company's cash flow metrics to enable RMP the ability to attract capital at reasonable terms during the period that rates will be in effect.

VI. PROXY GROUP SELECTION

Q. Why have you used a group of proxy companies to estimate the cost of equity for RMP?

A. In this proceeding, I am estimating the cost of equity for an electric utility company that is not itself publicly traded. Because the cost of equity is a market-based concept and given that RMP's electric operations in Utah do not make up the entirety of a publicly traded entity, it is necessary to establish a group of companies that is both publicly traded and comparable to RMP in certain fundamental business and financial respects to serve as its "proxy" in the ROE estimation process.

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

Q. Please provide a brief profile of RMP.

A. PacifiCorp d/b/a RMP is an electric utility, which is an indirect, wholly owned

subsidiary of Berkshire Hathaway Energy Company. PacifiCorp provides electric utility service to approximately 1.9 million residential, commercial, and industrial customers in California, Idaho, Oregon, Utah, Washington, and Wyoming.[35] In Utah, RMP provides electric service to approximately 948,710 residential, commercial, and industrial customers.[36] As of December 31, 2019, RMP had a net utility electric plant allocated to Utah of $7.735 billion.[37] RMP's electric operations in Utah represented 43 percent of PacifiCorp's electric sales in 2019.[38] RMP currently has an investment grade long-term rating of A (Outlook: Stable) from S&P and A3 (Outlook: Stable) from Moody's.[39]

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

A. I began with the group of 37 companies that Value Line classifies as Electric Utilities and applied the following screening criteria to select companies that:

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

[35] PacifiCorp website.
[36] Data provided by PacifiCorp.
[37] Data provided by PacifiCorp.
[38] Data provided by PacifiCorp.
[39] SNL Financial, April 21, 2020.

- have more than 5 percent of owned regulated generation capacity come from regulated coal-fired power plants;
- derive more than 60.00 percent of their total operating income from regulated operations;
- derive more than 60.00 percent of regulated operating income from regulated electric operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

Q. What is the composition of your proxy group?

A. The screening criteria discussed above is shown in Exhibit RMP___(AEB-3) and resulted in a proxy group consisting of the 22 companies shown in Figure 11 below.

Figure 11: Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Avista Corporation	AVA
CMS Energy Corporation	CMS
Dominion Resources, Inc.	D
DTE Energy Company	DTE
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
IDACORP, Inc.	IDA
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Otter Tail Corporation	OTTR
Pinnacle West Capital Corporation	PNW
PNM Resources, Inc.	PNM
Portland General Electric Company	POR
PPL Corporation	PPL
Southern Company	SO
Xcel Energy Inc.	XEL

VII. COST OF EQUITY ESTIMATION

Q. Please briefly discuss the ROE in the context of the regulated rate of return.

A. The overall ROR for a regulated utility is based on its weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. While the costs of debt and preferred stock can be directly observed, the cost of equity is market-based and, therefore, must be estimated based on observable market data.

Q. How is the required ROE determined?

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

Q. What methods did you use to determine RMP's ROE?

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

A. Importance of Multiple Analytical Approaches

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

A. Because the cost of equity is not directly observable, it must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the cost of equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. Several models have been developed to estimate the cost of equity, and I use multiple approaches to estimate the cost of equity. As a practical matter, however, all the models available for estimating the cost of equity are subject to limiting assumptions or other methodological constraints. Consequently, many well-regarded finance texts recommend using multiple approaches when estimating the cost of equity. For example, Copeland, Koller, and Murrin suggest using the CAPM and Arbitrage Pricing Theory model,[40] while Brigham and Gapenski recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches.[41]

Q. Is it important given the current market conditions to use more than one analytical approach?

A. Yes. Low interest rates and the effects of the investor "flight to quality" can be seen in high utility share valuations, relative to historical levels and relative to the broader market. Higher utility stock valuations produce lower dividend yields and result in lower cost of equity estimates from a DCF analysis. Low interest rates also affect the CAPM in two ways: (1) the risk-free rate is lower, and (2) because the market risk premium is a function of interest rates, (i.e., it is the return on the broad stock market

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

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

less the risk-free interest rate), the risk premium should move higher when interest rates are lower. Therefore, it is important to use multiple analytical approaches to moderate the impact that the current low interest rate environment is having on the ROE estimates for the proxy group and, where possible, consider using projected market data in the models to estimate the return for the forward-looking period.

Q. Has the Commission recognized that it is important to consider the results of multiple ROE estimation models?

A. Yes. It is my understanding that the Commission has emphasized that:

> [a]s we consider the various ROE recommendations, we conclude that all the evidence supporting those recommendations is relevant to our task to determine a just and reasonable ROE. To some extent, this task is a delegated legislative function that requires us to consider the evidence and make an ultimate decision exercising judgment and discretion.[42]

Moreover, in Docket No. 13-057-05, the Commission concluded that:

> As the testimony in this case demonstrates, there is no single financial model or set of data inputs on which experts conclusively agree for identifying a specific utility's return on equity. Moreover, there is no consensus on the specific weighting to be assigned to the results obtained from any of the financial models. In this context, we address the evidence and considerations that inform our judgment and discretion to arrive at an authorized return on equity of 9.85 percent for Questar.[43]

Q. What are your conclusions about the results of the DCF and CAPM approaches?

A. Recent market data that is used as the basis for the assumptions for both models have been affected by market conditions. As a result, relying exclusively on historical

[42] *Application of Dominion Energy Utah to Increase Distribution Rates and Charges and Make Tariff Modifications*, Docket No. 19-057-02, Report and Order dated February 25, 2020, at 6 (July 1, 2019).
[43] *In the Matter of the Application of Questar Gas Company to Increase Distribution Rates and Charges and to Make Tariff Modifications*, Docket No. 13-057-05, Report and Order Approving the Settlement Stipulation dated February 21, 2014, at 29. (July 1, 2013).

assumptions in these models, without considering whether these assumptions are consistent with investors' future expectations, will underestimate the cost of equity that investors would require over the period that the rates in this case are to be in effect. In this instance, relying on the historically low dividend yields that are not expected to continue over the period that the new rates will be in effect will underestimate the ROE for RMP.

Furthermore, as discussed in Section V above, Treasury bond yields have experienced unprecedented volatility in recent months due to the economic effects of COVID-19. Therefore, the use of current averages of Treasury bond yields as the estimate of the risk-free rate in the CAPM is not appropriate since recent market conditions are not expected to continue over the long-term. Instead, analysts should rely on projected yields of Treasury Bonds in the CAPM. The projected Treasury Bond yields results in CAPM estimates that are more reflective of the market conditions that investors expect during the period that the Company's rates will be in effect.

B. Constant Growth DCF Model

Q. Please describe the DCF approach.

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

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

Where P_0 represents the current stock price, D1…D∞ are all expected future dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present value calculation that can be simplified and rearranged into the following form:

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

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

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

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

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

A. The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended March 31, 2020.

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

A. In my Constant Growth DCF model, I use an average of recent trading days to calculate the term P_0 in the DCF model to ensure that the ROE is not skewed by anomalous

events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long-term. However, by necessity, analysts rely on historical prices which, as discussed above, have been volatile and are currently at unsustainably high levels. Under these circumstances, where current market conditions cannot be expected to continue throughout the rate period, it is important to recognize that current average prices in the Constant Growth DCF model are not consistent with forward-looking market expectations. Therefore, the results of my Constant Growth DCF model using historical data may underestimate the forward-looking cost of equity. As a result, I place more weight on the mean to mean-high results produced by my Constant Growth DCF model. I also calculate an additional Constant Growth DCF analysis which relies on projected market data from Value Line to more reasonably approximate future market conditions.

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

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

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

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

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

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

C. Discounted Cash Flow Model Results

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

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

Q. Have you excluded any of the Constant Growth DCF results for individual companies in your proxy group?

A. Yes, I have. It is appropriate to exclude Constant Growth DCF results below a specified threshold at which equity investors would consider such returns to provide an insufficient return increment above long-term debt costs. The average credit rating for the companies in my proxy group is BBB+/Baa1. The average yield on Moody's Baa-rated utility bonds for the 30 trading days ending March 31, 2020, was 3.80 percent.[44] As shown on Exhibit RMP___(AEB-4), I have eliminated Constant Growth DCF results lower than 7.00 percent because such returns would provide equity investors a risk premium only 320 basis points above Baa-rated utility bonds.

Q. Have you considered the results of any other DCF model?

A. Yes. Because of analysts' views that utility stocks may currently be at unsustainably high prices, I have also considered the results of a projected Constant Growth DCF model. The projected DCF analysis relies on Value Line's projected average stock prices and dividends for the period from 2023 through 2025 and the five-year projected EPS growth rates. As shown in Exhibit RMP___(AEB-5), my analysis demonstrates that using the Value Line projected assumptions in the DCF model increases the ROE by 64 basis points (*i.e.*, 9.57 percent vs. 8.93 percent) from the average DCF mean result for all three dividend measurement periods as shown in Exhibit RMP___(AEB-4).

[44] Source: Bloomberg Professional.

Q. What were the results of your DCF analyses?

A. Figure 12 summarizes the results of my DCF analyses. As shown in Figure 12, the mean DCF results range from 8.89 percent to 9.57 percent and the mean high results are in the range of 9.45 percent to 9.93 percent. While I also summarize the mean low DCF results, I do not believe that the low DCF results provide a reasonable spread over the expected yields on Treasury bonds to compensate investors for the incremental risk related to an equity investment.

Figure 12: Discounted Cash Flow Results[45,46]

	Mean Low	Mean	Mean High
Constant Growth DCF			
30-Day Average	8.53%	9.01%	9.69%
90-Day Average	8.53%	8.89%	9.45%
180-Day Average	8.52%	8.89%	9.45%
Projected DCF			
	Mean Low	**Mean**	**Mean High**
2023-2025 Projection	9.00%	9.57%	9.93%

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

A. As discussed previously, one primary assumption of the DCF models is a constant P/E ratio. That assumption is heavily influenced by the market price of utility stocks. Because current utility stock valuations are relatively high and are likely not sustainable, the results of the DCF models must be considered with caution. The dividend yield on the 30-day average DCF analysis was 3.47 percent, lower than the average dividend yield for electric utilities over the last 10 years. These data points demonstrate that the results of the current DCF models are significantly below more normal market conditions. Therefore, while I have given weight to the results of the

[45] *See* Exhibit RMP___(AEB-4).
[46] *See* Exhibit RMP___(AEB-5)

DCF models, my recommendation also gives weight to the results of other ROE estimation models.

D. Capital Asset Pricing Model Analysis

Q. Please briefly describe the Capital Asset Pricing Model.

A. 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. This second component is the product of the market risk premium and the Beta coefficient, which measures the relative riskiness of the security being evaluated.

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

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

Where:

K_e = the required market ROE;

â = Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market.

In this specification, the term (rm - rf) represents the market risk premium. According to the theory underlying the CAPM, because unsystematic risk can be diversified away, investors should only be concerned with systematic or non-diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

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

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

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

A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds of 1.56 percent;[47] (2) the average projected 30-year U.S. Treasury bond yield for Q3 2020 through Q3 2021 of 1.80 percent;[48]and (3) the average projected 30-year U.S. Treasury bond yield for 2021 through 2025 of 3.20 percent.[49]

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

A. Yes. Based on current market conditions, I place more weight on the results of the projected yields on the 30-year Treasury bonds. As discussed previously, the estimation of the cost of equity in this case should be forward looking because it is the return that investors would receive over the future rate period. Therefore, the inputs and assumptions used in the CAPM analysis should reflect the expectations of the market at that time. While I have included the results of a CAPM analysis that relies on the current average risk-free rate, as discussed with respect to the DCF analysis, recent

[47] Bloomberg Professional, as of March 31, 2020.
[48] Blue Chip Financial Forecasts, Vol. 39, No. 4, April 1, 2020, at 2.
[49] Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14.

market conditions may not be representative of the market's expectations for future interest rates.

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

A. As shown on Exhibit RMP___(AEB-6), I used the Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. The Beta coefficients reported by Bloomberg were calculated using ten years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

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

A. I estimated the market risk premium based on the expected return on the S&P 500 Index less the yield on the 30-year Treasury bond. I calculated the expected return on the S&P 500 Index using S&P's published dividend yield and five-year projected growth rate for the entire S&P 500 Index. As shown in Exhibit RMP___(AEB-6), based on S&P's five-year growth rate for the S&P 500 of 11.60 percent and dividend yield of 2.31 percent, the estimated required market return for the S&P 500 Index is 14.05 percent. The implied Market Risk Premiums over the current and projected yields on the 30-year U.S. Treasury bond range from 10.85 percent to 12.49 percent.

Q. Have other regulators endorsed the use of a forward-looking market risk premium?

A. Yes. The Staff of the Maine Public Utilities Commission ("Maine PUC") has supported the forward-looking market risk premium. In the Bench Analysis in Docket No. 2018-00194 for Central Maine Power Company, Docket No. 2017-00198 for Emera Maine and Docket No. 2017-00065 for Northern Utilities, Maine PUC Staff accepted the

forward-looking methodology for calculating the market return that was proposed by the companies.[50] In each case, the market return was the expected return for the S&P 500, which was calculated using a Constant Growth DCF model.

Furthermore, the Maine PUC in Docket No. 2017-00198 used the CAPM results calculated by Staff and Emera Maine as a check on the reasonableness of the DCF results in the case and did not dispute the use of the forward-looking market risk premium by the parties (i.e., Staff and Emera Maine).[51]

Q. What are the results of your CAPM analyses?

A. As shown in Figure 13 (*see also* Exhibit RMP___(AEB-6)), my CAPM analysis produces a range of returns from 8.49 percent to 11.71 percent.

Figure 13: CAPM Results

	Bloomberg Beta	**Value Line Beta**
Current Risk-Free Rate (1.56%)	11.36%	8.49%
Q3 2020-Q3 2021 Projected Risk-Free Rate (1.80%)	11.41%	8.59%
2021-2025 Projected Risk-Free Rate (3.20%)	11.71%	9.22%

Q. Did you consider another form of the CAPM?

A. Yes. In addition to the "traditional" form of the CAPM, I have also considered the "Empirical CAPM" in estimating the cost of equity for RMP. The ECAPM calculates the product of the Beta coefficient and the market risk premium and applies a weight of 75 percent to that result. The model then applies a 25 percent weight to the market risk premium, without any effect from the Beta coefficient. The results of the two

[50] Emera Maine, Request for Approval of a Proposed Rate Increase, Docket No. 2017-00198, Bench Analysis at 71-72 (December 21, 2017); Northern Utilities, Inc. d/b/a UNITIL, Request for Approval of Rate Change Pursuant to Section 307, Docket No. 2017-00065, Bench Analysis, at 15-16 (October 6, 2017).

[51] Emera Maine, Request for Approval of Proposed Rate Increase, Docket No. 2017-00198, June 28, 2018, at 41.

calculations are summed, along with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

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

Where:

k_e = the required market ROE

$\hat{a}$ = Beta coefficient of an individual security

r_f = the risk-free rate of return

r_m = the required return on the market as a whole

The Empirical form of the CAPM addresses the tendency of the "traditional" CAPM to underestimate the cost of equity for companies with low Beta coefficients such as regulated utilities. The ECAPM is not redundant to the use of adjusted Betas; rather, it recognizes the results of academic research indicating that the risk-return relationship is different (in essence, flatter) than estimated by the CAPM, and that the CAPM underestimates the "alpha," or the constant return term.[52]

As with the CAPM, my application of the ECAPM uses the forward-looking market risk premium estimate, the three yields on 30-year Treasury securities noted earlier as the risk-free rate, and the Value Line and Bloomberg beta coefficients. As shown in Figure 14 (*see* also Exhibit RMP___(AEB-6)), my ECAPM analysis produces a range of returns from 9.88 percent to 12.30 percent.

[52] Roger A. Morin, *New Regulatory Finance*, Public Utilities Reports, Inc., 2006, at 191.

Figure 14: ECAPM Results

	Bloomberg Beta	Value Line Beta
Current Risk-Free Rate (1.56%)	12.03%	9.88%
Q3 2020-Q3 2021 Projected Risk-Free Rate (1.80%)	12.07%	9.96%
2021-2025 Projected Risk-Free Rate (3.20%)	12.30%	10.42%

E. Bond Yield Plus Risk Premium Analysis

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

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

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

A. Yes. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity risk premium decreases (increases). Consequently, it is also important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) relies on recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of U.S.

Treasury bond yields. Thus, if authorized ROEs for electric utilities serve as the measure of required equity returns and the yield on the long-term U.S. Treasury bond serves as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[53]

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

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

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

A. As shown in Figure 15 below, from 1992 through March 31, 2020, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

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

Where:

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

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

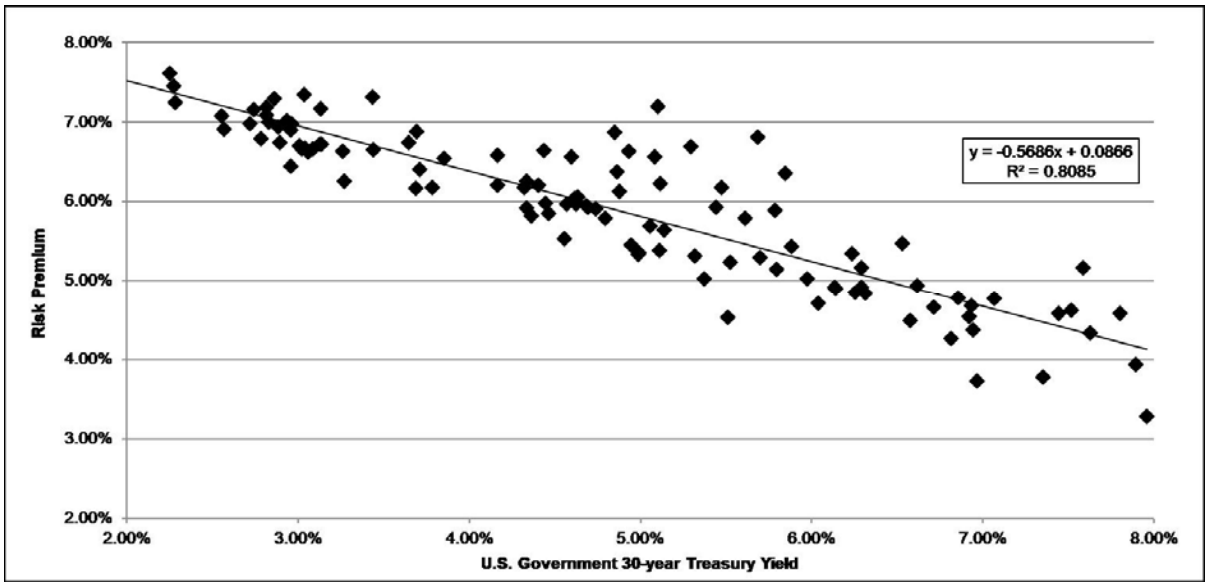
a = intercept term

b = slope term

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

Data regarding allowed ROEs were derived from 633 integrated electric utility rate cases from 1992 through March 31, 2020, as reported by Regulatory Research Associates ("RRA").[54] This equation's coefficients were statistically significant at the 99.00 percent level.

Figure 15: Risk Premium Results



As shown on Exhibit RMP___(AEB-7), based on the current 30-day average of the 30-year U.S. Treasury bond yield (*i.e.*, 1.56 percent), the risk premium would be 7.77 percent, resulting in an estimated ROE of 9.33 percent. Based on the near-term (Q3 2020 to Q3 2021) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 1.80 percent), the risk premium would be 7.63 percent, resulting in an estimated ROE

[54] This analysis began with a total of 1,217 cases and was screened to eliminate limited issue rider cases, transmission-only cases, distribution-only cases, and cases that were silent with respect to the authorized ROE. After applying those screening criteria, the analysis was based on data for 633 cases.

of 9.43 percent. Based on longer-term (2021 to 2025) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 3.20 percent), the risk premium would be 6.84 percent, resulting in an estimated ROE of 10.04 percent.

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

A. I have considered the results of the Bond Yield Risk Premium analysis in setting my recommended ROE for RMP. As noted above, investors will consider the authorized ROE of a company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions. The risk premium analysis takes into account this comparison by estimating the return expectations of investors based on the current and past ROE awards of electric utilities across the U.S.

F. Expected Earnings Analysis

Q. Have you considered any additional analysis to estimate the cost of equity for RMP?

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

Q. What is an Expected Earnings Analysis?

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

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

Q. Have any regulators considered the use of an Expected Earnings Analysis?

A. Yes. The Washington Utilities & Transportation Commission ("Washington UTC"), in its order in Dockets UE-170485 and UG-170486, considered the results of the Comparable Earnings analysis[55] in establishing the authorized ROE for Avista Corporation. The Washington UTC noted that it tends to place more weight on the results of the DCF, CAPM and Risk Premium analyses; however, given the wide range of CAPM results presented by the ROE witnesses in the case, the Washington UTC decided to apply weight to the results of the Comparable Earnings analysis.[56] Specifically, the Washington UTC stated the following:

> Finally, as additional data points for our consideration of establishing Avista's ROE, we note that two witness, Mr. McKenzie for Avista and Mr. Parcell for Staff, employ the CE approach to two proxy groups of companies. The respective mid-points of each witnesses' CE analysis are 10.5 and 9.5 percent, respectively, with an average of 10.0 percent. Although we generally do not apply material weight to the CE method, having stronger reliance on the DCF, CAPM and RP methods, we are inclined to include the CE method here given the anomalous CAPM results described previously.[57]

Q. How did you develop the Expected Earnings Approach?

A. I relied primarily on the projected ROE capital for the proxy companies as reported by Value Line for the period from 2023-2025.[58] However, I adjusted those projected ROEs

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

[56] *Wash. Utils. & Transp. Comm'n v. Avista Corp*., Docket Nos. UE-170485 and UG-170486, Order 07, ¶ 65 (April 26, 2018).

[57] *Ibid.*

[58] Value Line projections refer to 2022-2024 for electric utilities included in Value Line's electric utility west group. The difference in the projection period is due to the timing of Value Line's release date for the reports.

to account for the fact that the ROEs reported by Value Line are calculated on the basis of common shares outstanding at the end of the period, as opposed to average shares outstanding over the period. As shown in Exhibit RMP___(AEB-8), the Expected Earnings analysis results in a mean of 10.82 percent and a median of 10.74 percent.

VIII. REGULATORY AND BUSINESS RISKS

Q. Do the DCF, CAPM, ECAPM, Risk Premium, and Expected Earnings results for the proxy group, taken alone, provide an appropriate estimate of the cost of equity for RMP?

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

A. Capital Expenditures

Q. Please summarize PacifiCorp's capital expenditure requirements.

A. PacifiCorp's current projections for 2020 through 2024 include approximately $10.8 billion in capital investments for the period.[59] Based on PacifiCorp's net utility plant of approximately $18 billion as of December 31, 2018, the $10.8 billion anticipated capital expenditures are approximately 60.00 percent.[60]

Q. How is PacifiCorp's risk profile affected by its capital expenditure requirements?

A. As with any utility facing increased capital expenditure requirements, PacifiCorp's risk profile may be adversely affected in two significant and related ways: (1) the

[59] Data provided by PacifiCorp for Capital Expenditures 2020-2024.
[60] Data provided by PacifiCorp.

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

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

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

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an incentive to investors.[61]

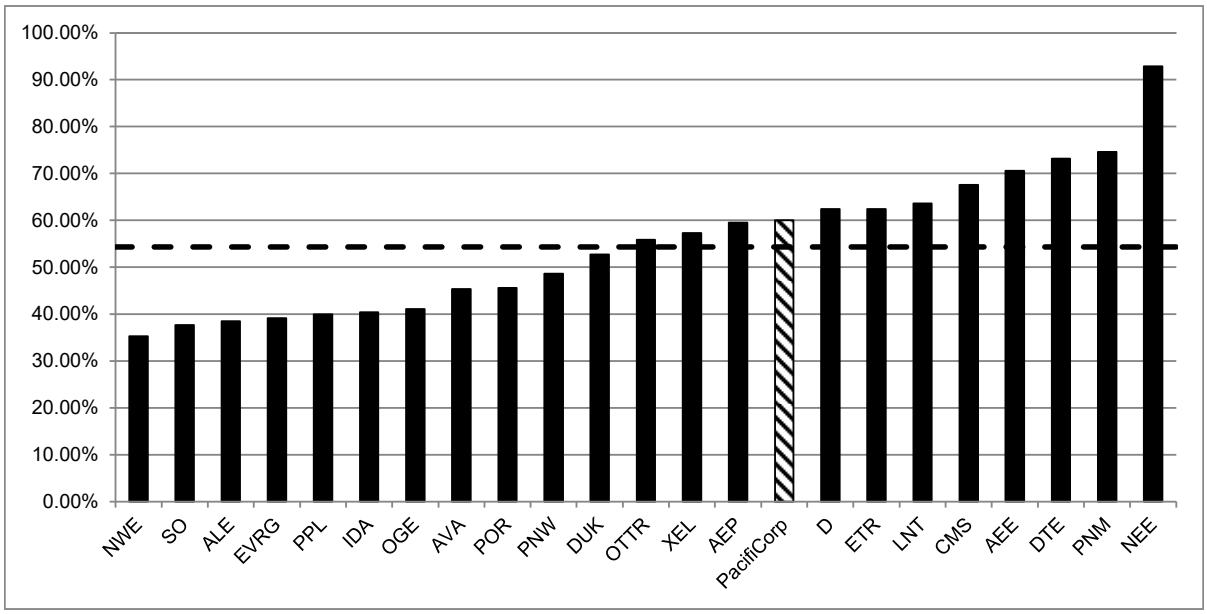
Therefore, to the extent that RMP's rates do not permit the opportunity to recover its full cost of doing business, RMP will face increased recovery risk and thus increased pressure on its credit metrics.

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

Q. How do PacifiCorp's capital expenditure requirements compare to those of the proxy group companies?

A. As shown in Exhibit RMP___(AEB-9), I calculated the ratio of expected capital expenditures to net utility plant for PacifiCorp and each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2020-2024 by its total net utility plant as of December 31, 2018. As shown in Exhibit RMP___(AEB-9) (*see* also Figure 16 below), PacifiCorp's ratio of capital expenditures as a percentage of net utility plant of 60.00 percent is approximately 1.10 times the median for the proxy group companies of 54.30 percent. This result indicates slightly greater risk relative to the companies in the proxy group.

Figure 16: Comparison of Capital Expenditures - Proxy Group Companies



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

A. No. RMP does not recover capital investment costs between rate cases utilizing a capital tracking mechanism. Increased capital expenditure programs like RMP's often receive cost recovery through infrastructure and capital trackers in other jurisdictions. As shown in Exhibit RMP___(AEB-10), 52.00 percent of the proxy group utilities recover costs through capital tracking mechanisms. Since RMP does not currently have a capital tracking mechanism, RMP's risk relative to the proxy group is significantly increased.

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

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

B. Regulatory Risk

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

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

utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory authorities recognize that because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms; doing so balances the long-term interests of investors and customers. Utilities must finance their operations and require the opportunity to earn a reasonable return on their invested capital to maintain their financial profiles. RMP is no exception. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' risk assessments.

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

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

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

A. Both S&P and Moody's consider the overall regulatory framework in establishing credit ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4) financial strength, liquidity and key financial metrics. Of these criteria, regulatory framework and the ability to recover costs and earn returns are each given a broad rating factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00 percent weighting in the overall assessment of business and financial risk for regulated utilities. [62]

S&P also identifies the regulatory framework as an important factor in credit ratings for regulated utilities, stating: "One significant aspect of regulatory risk that influences credit quality is the regulatory environment in the jurisdictions in which a utility operates."[63] S&P identifies four specific factors that it uses to assess the credit implications of the regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and (4) regulatory independence and insulation.[64]

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

A. The regulatory environment can significantly affect both the access to, and cost of capital in several ways. First, the proportion and cost of debt capital available to utility

[62] Moody's Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities*, at 4 (June 23, 2017).
[63] Standard & Poor's Global Ratings, Ratings Direct, *U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality-But Some More So Than Others*, at 2 (June 25, 2018)
[64] *Id*., at 1.

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."[65] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting: "[b]roadly speaking, the Regulatory Framework is the foundation for how all the decisions that affect utilities are made (including the setting of rates), as well as the predictability and consistency of decision-making provided by that foundation."[66]

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

A. Yes. I have evaluated the regulatory framework in Utah on five factors that are important in terms of providing a regulated utility an opportunity to earn its authorized ROE. These are: (1) fuel cost recovery; (2) test year convention (*i.e.*, forecast vs. historical); (3) method for determining rate base (*i.e.*, average vs. year-end); (4) use of revenue decoupling mechanisms or other clauses that mitigate volumetric risk; and (5) prevalence of capital cost recovery between rate cases. The results of this regulatory risk assessment are shown in Exhibit RMP___(AEB-10) and are summarized below.

- Fuel and Energy Cost Recovery: RMP has an Energy Balancing Account ("EBA") which allows the Company to recover (or refund) variations in fuel costs from the baseline fuel costs that were determined in the Company's last rate proceeding. Similarly, 90.00 percent of the operating companies

[65] Moody's Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities*, at 6 (June 23, 2017).
[66] *Ibid.*

held by my proxy group are allowed to pass through fuel costs and purchased power costs directly to customers.

- Test year convention: RMP has been able to use a test year containing forecasted data, which is generally consistent with the 49.00 percent of the operating companies held by the proxy group that provide service in jurisdictions that use a fully or partially forecast test year.
- Rate Base: RMP's rate base in Utah is typically determined using an average rate base. In contrast, 49.00 percent of the operating subsidiaries held by the proxy group are allowed to use year-end rate base, meaning that the rate base includes capital additions that occurred in the second half of the test year and is more reflective of net utility plant going forward.
- Volumetric Risk: RMP does not have protection against volumetric risk in Utah. In contrast, 52.00 percent of the operating companies held by the proxy group have some form of protection against volumetric risk through either a partial or full revenue decoupling mechanism that mitigates the effect of fluctuations in volume on revenues.
- Capital Cost Recovery: As discussed above, RMP does not have a capital tracking mechanism to recover capital investment costs between rate cases. However, 52.00 percent of the operating companies held by the proxy group have some form of capital cost recovery mechanism in place.

Q. Has RRA provided recent commentary regarding its regulatory ranking for RMP?

A. Yes. In March 2020, RRA updated its evaluation of the regulatory environment in Utah and noted the following:

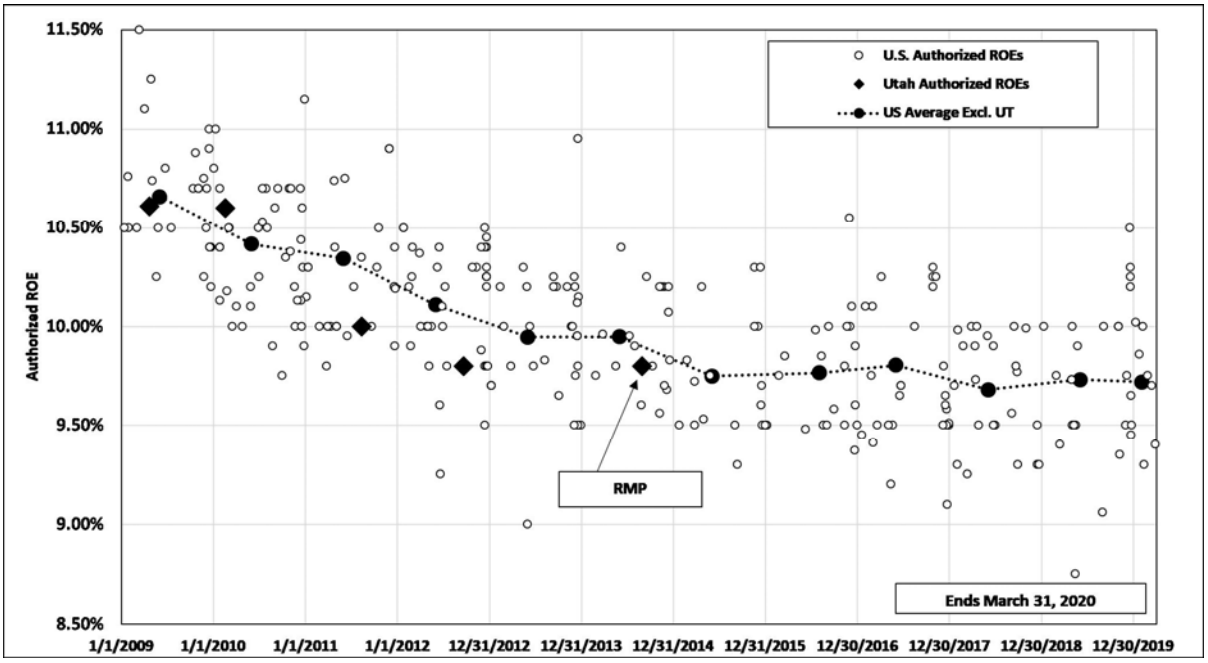
> Regulatory Research Associates, a group within S&P Global Market Intelligence, had viewed the regulatory environment in Utah as somewhat more constructive than average from an investor point of view. The state remains traditionally regulated and the PSC has been receptive to mergers. There has been little base rate activity in recent years; many prior proceedings had been resolved through settlement agreements, which had sometimes included multi-year rate adjustments. However, in the only recent ROE determination issued by the PSC, the commission granted a below industry average equity return to Questar Gas [Dominion Energy Utah] in a fully litigated base rate proceeding. The PSC also chose to phase-in a relatively modest rate increase in that rate case. On a more constructive note, the use of test years in base rate proceedings that contain projected data is commonplace. A bidding process is utilized to determine utilities' new energy resource needs, and, while authorization of a cash return on construction work in progress is not commission practice, the PSC has previously allowed PacifiCorp to recover costs associated with major plant additions through expedited limited-issue rate proceedings. PacifiCorp's fuel clause allows the company to recover 100% of its net power costs. Questar Gas operates under a purchased gas clause that includes a capacity-release related incentive provision, and the utility has a full revenue decoupling mechanism in place. In addition, a mechanism is in place for Questar Gas through which the company recovers costs associated with the replacement of aging infrastructure. Based on the foregoing information, particularly the recent rate decision for Questar Gas, RRA is lowering the rating of Utah regulation to Average/2 from Average/1, reflective of a relatively balanced regulatory climate.[67]

[67] Regulatory Research Associates, Profile of Public Service Commission of Utah, accessed April 2, 2020.

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

A. As noted in RRA's evaluation above, the authorized ROEs for electric and natural gas utilities in Utah, while partially the result of settlement agreements approved by the Commission, have been below the average authorized ROEs for electric and natural gas utilities across the U.S. Figure 17 below shows the authorized returns for vertically integrated electric utilities in other jurisdictions since January 2009, and the returns authorized in Utah for RMP. As shown in Figure 17, the authorized returns for RMP in Utah have been below the average authorized ROE for vertically integrated electric utilities in other jurisdictions since 2011.

Figure 17: Comparison of Utah and U.S. Authorized Electric Returns



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

A. Yes. Credit rating agencies take the authorized ROE into consideration in the overall risk analysis of a company. Therefore, to the extent that the returns in a jurisdiction are lower than the returns that have been authorized more broadly, credit rating agencies will consider this in the overall risk assessment of the regulatory jurisdiction in which the company operates. For example, Moody's recently downgraded ALLETE, Inc. from A3 to Baa1 for reasons that included the less than favorable outcome in Minnesota Power's last rate case in Minnesota. Moody's viewed Minnesota Power's recent rate case decision as credit negative for reasons which included: (1) the below average authorized ROE of 9.25 percent which resulted in a reduction of approximately $20 million between the requested and approved revenue requirement; (2) the disallowance of certain expenses such as prepaid pension expenses; and (3) the decision to not adopt the annual rate review mechanism ("ARRM") which if adopted would have mitigated the effect of industrial customers scaling back production in response to changes in economic conditions.[68]

In addition, FitchRatings recently downgraded CenterPoint Energy Houston Electric's ("CEHE") Long-Term Issuer Default rating from A- to BBB+ and revised the rating outlook from Stable to Negative following the approval of an unfavorable outcome in a recent rate case in Texas. FitchRatings indicated that the unfavorable outcome signals a more challenging environment in Texas for CEHE and that the

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

authorized ROE and equity ratio, as well as the tax reform refunds will create pressure on credit metrics. FitchRatings also indicated that further negative rating action could be possible if the company's FFO leverage remains above 5x.[69]

RMP must compete for capital with other utilities and businesses; therefore, placing RMP at the low end of authorized ROEs outside Utah over the longer term can negatively impact its access to capital.

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

A. As discussed above, the companies in the proxy group operate in multiple jurisdictions across the U.S. Since RMP must compete directly for capital with investments of similar risk, it is appropriate to review the authorized ROEs in other jurisdictions. The comparison is important because investors are considering the authorized returns across the U.S. and are likely to invest equity in those utilities with the highest returns. Furthermore, investors are also likely to consider business and financial risks for a company like RMP which faces increased risk as a result of its capital expenditure plan and limited cost recovery mechanisms. Therefore, authorizing an ROE for RMP that is equivalent to the average authorized ROE for other vertically integrated electric utilities is not sufficient to compensate investors for the added risk of RMP. As such, it is important that the Commission consider, as I have in my recommendation, the additional risk of RMP and place the authorized ROE for RMP towards the high end of authorized ROEs for other vertically integrated electric utilities.

[69] FitchRatings, Fitch Downgrades CenterPoint Energy Houston Electric to BBB+; Affirms CNP; Outlooks Negative, February 19, 2020.

Q. What are your conclusions regarding the perceived risks related to the Utah regulatory environment?

A. As discussed throughout this section of my testimony, both Moody's and S&P have identified the supportiveness of the regulatory environment as an important consideration in developing their overall credit ratings for regulated utilities. Many of the companies in the proxy group have more timely cost recovery through fuel cost recovery mechanisms, fully forecasted test years, year-end rate base in all cases, capital cost recovery trackers, and revenue stabilization mechanisms than RMP has in Utah. Additionally, authorized ROEs in Utah have been below the average authorized ROEs for electric and gas utilities across the U.S. Considering all of the similarities and differences, I conclude that the authorized ROE for RMP should be higher than the proxy group mean.

C. Generation Ownership

Q. How does the business risk of vertically integrated electric utilities compare to the business risk of other regulated utilities?

A. According to Moody's, generation ownership causes vertically integrated electric utilities to have higher business risk than either electric transmission and distribution companies, or natural gas distribution or transportation companies.[70] As a result of this higher business risk, integrated electric utilities typically require a higher ROE or percentage of equity in the capital structure than other electric or gas utilities.

[70] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 21-22.

Q. Are there other risk factors specific to vertically integrated electric utilities that the credit rating agencies consider when determining the credit rating of a company that owns generation?

A. Yes. As discussed above, 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. The third factor diversification, which Moody's assigns a 10.00 percent weighting in the overall assessments of a company's business risk, considers the fuel source diversity of a utility with generation. Moody's notes:

> For utilities with electric generation, fuel source diversity can mitigate the impact (to the utility and to its rate-payers) of changes in commodity prices, hydrology and water flow, and environmental or other regulations affecting plant operations and economics. We have observed that utilities' regulatory environments are most likely to become unfavorable during periods of rapid rate increases (which are more important than absolute rate levels) and that fuel diversity leads to more stable rates over time.
>
> For that reason, fuel diversity can be important even if fuel and purchased power expenses are an automatic pass-through to the utility's ratepayers. Changes in environmental, safety and other regulations have caused vulnerabilities for certain technologies and fuel sources during the past five years. These vulnerabilities have varied widely in different countries and have changed over time. [71]

Q. Has Utah enacted legislative requirements related to renewable energy?

A. Yes. In March 2019, Utah House Bill (HB) 411, the Community Renewable Energy Act, was signed into law. HB 411 provides the ability for municipalities and counties in Utah to achieve a net-100 percent renewable electric portfolio by 2030. To participate, a community was required to adopt a local resolution by the end of 2019

[71] *Id.* at 16.

stating the goal to be net-100 percent renewable by 2030. The communities who opted into the program will work directly with RMP who will be responsible for contracting the renewable energy necessary to achieve the net-100 percent renewable goal for each of the communities by 2030.

Q. Is PacifiCorp subject to legislative mandates regarding renewable generation in other jurisdictions?

A. Yes. In March 2016, Oregon Senate Bill No. 1547-B, the Clean Electricity and Coal Transition Plan, was signed into law. Senate Bill No. 1547-B requires that coal-fueled resources are eliminated from Oregon's allocation of electricity by January 1, 2030 and increases the current RPS target from 25 percent in 2025 to 50 percent by 2040. Similarly, the Washington Clean Energy Transformation Act ("CETA") will require PacifiCorp to remove coal-fired generation from rates by 2025, be greenhouse gas neutral by 2030, and serve retail customers with 100 percent non-emitting resources by 2045.[72]

Q. Is a transition to renewable resources supported by all regulatory jurisdictions where PacifiCorp operates?

A. No, it is not. I am aware of several bills that were enacted in the 2019 and 2020 legislative sessions for Wyoming which would not support the transition to renewable resources. For example, Wyoming Senate File 159 ("WY SF 159") in 2019 restricts utilities from recovering the costs of new generation assets replacing Wyoming-based coal generating plants unless utilities first make "a good faith effort" to sell the closing

[72] Washington State, Legislature. Engrossed Second Substitute Senate Bill 5116. Washington State Legislature, 7 May 2019, https://lawfilesext.leg.wa.gov/biennium/2019-20/Pdf/Bills/Session%20Laws/Senate/5116-S2.SL.pdf.

facilities. While the specific details of the regulatory requirements are still to be determined through a rulemaking process, any restrictions that inhibit RMP from seeking the optimal, low-cost resources for their customers can impose additional costs to customers and risks to investors. That is, if RMP's resource planning process concludes that new investments are more cost-effective for customers than continued operation of certain Wyoming, coal-based resources, SF 159 will require that RMP undergo a potentially protracted and costly sale process for the uneconomic coal plants before it may retire them and recover the costs of lower-cost replacement resources. Wyoming House Bill 200 passed in 2020 requires a portion of the public utility's generation portfolio be met with low carbon generating resources using "carbon capture, utilization and storage technologies". In addition, this bill limits the recovery of the costs of new resources to replace retired coal facilities.

Q. Do the legislative initiatives in Oregon, Utah, Washington, and Wyoming present risk for RMP?

A. Yes. Utah House Bill 411, Oregon Senate Bill 1547 and Washington's CETA are in conflict with the Wyoming legislation, SF159. The Wyoming legislation requires that the Company attempt to sell any Wyoming-based coal-fired generating assets that would be retired before the Company could recover the cost of a replacement generating asset. In addition, SF159 requires that the Company engage in a purchase power agreement to buy back the power from the generating asset. This will present challenges to PacifiCorp as it diverges from energy policies in other states, such as Oregon and Washington legislation mandating that the Company transition from coal to renewable resources. While the Company could assign the costs of some amount of

coal-fired generation directly to the Wyoming customers, the size of the Company's Wyoming coal fleet exceeds the capacity requirements of its Wyoming customers. Therefore, the legislative initiatives of these four states are conflicting and create uncertainty and risk surrounding the recovery of the cost of retired generating assets. This risk is not uniformly represented in the proxy group companies.

Q. Have you conducted an analysis to compare the fuel sources for the generation portfolio of RMP to the companies in your proxy group?

A. Yes, I have. Specifically, I calculated for RMP, and each company in the proxy group, the percentage of regulated owned generation capacity that was derived from one of the following fuel sources: oil/natural gas, coal, nuclear, hydro, and other. As shown in Figure 18, approximately 52.47 percent of RMP's regulated, owned generation came from coal-fired power plants with approximately 79.20 percent coming from either oil, natural gas, or coal-fired power plants. Therefore, RMP is more reliant on a limited number of fuel sources for its regulated generation and overall slightly less diversified than the companies in the proxy group.

Figure 18: Regulated Owned Generation Capacity - Fuel Mix for PacifiCorp and Proxy Group

Company	Oil & Natural Gas	Coal	Nuclear	Hydro	Other	Total Generation
Avista Corporation	33.60%	10.41%	0.00%	53.55%	2.43%	100.00%
IDACORP, Inc.	21.36%	26.43%	0.00%	52.20%	0.00%	100.00%
ALLETE, Inc.	5.37%	49.92%	0.00%	7.51%	37.20%	100.00%
NorthWestern Corporation	24.67%	32.54%	0.00%	33.01%	9.78%	100.00%
Dominion Energy, Inc.	49.76%	16.97%	21.47%	10.19%	1.61%	100.00%
Portland General Electric Company	48.74%	20.81%	0.00%	12.14%	18.30%	100.00%
PNM Resources, Inc.	40.19%	34.59%	18.54%	0.00%	6.68%	100.00%
CMS Energy Corporation	52.94%	23.18%	0.00%	19.59%	4.29%	100.00%
Duke Energy Corporation	48.36%	27.95%	16.66%	6.39%	0.64%	100.00%
Xcel Energy Inc.	45.49%	32.85%	8.83%	2.81%	10.03%	100.00%
DTE Energy Company	27.64%	50.70%	9.78%	8.58%	3.30%	100.00%
Southern Company	46.11%	32.58%	11.64%	9.11%	0.57%	100.00%
Pinnacle West Capital Corporation	53.85%	25.20%	17.55%	0.00%	3.40%	100.00%
PacifiCorp	***26.71%***	***52.47%***	***0.00%***	***10.71%***	***10.11%***	***100.00%***
Entergy Corporation	68.26%	13.07%	18.34%	0.33%	0.01%	100.00%
Ameren Corporation	31.36%	49.97%	11.14%	7.35%	0.18%	100.00%
Otter Tail Corporation	15.54%	66.95%	0.00%	0.51%	17.00%	100.00%
Alliant Energy Corporation	50.76%	32.27%	0.00%	0.84%	16.13%	100.00%
NextEra Energy, Inc.	76.20%	8.56%	11.46%	0.00%	3.78%	100.00%
Evergy, Inc.	34.96%	50.00%	10.03%	0.05%	4.96%	100.00%
American Electric Power Company, Inc.	34.84%	51.92%	9.53%	3.61%	0.10%	100.00%
OGE Energy Corp.	55.16%	37.97%	0.00%	0.00%	6.86%	100.00%
PPL Corporation	36.56%	61.74%	0.00%	1.58%	0.12%	100.00%

Q. Is PacifiCorp's generation portfolio currently in a state of transition?

A. Yes. As further discussed in the testimony of Mr. Rick T. Link, the Company is responding to changing market conditions and, as indicated by the 2019 Integrated Resource Plan ("IRP") action plan, is taking near term actions to retire certain coal units, invest in new renewable generation, and invest in associated transmission.

Q. How does PacifiCorp's generation investment plan affect its business risk?

A. The Company's 2019 IRP action plan includes significant investment in building transmission and adding new wind and solar generation. This significant investment in transmission and renewable energy will require continued access to capital markets,

which highlights the importance of granting PacifiCorp an allowed ROE and equity ratio that is sufficient to attract capital at reasonable terms.

Q. What are your conclusions regarding the perceived risks related to the fuel mix of RMP's generation portfolio?

A. RMP generates a significant percentage of its electricity using coal-fired generation. As renewable resources have become more economic, PacifiCorp has planned to reduce customer costs by making sizable future capital expenditures to become less dependent on coal-fired generation. While the Company intends to improve fuel diversity over the long-run, the plans will require continued access to capital markets to finance the new investments. The Company's existing generation portfolio and proposed transmission and generation investment plans increase the overall risk profile as compared with the proxy group.

IX. CAPITAL STRUCTURE

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

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

Q. What is RMP's proposed capital structure?

A. As described in the testimony of Ms. Nikki L. Kobliha, RMP's proposal is to establish a capital structure consisting of 53.67 percent common equity, 46.32 percent long-term debt, and 0.01 percent preferred equity.

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

A. Yes, I did. I reviewed RMP's proposed capital structure and the capital structures of the utility operating subsidiaries of the proxy companies. Because the ROE is set based on the return that is derived from the risk-comparable proxy group, it is reasonable to look to the proxy group average capital structure to benchmark the equity ratio for RMP.

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

A. I calculated the mean proportions of common equity, long-term debt, and preferred equity over the most recent eight quarters[73] for each of the companies in the proxy group at the operating subsidiary level. My analysis of the capital structures of the proxy group companies is provided in Exhibit RMP___(AEB-11). As shown in Exhibit RMP___(AEB-11), the equity ratios for the proxy group at the operating utility company level ranged from 47.49 percent to 61.54 percent with an average of 52.73 percent. RMP's proposed equity ratio of 53.67 percent is well within the range of equity ratios for the utility operating subsidiaries of the proxy group companies and is therefore reasonable.

[73] The source data for this analysis is the operating company data provided in FERC Form 1 reports. Due to the timing of those filings, my average capital structure analysis uses the quarterly capital structures reported for the proxy group companies for the period from the fourth quarter of 2017 through the third quarter of 2019.

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

A. Yes. The credit rating agencies' response to the TCJA must also be considered when determining the equity ratio. As discussed previously in my testimony, all three rating agencies have noted that the TCJA has negative implications for utility cash flows. S&P and FitchRatings have specifically identified increasing the equity ratio as one approach to ensure that utilities have sufficient cash flows following the tax cuts and the loss of bonus depreciation. Furthermore, Moody's unprecedented downgrade of the rating outlook for the entire utilities sector in June 2018 stresses the importance of maintaining adequate cash flow metrics for the industry as a whole and RMP in the context of this proceeding.

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

A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such as RMP. To the extent the equity ratio is reduced, it is necessary to increase the authorized ROE to compensate investors for the greater financial risk associated with a lower equity ratio.

Q. What is your conclusion regarding an appropriate capital structure for RMP?

A. Considering the actual capital structures of the proxy group operating companies, I believe that RMP's proposed common equity ratio of 53.67 percent is reasonable. The proposed equity ratio is well within the range established by the capital structures of the utility operating subsidiaries of the proxy companies. In addition, it is reasonable to rely on a higher equity ratio than RMP may have relied on in prior cases as a result of: (1) the cash flow concerns raised by credit rating agencies as a result of the TCJA; and (2) RMP's above average business risk profile as compared to the proxy group.

The proposed equity ratio in combination with my recommended ROE are reasonable and would be adequate to support capital attraction on reasonable terms.

X. CONCLUSIONS AND RECOMMENDATION

Q. What is your conclusion regarding a fair ROE for RMP?

A. Based on the analytical results discussed throughout my direct testimony and summarized in Figure 19 below, I believe a range from 9.75 percent to 10.25 percent is reasonable. Within that range, an authorized return of 10.20 percent is reasonable for RMP. This recommendation reflects the range of results for the proxy group companies, the relative business, financial, and regulatory risk of RMP's electric operations in Utah as compared to the proxy group, and current capital market conditions. This ROE would enable the company to maintain its financial integrity and therefore its ability to attract capital at reasonable terms under a variety of economic and financial market conditions, while continuing to provide safe, reliable, and affordable electric utility service to customers in Utah.

Figure 19: Summary of Analytical Results[74]

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.53%	9.01%	9.69%
90-Day Average	8.53%	8.89%	9.45%
180-Day Average	8.52%	8.89%	9.45%
Projected DCF			
	Mean Low	Mean	Mean High
2023-2025 Projection	9.00%	9.57%	9.93%
Capital Asset Pricing Model			
	Current Risk-Free Rate (1.56%)	Q3 2020 - Q3 2021 Projected Risk-Free Rate (1.80%)	2021-2025 Projected Risk-Free Rate (3.20%)
Value Line Beta	8.49%	8.59%	9.22%
Bloomberg Beta	11.36%	11.41%	11.71%
Empirical Capital Asset Pricing Model			
Value Line Beta	9.88%	9.96%	10.42%
Bloomberg Beta	12.03%	12.07%	12.30%
Treasury Yield Plus Risk Premium			
	Current Risk-Free Rate (1.56%)	Q3 2020 - Q3 2021 Projected Risk-Free Rate (1.80%)	2021-2025 Projected Risk-Free Rate (3.20%)
Risk Premium Analysis	9.33%	9.43%	10.04%
Expected Earnings Analysis			
	Mean		Median
Expected Earnings Result	10.82%		10.74%

`Q. What is your conclusion with respect to RMP's proposed capital structure?

A. My conclusion is that RMP's proposal to establish a capital structure consisting of 53.67 percent common equity, 46.32 percent long-term debt, and 0.01 percent preferred equity is reasonable when compared to the capital structures of the companies in the proxy group and taking in consideration the impact of the TCJA on the cash flows, and therefore should be adopted.

[74] The analytical results included in Figure 19 reflect the results of the Constant Growth and Projected DCF analyses excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

Q. Does this conclude your direct testimony?

A. Yes.

Rocky Mountain Power
Exhibit RMP___(AEB-1)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Resume

May 2020

ANN E. BULKLEY
Senior Vice President

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

REPRESENTATIVE PROJECT EXPERIENCE

Regulatory Analysis and Ratemaking

Ms. Bulkley has provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking. Specific services have included: cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies; development of merchant function exit strategies; analysis and program development to address residual energy supply and/or provider of last resort obligations; stranded costs assessment and recovery; performance-based ratemaking analysis and design; and many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation).

Cost of Capital

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

Valuation

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

Representative projects/clients have included:

- Northern Indiana Fuel and Light: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.
- Kokomo Gas: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.
- Prepared fair value rate base analyses for Northern Indiana Public Service Company for several electric rate proceedings. Valuation approaches used in this project included income, cost and comparable sales approaches.
- Confidential Utility Client: Prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.
- Prepared a valuation of a portfolio of generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis and a risk analysis.
- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract.
- Prepared market valuations of several purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and value at risk for the selling utility.
- Prepared appraisal of a portfolio of generating facilities for a large electric utility to be used for financing purposes.
- Prepared an appraisal of a fleet of fossil generating assets for a large electric utility to establish the value of assets transferred from utility property.
- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.
- Provided analytical support for and prepared appraisal reports of generation assets to be used in ad valorem tax disputes.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

Ratemaking

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

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.

Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Analyzed and evaluated rate application. Attended hearings and conducted investigation of rate application for regulatory staff. Prepared, supported and defended recommendations for revenue requirements and rates for the company. Developed rates for gas utility for transportation program and ancillary services.

Strategic and Financial Advisory Services

Ms. Bulkley has assisted several clients across North America with analytically based strategic planning, due diligence and financial advisory services.

Representative projects include:

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

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 – Present)
Senior Vice President
Vice President
Assistant Vice President
Project Manager

Navigant Consulting, Inc. (1995 – 2002)
Project Manager

Cahners Publishing Company (1995)
Economist

EDUCATION

Boston University
M.A., Economics, 1995

Simmons College
B.A., Economics and Finance, 1991

CERTIFICATIONS

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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
Arizona Public Service Company	10/19	Arizona Public Service Company	Docket No. E-01345A-19-0236	Return on Equity
Tucson Electric Power Company	04/19	Tucson Electric Power Company	Docket No. E-01933A-19-0028	Return on Equity
Tucson Electric Power Company	11/15	Tucson Electric Power Company	Docket No. E-01933A-15-0322	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity
Arkansas Public Service Commission				
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
Colorado Public Utilities Commission				
Public Service Company of Colorado	02/20	Public Service Company of Colorado	20AL-0049G	Return on Equity
Public Service Company of Colorado	05/19	Public Service Company of Colorado	19AL-0268E	Return on Equity
Public Service Company of Colorado	01/19	Public Service Company of Colorado	19AL-0063ST	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-0299G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity
Connecticut Public Utilities Regulatory Authority				
Connecticut Natural Gas Corporation	06/18	Connecticut Natural Gas Corporation	Docket No. 18-05-16	Return on Equity
Yankee Gas Services Co. d/b/a Eversource Energy	06/18	Yankee Gas Services Co. d/b/a Eversource Energy	Docket No. 18-05-10	Return on Equity
The Southern Connecticut Gas Company	06/17	The Southern Connecticut Gas Company	Docket No. 17-05-42	Return on Equity
The United Illuminating Company	07/16	The United Illuminating Company	Docket No. 16-06-04	Return on Equity
Federal Energy Regulatory Commission				
Panhandle Eastern Pipe Line Company, LP	10/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-78-000 RP19-78-001	Return on Equity
Panhandle Eastern Pipe Line Company, LP	08/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-1523	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Sea Robin Pipeline Company LLC	11/18	Sea Robin Pipeline Company LLC	Docket# RP19-352-000	Return on Equity
Tallgrass Interstate Gas Transmission	10/15	Tallgrass Interstate Gas Transmission	RP16-137	Return on Equity
Indiana Utility Regulatory Commission				
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity
Northern Indiana Public Service Company	09/17	Northern Indiana Public Service Company	Cause No. 44988	Fair Value
Indianapolis Power and Light Company	12/16	Indianapolis Power and Light Company	Cause No.44893	Fair Value
Northern Indiana Public Service Company	10/15	Northern Indiana Public Service Company	Cause No. 44688	Fair Value
Indianapolis Power and Light Company	09/15	Indianapolis Power and Light Company	Cause No. 44576 Cause No. 44602	Fair Value
Kokomo Gas and Fuel Company	09/10	Kokomo Gas and Fuel Company	Cause No. 43942	Fair Value
Northern Indiana Fuel and Light Company, Inc.	09/10	Northern Indiana Fuel and Light Company, Inc.	Cause No. 43943	Fair Value
Kansas Corporation Commission				
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
Kentucky Public Service Commission				
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity
Maine Public Utilities Commission				
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-00194	Return on Equity
Maryland Public Service Commission				
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity
Massachusetts Appellate Tax Board				
Hopkinton LNG Corporation	03/20	Hopkinton LNG Corporation	Docket No.	Valuation of LNG Facility
FirstLight Hydro Generating Company	06/17	FirstLight Hydro Generating Company	Docket No. F-325471 Docket No. F-325472 Docket No. F-325473 Docket No. F-325474	Valuation of Electric Generation Assets

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Massachusetts Department of Public Utilities				
Berkshire Gas Company	05/18	Berkshire Gas Company	DPU 18-40	Rate Case
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Michigan Public Service Commission				
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
Michigan Tax Tribunal				
New Covert Generating Co., LLC.	03/18	The Township of New Covert Michigan	MTT Docket No. 000248TT and 16-001888-TT	Valuation of Electric Generation Assets
Covert Township	07/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets
Minnesota Public Utilities Commission				
Allete, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity
CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	10/19	CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	G-008/GR-19-524	Return on Equity
Great Plains Natural Gas Co.	09/19	Great Plains Natural Gas Co.	Docket No. G004/GR-19-511	Return on Equity
Minnesota Energy Resources Corporation	10/17	Minnesota Energy Resources Corporation	Docket No. G011/GR-17-563	Return on Equity
Missouri Public Service Commission				
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity
Montana Public Service Commission				
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
New Hampshire - Board of Tax and Land Appeals				
Public Service Company of New Hampshire d/b/a Eversource Energy	11/19 12/19	Public Service Company of New Hampshire d/b/a Eversource Energy	Master Docket No. 28873-14-15-16-17PT	Valuation of Utility Property and Generating Assets
New Hampshire Public Utilities Commission				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
New Hampshire-Merrimack County Superior Court				
Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	04/18	Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	220-2012-CV-1100	Valuation of Utility Property
New Hampshire-Rockingham Superior Court				
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
New Jersey Board of Public Utilities				
New Jersey American Water Company, Inc.	12/19	New Jersey American Water Company, Inc.	WR1912XXXX	Return on Equity
Public Service Electric and Gas Company	04/19	Public Service Electric and Gas Company	EO18060629 GO18060630	Return on Equity
Public Service Electric and Gas Company	02/18	Public Service Electric and Gas Company	GR17070776	Return on Equity
Public Service Electric and Gas Company	01/18	Public Service Electric and Gas Company	ER18010029 GR18010030	Return on Equity
New Mexico Public Regulation Commission				
Southwestern Public Service Company	07/19	Southwestern Public Service Company	19-00170-UT	Return on Equity
Southwestern Public Service Company	10/17	Southwestern Public Service Company	Case No. 17-00255-UT	Return on Equity
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Case No. 16-00269-UT	Return on Equity
Southwestern Public Service Company	10/15	Southwestern Public Service Company	Case No. 15-00296-UT	Return on Equity
Southwestern Public Service Company	06/15	Southwestern Public Service Company	Case No. 15-00139-UT	Return on Equity
New York State Department of Public Service				
Corning Natural Gas Corporation	02/20	Corning Natural Gas Corporation	Case No. 20-G-0101	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/19	New York State Electric and Gas Company Rochester Gas and Electric	19-E-0378 19-G-0379 19-E-0380 19-G-0381	Return on Equity
Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	04/19	Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	19-G-0309 19-G-0310	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Central Hudson Gas and Electric Corporation	07/17	Central Hudson Gas and Electric Corporation	Gas 17-G-0460 Electric 17-E-0459	Return on Equity
Niagara Mohawk Power Corporation	04/17	National Grid USA	Case No. 17-E-0238 17-G-0239	Return on Equity
Corning Natural Gas Corporation	06/16	Corning Natural Gas Corporation	Case No. 16-G-0369	Return on Equity
National Fuel Gas Company	04/16	National Fuel Gas Company	Case No. 16-G-0257	Return on Equity
KeySpan Energy Delivery	01/16	KeySpan Energy Delivery	Case No. 15-G-0058 Case No. 15-G-0059	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/15	New York State Electric and Gas Company Rochester Gas and Electric	Case No. 15-G-0284 Case No. 15-E-0285 Case No. 15-G-0286	Return on Equity
North Dakota Public Service Commission				
Northern States Power Company	12/12	Northern States Power Company	C-PU-12-813	Return on Equity
Northern States Power Company	12/10	Northern States Power Company	C-PU-10-657	Return on Equity
Oklahoma Corporation Commission				
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
Oregon Public Service Commission				
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity
Pennsylvania Public Utility Commission				
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017-2595853	Return on Equity
South Dakota Public Utilities Commission				
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
Texas Public Utility Commission				
Southwestern Public Service Commission	08/19	Southwestern Public Service Commission	Docket No. D-49831	Return on Equity
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
Virginia State Corporation Commission				
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
Washington Utilities Transportation Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
PacifiCorp d/b/a Pacific Power & Light	12/19	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-191024	Return on Equity
Cascade Natural Gas Corporation	04/19	Cascade Natural Gas Corporation	Docket No. UG-190210	Return on Equity
West Virginia Public Service Commission				
West Virginia American Water Company	04/18	West Virginia American Water Company	Case No. 18-0573-W-42T Case No. 18-0576-S-42T	Return on Equity
Wisconsin Public Service Commission				
Wisconsin Electric Power Company and Wisconsin Gas LLC	03/19	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-109	Return on Equity
Wisconsin Public Service Corp.	03/19	Wisconsin Public Service Corp.	6690-UR-126	Return on Equity
Wyoming Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	03/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-578-ER-20	Return on Equity
Montana-Dakota Utilities Co.	05/19	Montana-Dakota Utilities Co.	30013-351-GR-19	Return on Equity

Rocky Mountain Power
Exhibit RMP___(AEB-2)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Summary of Testimony

May 2020

SUMMARY OF ROE ANALYSES RESULTS[1]

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.53%	9.01%	9.69%
90-Day Average	8.53%	8.89%	9.45%
180-Day Average	8.52%	8.89%	9.45%
Constant Growth Average	8.52%	8.93%	9.53%
Projected DCF			
	Mean Low	Mean	Mean High
2023-2025 Projection	9.00%	9.57%	9.93%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	8.49%	8.59%	9.22%
Bloomberg Beta	11.36%	11.41%	11.71%
ECAPM			
Value Line Beta	9.88%	9.96%	10.42%
Bloomberg Beta	12.03%	12.07%	12.30%
Treasury Yield Plus Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Analysis	9.33%	9.43%	10.04%
Risk Premium Mean Result	9.60%		
Expected Earnings Analysis			
	Mean		Median
Expected Earnings Result	10.82%		10.74%

Notes:

[1] The analytical results included in the table reflect the results of the Constant Growth and Projected DCF analyses excluding the results for individual companies that did not meet the minimum threshold of 7 percent.

Rocky Mountain Power
Exhibit RMP___(AEB-3)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Proxy Group

May 2020

PROXY GROUP SCREENING DATA AND RESULTS - FINAL PROXY GROUP

Company		[1] Dividends	[2] S&P Credit Rating Between BBB- and AAA	[3] Covered by More Than 1 Analyst	[4] Positive Growth Rates from at least two sources (Value Line, Yahoo! First Call, and Zacks)	[5] Generation Assets Included in Rate Base	[6] % Regulated Coal Generation Capacity > 5%	[7] % Regulated Operating Income > 60%	[8] % Regulated Electric Operating Income ≥ 60%	[9] Announced Merger
ALLETE, Inc.	ALE	Yes	BBB+	Yes	Yes	Yes	50%	75%	97%	No
Alliant Energy Corporation	LNT	Yes	A-	Yes	Yes	Yes	32%	97%	94%	No
Ameren Corporation	AEE	Yes	BBB+	Yes	Yes	Yes	50%	100%	88%	No
American Electric Power Company, Inc.	AEP	Yes	A-	Yes	Yes	Yes	52%	96%	100%	No
Avista Corporation	AVA	Yes	BBB	Yes	Yes	Yes	10%	100%	100%	No
CMS Energy Corporation	CMS	Yes	BBB+	Yes	Yes	Yes	23%	94%	74%	No
Dominion Resources, Inc.	D	Yes	BBB+	Yes	Yes	Yes	17%	95%	66%	No
DTE Energy Company	DTE	Yes	BBB+	Yes	Yes	Yes	51%	93%	81%	No
Duke Energy Corporation	DUK	Yes	A-	Yes	Yes	Yes	28%	100%	93%	No
Entergy Corporation	ETR	Yes	BBB+	Yes	Yes	Yes	13%	100%	99%	No
Evergy, Inc.	EVRG	Yes	A-	Yes	Yes	Yes	50%	100%	100%	No
IDACORP, Inc.	IDA	Yes	BBB	Yes	Yes	Yes	26%	99%	100%	No
NextEra Energy, Inc.	NEE	Yes	A-	Yes	Yes	Yes	9%	70%	100%	No
NorthWestern Corporation	NWE	Yes	BBB	Yes	Yes	Yes	33%	100%	84%	No
OGE Energy Corporation	OGE	Yes	BBB+	Yes	Yes	Yes	38%	100%	100%	No
Otter Tail Corporation	OTTR	Yes	BBB	Yes	Yes	Yes	67%	73%	100%	No
Pinnacle West Capital Corporation	PNW	Yes	A-	Yes	Yes	Yes	25%	100%	100%	No
PNM Resources, Inc.	PNM	Yes	BBB+	Yes	Yes	Yes	35%	100%	100%	No
Portland General Electric Company	POR	Yes	BBB+	Yes	Yes	Yes	21%	100%	100%	No
PPL Corporation	PPL	Yes	A-	Yes	Yes	Yes	62%	100%	96%	No
Southern Company	SO	Yes	A-	Yes	Yes	Yes	33%	96%	81%	No
Xcel Energy Inc.	XEL	Yes	A-	Yes	Yes	Yes	33%	100%	87%	No

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional
[3] Source: Yahoo! Finance and Zacks
[4] Source: Yahoo! Finance, Value Line Investment Survey, and Zacks
[5] to [6] Source: SNL Financial
[7] to [8] Source: Form 10-Ks for 2018, 2017 & 2016
[9] SNL Financial News Releases

Rocky Mountain Power
Exhibit RMP___(AEB-3) 1 of 1
Docket No. 20-035-04
Witness: Ann E. Bulkley

Rocky Mountain Power
Exhibit RMP___(AEB-4)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Constant Growth DCF Model

May 2020

30-DAY CONSTANT GROWTH DCF -- PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	All Proxy Group [9]	[10]	[11]	With Exclusions [12]	[13]	[14]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	$2.47	$68.47	3.61%	3.72%	5.50%	7.00%	NA%	6.25%	9.21%	9.97%	10.73%	9.21%	9.97%	10.73%
Alliant Energy Corporation	LNT	$1.52	$51.96	2.93%	3.01%	6.50%	5.65%	5.50%	5.88%	8.51%	8.89%	9.52%	8.51%	8.89%	9.52%
Ameren Corporation	AEE	$1.98	$77.92	2.54%	2.61%	6.00%	4.90%	6.10%	5.67%	7.50%	8.28%	8.72%	7.50%	8.28%	8.72%
American Electric Power Company, Inc.	AEP	$2.80	$89.24	3.14%	3.23%	5.00%	6.17%	5.80%	5.66%	8.22%	8.88%	9.40%	8.22%	8.88%	9.40%
Avista Corporation	AVA	$1.62	$46.54	3.48%	3.57%	3.50%	6.30%	5.40%	5.07%	7.04%	8.64%	9.89%	7.04%	8.64%	9.89%
CMS Energy Corporation	CMS	$1.63	$61.86	2.64%	2.73%	7.50%	7.50%	7.10%	7.37%	9.83%	10.10%	10.23%	9.83%	10.10%	10.23%
Dominion Resources, Inc.	D	$3.76	$78.97	4.76%	4.89%	7.00%	4.88%	4.70%	5.53%	9.57%	10.42%	11.93%	9.57%	10.42%	11.93%
DTE Energy Company	DTE	$4.05	$105.48	3.84%	3.95%	5.00%	6.00%	6.00%	5.67%	8.94%	9.61%	9.95%	8.94%	9.61%	9.95%
Duke Energy Corporation	DUK	$3.78	$88.46	4.27%	4.38%	6.00%	4.12%	4.70%	4.94%	8.48%	9.32%	10.40%	8.48%	9.32%	10.40%
Entergy Corporation	ETR	$3.72	$108.98	3.41%	3.49%	3.00%	Negative	6.30%	4.65%	6.46%	8.14%	9.82%		8.14%	9.82%
Evergy, Inc.	EVRG	$2.02	$62.35	3.24%	3.34%	NMF	6.50%	6.40%	6.45%	9.74%	9.79%	9.85%	9.74%	9.79%	9.85%
IDACORP, Inc.	IDA	$2.68	$95.98	2.79%	2.83%	3.50%	2.50%	2.50%	2.83%	5.33%	5.67%	6.34%			
NextEra Energy, Inc.	NEE	$5.60	$242.83	2.31%	2.40%	10.00%	7.59%	7.70%	8.43%	9.98%	10.83%	12.42%	9.98%	10.83%	12.42%
NorthWestern Corporation	NWE	$2.40	$67.37	3.56%	3.62%	2.00%	3.79%	3.10%	2.96%	5.60%	6.58%	7.42%			7.42%
OGE Energy Corporation	OGE	$1.55	$35.19	4.40%	4.49%	4.50%	2.90%	4.00%	3.80%	7.37%	8.29%	9.00%	7.37%	8.29%	9.00%
Otter Tail Corporation	OTTR	$1.48	$46.15	3.21%	3.32%	5.00%	9.00%	NA%	7.00%	8.29%	10.32%	12.35%	8.29%	10.32%	12.35%
Pinnacle West Capital Corporation	PNW	$3.13	$85.91	3.64%	3.72%	4.00%	4.62%	4.40%	4.34%	7.72%	8.06%	8.35%	7.72%	8.06%	8.35%
PNM Resources, Inc.	PNM	$1.23	$43.92	2.80%	2.89%	7.00%	6.30%	5.90%	6.40%	8.78%	9.29%	9.90%	8.78%	9.29%	9.90%
Portland General Electric Company	POR	$1.54	$52.67	2.92%	2.99%	4.50%	4.70%	4.90%	4.70%	7.49%	7.69%	7.90%	7.49%	7.69%	7.90%
PPL Corporation	PPL	$1.66	$28.22	5.88%	5.93%	2.50%	0.50%	NA%	1.50%	6.40%	7.43%	8.46%		7.43%	8.46%
Southern Company	SO	$2.48	$59.10	4.20%	4.27%	4.00%	2.10%	4.00%	3.37%	6.34%	7.63%	8.28%		7.63%	8.28%
Xcel Energy Inc.	XEL	$1.72	$63.70	2.70%	2.78%	5.50%	6.10%	6.00%	5.87%	8.27%	8.65%	8.88%	8.27%	8.65%	8.88%
MEAN				3.47%	3.55%	5.12%	5.20%	5.29%	5.20%	7.96%	8.75%	9.53%	8.53%	9.01%	9.69%

Notes

[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of March 31, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line Investment Survey
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])
[12] Equals [9] if greater than 7.00%
[13] Equals [10] if greater than 7.00%
[14] Equals [11] if greater than 7.00%

90-DAY CONSTANT GROWTH DCF -- PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	All Proxy Group [9]	[10]	[11]	With Exclusions [12]	[13]	[14]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	$2.47	$77.04	3.21%	3.31%	5.50%	7.00%	NA%	6.25%	8.79%	9.56%	10.32%	8.79%	9.56%	10.32%
Alliant Energy Corporation	LNT	$1.52	$54.37	2.80%	2.88%	6.50%	5.65%	5.50%	5.88%	8.37%	8.76%	9.39%	8.37%	8.76%	9.39%
Ameren Corporation	AEE	$1.98	$78.02	2.54%	2.61%	6.00%	4.90%	6.10%	5.67%	7.50%	8.28%	8.72%	7.50%	8.28%	8.72%
American Electric Power Company, Inc.	AEP	$2.80	$93.91	2.98%	3.07%	5.00%	6.17%	5.80%	5.66%	8.06%	8.72%	9.24%	8.06%	8.72%	9.24%
Avista Corporation	AVA	$1.62	$47.95	3.38%	3.46%	3.50%	6.30%	5.40%	5.07%	6.94%	8.53%	9.78%		8.53%	9.78%
CMS Energy Corporation	CMS	$1.63	$63.31	2.57%	2.67%	7.50%	7.50%	7.10%	7.37%	9.77%	10.04%	10.17%	9.77%	10.04%	10.17%
Dominion Resources, Inc.	D	$3.76	$81.73	4.60%	4.73%	7.00%	4.88%	4.70%	5.53%	9.41%	10.25%	11.76%	9.41%	10.25%	11.76%
DTE Energy Company	DTE	$4.05	$121.43	3.34%	3.43%	5.00%	6.00%	6.00%	5.67%	8.42%	9.10%	9.44%	8.42%	9.10%	9.44%
Duke Energy Corporation	DUK	$3.78	$91.05	4.15%	4.25%	6.00%	4.12%	4.70%	4.94%	8.36%	9.19%	10.28%	8.36%	9.19%	10.28%
Entergy Corporation	ETR	$3.72	$118.35	3.14%	3.22%	3.00%	Negative	6.30%	4.65%	6.19%	7.87%	9.54%		7.87%	9.54%
Evergy, Inc.	EVRG	$2.02	$65.04	3.11%	3.21%	NMF	6.50%	6.40%	6.45%	9.61%	9.66%	9.71%	9.61%	9.66%	9.71%
IDACORP, Inc.	IDA	$2.68	$103.79	2.58%	2.62%	3.50%	2.50%	2.50%	2.83%	5.11%	5.45%	6.13%			
NextEra Energy, Inc.	NEE	$5.60	$246.88	2.27%	2.36%	10.00%	7.59%	7.70%	8.43%	9.94%	10.79%	12.38%	9.94%	10.79%	12.38%
NorthWestern Corporation	NWE	$2.40	$71.34	3.36%	3.41%	2.00%	3.79%	3.10%	2.96%	5.40%	6.38%	7.22%			7.22%
OGE Energy Corporation	OGE	$1.55	$41.27	3.76%	3.83%	4.50%	2.90%	4.00%	3.80%	6.71%	7.63%	8.34%		7.63%	8.34%
Otter Tail Corporation	OTTR	$1.48	$49.99	2.96%	3.06%	5.00%	9.00%	NA%	7.00%	8.03%	10.06%	12.09%	8.03%	10.06%	12.09%
Pinnacle West Capital Corporation	PNW	$3.13	$89.69	3.49%	3.57%	4.00%	4.62%	4.40%	4.34%	7.56%	7.91%	8.19%	7.56%	7.91%	8.19%
PNM Resources, Inc.	PNM	$1.23	$48.81	2.52%	2.60%	7.00%	6.30%	5.90%	6.40%	8.49%	9.00%	9.61%	8.49%	9.00%	9.61%
Portland General Electric Company	POR	$1.54	$55.88	2.76%	2.82%	4.50%	4.70%	4.90%	4.70%	7.32%	7.52%	7.72%	7.32%	7.52%	7.72%
PPL Corporation	PPL	$1.66	$33.01	5.03%	5.07%	2.50%	0.50%	NA%	1.50%	5.54%	6.57%	7.59%			7.59%
Southern Company	SO	$2.48	$63.08	3.93%	4.00%	4.00%	2.10%	4.00%	3.37%	6.07%	7.36%	8.01%		7.36%	8.01%
Xcel Energy Inc.	XEL	$1.72	$64.28	2.68%	2.75%	5.50%	6.10%	6.00%	5.87%	8.25%	8.62%	8.86%	8.25%	8.62%	8.86%
MEAN				3.23%	3.31%	5.12%	5.20%	5.29%	5.20%	7.72%	8.51%	9.29%	8.53%	8.89%	9.45%

Notes

[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 90-day average as of March 31, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line Investment Survey
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])
[12] Equals [9] if greater than 7.00%
[13] Equals [10] if greater than 7.00%
[14] Equals [11] if greater than 7.00%

180-DAY CONSTANT GROWTH DCF -- PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	All Proxy Group [9]	[10]	[11]	With Exclusions [12]	[13]	[14]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	$2.47	$81.29	3.04%	3.13%	5.50%	7.00%	NA%	6.25%	8.62%	9.38%	10.15%	8.62%	9.38%	10.15%
Alliant Energy Corporation	LNT	$1.52	$53.24	2.86%	2.94%	6.50%	5.65%	5.50%	5.88%	8.43%	8.82%	9.45%	8.43%	8.82%	9.45%
Ameren Corporation	AEE	$1.98	$77.39	2.56%	2.63%	6.00%	4.90%	6.10%	5.67%	7.52%	8.30%	8.74%	7.52%	8.30%	8.74%
American Electric Power Company, Inc.	AEP	$2.80	$92.70	3.02%	3.11%	5.00%	6.17%	5.80%	5.66%	8.10%	8.76%	9.28%	8.10%	8.76%	9.28%
Avista Corporation	AVA	$1.62	$47.54	3.41%	3.49%	3.50%	6.30%	5.40%	5.07%	6.97%	8.56%	9.82%		8.56%	9.82%
CMS Energy Corporation	CMS	$1.63	$62.53	2.61%	2.70%	7.50%	7.50%	7.10%	7.37%	9.80%	10.07%	10.20%	9.80%	10.07%	10.20%
Dominion Resources, Inc.	D	$3.76	$80.35	4.68%	4.81%	7.00%	4.88%	4.70%	5.53%	9.49%	10.34%	11.84%	9.49%	10.34%	11.84%
DTE Energy Company	DTE	$4.05	$125.05	3.24%	3.33%	5.00%	6.00%	6.00%	5.67%	8.32%	9.00%	9.34%	8.32%	9.00%	9.34%
Duke Energy Corporation	DUK	$3.78	$91.63	4.13%	4.23%	6.00%	4.12%	4.70%	4.94%	8.33%	9.17%	10.25%	8.33%	9.17%	10.25%
Entergy Corporation	ETR	$3.72	$115.82	3.21%	3.29%	3.00%	Negative	6.30%	4.65%	6.26%	7.94%	9.61%		7.94%	9.61%
Evergy, Inc.	EVRG	$2.02	$64.40	3.14%	3.24%	NMF	6.50%	6.40%	6.45%	9.64%	9.69%	9.74%	9.64%	9.69%	9.74%
IDACORP, Inc.	IDA	$2.68	$105.59	2.54%	2.57%	3.50%	2.50%	2.50%	2.83%	5.07%	5.41%	6.08%			
NextEra Energy, Inc.	NEE	$5.60	$235.03	2.38%	2.48%	10.00%	7.59%	7.70%	8.43%	10.06%	10.91%	12.50%	10.06%	10.91%	12.50%
NorthWestern Corporation	NWE	$2.40	$71.78	3.34%	3.39%	2.00%	3.79%	3.10%	2.96%	5.38%	6.36%	7.20%			7.20%
OGE Energy Corporation	OGE	$1.55	$42.29	3.67%	3.73%	4.50%	2.90%	4.00%	3.80%	6.62%	7.53%	8.25%		7.53%	8.25%
Otter Tail Corporation	OTTR	$1.48	$51.30	2.88%	2.99%	5.00%	9.00%	NA%	7.00%	7.96%	9.99%	12.01%	7.96%	9.99%	12.01%
Pinnacle West Capital Corporation	PNW	$3.13	$91.55	3.42%	3.49%	4.00%	4.62%	4.40%	4.34%	7.49%	7.83%	8.12%	7.49%	7.83%	8.12%
PNM Resources, Inc.	PNM	$1.23	$49.68	2.48%	2.55%	7.00%	6.30%	5.90%	6.40%	8.45%	8.95%	9.56%	8.45%	8.95%	9.56%
Portland General Electric Company	POR	$1.54	$55.91	2.75%	2.82%	4.50%	4.70%	4.90%	4.70%	7.32%	7.52%	7.72%	7.32%	7.52%	7.72%
PPL Corporation	PPL	$1.66	$32.06	5.18%	5.22%	2.50%	0.50%	NA%	1.50%	5.69%	6.72%	7.74%			7.74%
Southern Company	SO	$2.48	$61.34	4.04%	4.11%	4.00%	2.10%	4.00%	3.37%	6.19%	7.48%	8.12%		7.48%	8.12%
Xcel Energy Inc.	XEL	$1.72	$63.47	2.71%	2.79%	5.50%	6.10%	6.00%	5.87%	8.28%	8.66%	8.89%	8.28%	8.66%	8.89%
MEAN				3.24%	3.32%	5.12%	5.20%	5.29%	5.20%	7.73%	8.52%	9.30%	8.52%	8.89%	9.45%

Notes

[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 180-day average as of March 31, 2020
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line Investment Survey
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])
[12] Equals [9] if greater than 7.00%
[13] Equals [10] if greater than 7.00%
[14] Equals [11] if greater than 7.00%

Rocky Mountain Power
Exhibit RMP___(AEB-5)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Projected DCF Model

May 2020

PROJECTED CONSTANT GROWTH DCF -- PROXY GROUP

												All Proxy Group			With Exclusions		
		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]
		Annualized Dividend (2023-2025)	Stock Price (2023 - 2025)														
Company			High	Low	Mean	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	$3.00	$90.00	$65.00	$77.50	3.87%	3.99%	5.50%	7.00%	NA%	6.25%	9.48%	10.24%	11.01%	9.48%	10.24%	11.01%
Alliant Energy Corporation	LNT	$2.00	$55.00	$40.00	$47.50	4.21%	4.33%	6.50%	5.65%	5.50%	5.88%	9.83%	10.22%	10.85%	9.83%	10.22%	10.85%
Ameren Corporation	AEE	$2.45	$80.00	$60.00	$70.00	3.50%	3.60%	6.00%	4.90%	6.10%	5.67%	8.49%	9.27%	9.71%	8.49%	9.27%	9.71%
American Electric Power Company, Inc.	AEP	$3.55	$105.00	$85.00	$95.00	3.74%	3.84%	5.00%	6.17%	5.80%	5.66%	8.83%	9.50%	10.02%	8.83%	9.50%	10.02%
Avista Corporation	AVA	$1.75	$55.00	$40.00	$47.50	3.68%	3.78%	3.50%	6.30%	5.40%	5.07%	7.25%	8.84%	10.10%	7.25%	8.84%	10.10%
CMS Energy Corporation	CMS	$2.15	$70.00	$50.00	$60.00	3.58%	3.72%	7.50%	7.50%	7.10%	7.37%	10.81%	11.08%	11.22%	10.81%	11.08%	11.22%
Dominion Resources, Inc.	D	$4.15	$105.00	$80.00	$92.50	4.49%	4.61%	7.00%	4.88%	4.70%	5.53%	9.29%	10.14%	11.64%	9.29%	10.14%	11.64%
DTE Energy Company	DTE	$5.20	$155.00	$115.00	$135.00	3.85%	3.96%	5.00%	6.00%	6.00%	5.67%	8.95%	9.63%	9.97%	8.95%	9.63%	9.97%
Duke Energy Corporation	DUK	$4.10	$105.00	$80.00	$92.50	4.43%	4.54%	6.00%	4.12%	4.70%	4.94%	8.64%	9.48%	10.57%	8.64%	9.48%	10.57%
Entergy Corporation	ETR	$4.55	$140.00	$100.00	$120.00	3.79%	3.88%	3.00%	Negative	6.30%	4.65%	6.85%	8.53%	10.21%		8.53%	10.21%
Evergy, Inc.	EVRG	$2.55	$75.00	$55.00	$65.00	3.92%	4.05%	NMF	6.50%	6.40%	6.45%	10.45%	10.50%	10.55%	10.45%	10.50%	10.55%
IDACORP, Inc.	IDA	$3.35	$110.00	$80.00	$95.00	3.53%	3.58%	3.50%	2.50%	2.50%	2.83%	6.07%	6.41%	7.09%			7.09%
NextEra Energy, Inc.	NEE	$8.00	$295.00	$240.00	$267.50	2.99%	3.12%	10.00%	7.59%	7.70%	8.43%	10.69%	11.55%	13.14%	10.69%	11.55%	13.14%
NorthWestern Corporation	NWE	$2.70	$80.00	$60.00	$70.00	3.86%	3.91%	2.00%	3.79%	3.10%	2.96%	5.90%	6.88%	7.72%			7.72%
OGE Energy Corporation	OGE	$1.95	$55.00	$40.00	$47.50	4.11%	4.18%	4.50%	2.90%	4.00%	3.80%	7.06%	7.98%	8.70%	7.06%	7.98%	8.70%
Otter Tail Corporation	OTTR	$1.80	$60.00	$45.00	$52.50	3.43%	3.55%	5.00%	9.00%	NA%	7.00%	8.51%	10.55%	12.58%	8.51%	10.55%	12.58%
Pinnacle West Capital Corporation	PNW	$3.80	$110.00	$90.00	$100.00	3.80%	3.88%	4.00%	4.62%	4.40%	4.34%	7.88%	8.22%	8.51%	7.88%	8.22%	8.51%
PNM Resources, Inc.	PNM	$1.50	$55.00	$35.00	$45.00	3.33%	3.44%	7.00%	6.30%	5.90%	6.40%	9.33%	9.84%	10.45%	9.33%	9.84%	10.45%
Portland General Electric Company	POR	$1.95	$60.00	$45.00	$52.50	3.71%	3.80%	4.50%	4.70%	4.90%	4.70%	8.30%	8.50%	8.71%	8.30%	8.50%	8.71%
PPL Corporation	PPL	$1.80	$45.00	$35.00	$40.00	4.50%	4.53%	2.50%	0.50%	NA%	1.50%	5.01%	6.03%	7.06%			7.06%
Southern Company	SO	$2.86	$70.00	$50.00	$60.00	4.77%	4.85%	4.00%	2.10%	4.00%	3.37%	6.92%	8.21%	8.86%		8.21%	8.86%
Xcel Energy Inc.	XEL	$2.05	$65.00	$50.00	$57.50	3.57%	3.67%	5.50%	6.10%	6.00%	5.87%	9.16%	9.54%	9.77%	9.16%	9.54%	9.77%
Mean						3.85%	3.95%	5.12%	5.20%	5.29%	5.20%	8.35%	9.14%	9.93%	9.00%	9.57%	9.93%

Notes:

[1] Source: Value Line, note that Value Line projections for the Electric Utility West Group refer to the 2022-2024 time period, rather than 2023-2025, due to the timing of Value Line's report release dates.
[2] Source: Value Line, note that Value Line projections for the Electric Utility West Group refer to the 2022-2024 time period, rather than 2023-2025, due to the timing of Value Line's report release dates.
[3] Source: Value Line, note that Value Line projections for the Electric Utility West Group refer to the 2022-2024 time period, rather than 2023-2025, due to the timing of Value Line's report release dates.
[4] Equals Average ([2], [3])
[5] Equals [1] / [4]
[6] Equals [5] x (1 + 0.50 x [10])
[7] Source: Value Line
[8] Source: Yahoo! Finance
[9] Source: Zacks
[10] Equals Average ([7], [8], [9])
[11] Equals [5] x (1 + 0.50 x Minimum ([7], [8], [9]) + Minimum ([7], [8], [9])
[12] Equals [6] + [10]
[13] Equals [5] x (1 + 0.50 x Maximum ([7], [8], [9]) + Maximum ([7], [8], [9])
[14] Equals [11] if greater than 7.00%
[15] Equals [12] if greater than 7.00%
[16] Equals [13] if greater than 7.00%

Rocky Mountain Power
Exhibit RMP___(AEB-5) 1 of 1
Docket No. 20-035-04
Witness: Ann E. Bulkley

Rocky Mountain Power
Exhibit RMP___(AEB-6)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

CAPM

May 2020

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

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

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	1.56%	0.60	14.05%	12.49%	9.05%	10.30%
Alliant Energy Corporation	LNT	1.56%	0.55	14.05%	12.49%	8.43%	9.83%
Ameren Corporation	AEE	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
American Electric Power Company, Inc.	AEP	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
Avista Corporation	AVA	1.56%	0.60	14.05%	12.49%	9.05%	10.30%
CMS Energy Corporation	CMS	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
Dominion Resources, Inc.	D	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
DTE Energy Company	DTE	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
Duke Energy Corporation	DUK	1.56%	0.45	14.05%	12.49%	7.18%	8.90%
Entergy Corporation	ETR	1.56%	0.60	14.05%	12.49%	9.05%	10.30%
Evergy, Inc.	EVRG	1.56%	NMF	14.05%	12.49%		
IDACORP, Inc.	IDA	1.56%	0.55	14.05%	12.49%	8.43%	9.83%
NextEra Energy, Inc.	NEE	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
NorthWestern Corporation	NWE	1.56%	0.60	14.05%	12.49%	9.05%	10.30%
OGE Energy Corporation	OGE	1.56%	0.70	14.05%	12.49%	10.30%	11.24%
Otter Tail Corporation	OTTR	1.56%	0.70	14.05%	12.49%	10.30%	11.24%
Pinnacle West Capital Corporation	PNW	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
PNM Resources, Inc.	PNM	1.56%	0.60	14.05%	12.49%	9.05%	10.30%
Portland General Electric Company	POR	1.56%	0.55	14.05%	12.49%	8.43%	9.83%
PPL Corporation	PPL	1.56%	0.65	14.05%	12.49%	9.68%	10.77%
Southern Company	SO	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
Xcel Energy Inc.	XEL	1.56%	0.50	14.05%	12.49%	7.80%	9.36%
Mean						8.49%	9.88%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Value Line
[3] Source: Exhibit RMP ___ (AEB-6), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

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

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q3 2020 - Q3 2021)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	1.80%	0.60	14.05%	12.25%	9.15%	10.37%
Alliant Energy Corporation	LNT	1.80%	0.55	14.05%	12.25%	8.54%	9.91%
Ameren Corporation	AEE	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
American Electric Power Company, Inc.	AEP	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
Avista Corporation	AVA	1.80%	0.60	14.05%	12.25%	9.15%	10.37%
CMS Energy Corporation	CMS	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
Dominion Resources, Inc.	D	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
DTE Energy Company	DTE	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
Duke Energy Corporation	DUK	1.80%	0.45	14.05%	12.25%	7.31%	8.99%
Entergy Corporation	ETR	1.80%	0.60	14.05%	12.25%	9.15%	10.37%
Evergy, Inc.	EVRG	1.80%	NMF	14.05%	12.25%		
IDACORP, Inc.	IDA	1.80%	0.55	14.05%	12.25%	8.54%	9.91%
NextEra Energy, Inc.	NEE	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
NorthWestern Corporation	NWE	1.80%	0.60	14.05%	12.25%	9.15%	10.37%
OGE Energy Corporation	OGE	1.80%	0.70	14.05%	12.25%	10.37%	11.29%
Otter Tail Corporation	OTTR	1.80%	0.70	14.05%	12.25%	10.37%	11.29%
Pinnacle West Capital Corporation	PNW	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
PNM Resources, Inc.	PNM	1.80%	0.60	14.05%	12.25%	9.15%	10.37%
Portland General Electric Company	POR	1.80%	0.55	14.05%	12.25%	8.54%	9.91%
PPL Corporation	PPL	1.80%	0.65	14.05%	12.25%	9.76%	10.83%
Southern Company	SO	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
Xcel Energy Inc.	XEL	1.80%	0.50	14.05%	12.25%	7.92%	9.45%
Mean						8.59%	9.96%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 4, April 1, 2019, at 2
[2] Source: Value Line
[3] Source: Exhibit RMP ___ (AEB-6), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

CAPM: K = Rf + β (Rm − Rf)
ECAPM: K = Rf + ((0.75 x β (Rm − Rf)) + (0.25 x (Rm − Rf)))

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2021 - 2025)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	3.20%	0.60	14.05%	10.85%	9.71%	10.79%
Alliant Energy Corporation	LNT	3.20%	0.55	14.05%	10.85%	9.17%	10.39%
Ameren Corporation	AEE	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
American Electric Power Company, Inc.	AEP	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
Avista Corporation	AVA	3.20%	0.60	14.05%	10.85%	9.71%	10.79%
CMS Energy Corporation	CMS	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
Dominion Resources, Inc.	D	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
DTE Energy Company	DTE	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
Duke Energy Corporation	DUK	3.20%	0.45	14.05%	10.85%	8.08%	9.57%
Entergy Corporation	ETR	3.20%	0.60	14.05%	10.85%	9.71%	10.79%
Evergy, Inc.	EVRG	3.20%	NMF	14.05%	10.85%		
IDACORP, Inc.	IDA	3.20%	0.55	14.05%	10.85%	9.17%	10.39%
NextEra Energy, Inc.	NEE	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
NorthWestern Corporation	NWE	3.20%	0.60	14.05%	10.85%	9.71%	10.79%
OGE Energy Corporation	OGE	3.20%	0.70	14.05%	10.85%	10.79%	11.61%
Otter Tail Corporation	OTTR	3.20%	0.70	14.05%	10.85%	10.79%	11.61%
Pinnacle West Capital Corporation	PNW	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
PNM Resources, Inc.	PNM	3.20%	0.60	14.05%	10.85%	9.71%	10.79%
Portland General Electric Company	POR	3.20%	0.55	14.05%	10.85%	9.17%	10.39%
PPL Corporation	PPL	3.20%	0.65	14.05%	10.85%	10.25%	11.20%
Southern Company	SO	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
Xcel Energy Inc.	XEL	3.20%	0.50	14.05%	10.85%	8.62%	9.98%
Mean						9.22%	10.42%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14
[2] Source: Value Line
[3] Source: Exhibit RMP ___ (AEB-6), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

CAPM: K = Rf + β (Rm − Rf)
ECAPM: K = Rf + ((0.75 x β (Rm − Rf)) + (0.25 x (Rm − Rf)))

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	1.56%	0.80	14.05%	12.49%	11.51%	12.15%
Alliant Energy Corporation	LNT	1.56%	0.79	14.05%	12.49%	11.48%	12.12%
Ameren Corporation	AEE	1.56%	0.74	14.05%	12.49%	10.81%	11.62%
American Electric Power Company, Inc.	AEP	1.56%	0.74	14.05%	12.49%	10.79%	11.60%
Avista Corporation	AVA	1.56%	0.78	14.05%	12.49%	11.36%	12.03%
CMS Energy Corporation	CMS	1.56%	0.76	14.05%	12.49%	11.01%	11.77%
Dominion Resources, Inc.	D	1.56%	0.67	14.05%	12.49%	9.98%	11.00%
DTE Energy Company	DTE	1.56%	0.78	14.05%	12.49%	11.30%	11.99%
Duke Energy Corporation	DUK	1.56%	0.68	14.05%	12.49%	10.09%	11.08%
Entergy Corporation	ETR	1.56%	0.80	14.05%	12.49%	11.50%	12.14%
Evergy, Inc.	EVRG	1.56%	0.77	14.05%	12.49%	11.15%	11.87%
IDACORP, Inc.	IDA	1.56%	0.84	14.05%	12.49%	12.03%	12.53%
NextEra Energy, Inc.	NEE	1.56%	0.75	14.05%	12.49%	10.94%	11.71%
NorthWestern Corporation	NWE	1.56%	0.86	14.05%	12.49%	12.33%	12.76%
OGE Energy Corporation	OGE	1.56%	0.89	14.05%	12.49%	12.65%	13.00%
Otter Tail Corporation	OTTR	1.56%	0.88	14.05%	12.49%	12.55%	12.92%
Pinnacle West Capital Corporation	PNW	1.56%	0.79	14.05%	12.49%	11.42%	12.08%
PNM Resources, Inc.	PNM	1.56%	0.93	14.05%	12.49%	13.13%	13.36%
Portland General Electric Company	POR	1.56%	0.79	14.05%	12.49%	11.47%	12.11%
PPL Corporation	PPL	1.56%	0.83	14.05%	12.49%	11.98%	12.49%
Southern Company	SO	1.56%	0.68	14.05%	12.49%	10.06%	11.06%
Xcel Energy Inc.	XEL	1.56%	0.71	14.05%	12.49%	10.42%	11.33%
Mean						11.36%	12.03%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional
[3] Source: Exhibit RMP ___ (AEB-6), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

CAPM: K = Rf + β (Rm − Rf)
ECAPM: K = Rf + ((0.75 x β (Rm − Rf)) + (0.25 x (Rm − Rf)))

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q3 2020 - Q3 2021)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	1.80%	0.80	14.05%	12.25%	11.56%	12.18%
Alliant Energy Corporation	LNT	1.80%	0.79	14.05%	12.25%	11.53%	12.16%
Ameren Corporation	AEE	1.80%	0.74	14.05%	12.25%	10.87%	11.67%
American Electric Power Company, Inc.	AEP	1.80%	0.74	14.05%	12.25%	10.85%	11.65%
Avista Corporation	AVA	1.80%	0.78	14.05%	12.25%	11.41%	12.07%
CMS Energy Corporation	CMS	1.80%	0.76	14.05%	12.25%	11.07%	11.82%
Dominion Resources, Inc.	D	1.80%	0.67	14.05%	12.25%	10.06%	11.06%
DTE Energy Company	DTE	1.80%	0.78	14.05%	12.25%	11.35%	12.03%
Duke Energy Corporation	DUK	1.80%	0.68	14.05%	12.25%	10.17%	11.14%
Entergy Corporation	ETR	1.80%	0.80	14.05%	12.25%	11.55%	12.18%
Evergy, Inc.	EVRG	1.80%	0.77	14.05%	12.25%	11.20%	11.91%
IDACORP, Inc.	IDA	1.80%	0.84	14.05%	12.25%	12.07%	12.56%
NextEra Energy, Inc.	NEE	1.80%	0.75	14.05%	12.25%	11.00%	11.76%
NorthWestern Corporation	NWE	1.80%	0.86	14.05%	12.25%	12.37%	12.79%
OGE Energy Corporation	OGE	1.80%	0.89	14.05%	12.25%	12.68%	13.02%
Otter Tail Corporation	OTTR	1.80%	0.88	14.05%	12.25%	12.57%	12.94%
Pinnacle West Capital Corporation	PNW	1.80%	0.79	14.05%	12.25%	11.47%	12.12%
PNM Resources, Inc.	PNM	1.80%	0.93	14.05%	12.25%	13.15%	13.38%
Portland General Electric Company	POR	1.80%	0.79	14.05%	12.25%	11.52%	12.15%
PPL Corporation	PPL	1.80%	0.83	14.05%	12.25%	12.02%	12.52%
Southern Company	SO	1.80%	0.68	14.05%	12.25%	10.14%	11.11%
Xcel Energy Inc.	XEL	1.80%	0.71	14.05%	12.25%	10.49%	11.38%
Mean						11.41%	12.07%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 4, April 1, 2019, at 2
[2] Source: Bloomberg Professional
[3] Source: Exhibit RMP ___ (AEB-6), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

CAPM: K = Rf + β (Rm − Rf)
ECAPM: K = Rf + ((0.75 x β (Rm − Rf)) + (0.25 x (Rm − Rf)))

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2021 - 2025)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	3.20%	0.80	14.05%	10.85%	11.85%	12.40%
Alliant Energy Corporation	LNT	3.20%	0.79	14.05%	10.85%	11.82%	12.37%
Ameren Corporation	AEE	3.20%	0.74	14.05%	10.85%	11.24%	11.94%
American Electric Power Company, Inc.	AEP	3.20%	0.74	14.05%	10.85%	11.22%	11.93%
Avista Corporation	AVA	3.20%	0.78	14.05%	10.85%	11.71%	12.30%
CMS Energy Corporation	CMS	3.20%	0.76	14.05%	10.85%	11.41%	12.07%
Dominion Resources, Inc.	D	3.20%	0.67	14.05%	10.85%	10.52%	11.40%
DTE Energy Company	DTE	3.20%	0.78	14.05%	10.85%	11.66%	12.26%
Duke Energy Corporation	DUK	3.20%	0.68	14.05%	10.85%	10.61%	11.47%
Entergy Corporation	ETR	3.20%	0.80	14.05%	10.85%	11.84%	12.39%
Evergy, Inc.	EVRG	3.20%	0.77	14.05%	10.85%	11.53%	12.16%
IDACORP, Inc.	IDA	3.20%	0.84	14.05%	10.85%	12.29%	12.73%
NextEra Energy, Inc.	NEE	3.20%	0.75	14.05%	10.85%	11.34%	12.02%
NorthWestern Corporation	NWE	3.20%	0.86	14.05%	10.85%	12.56%	12.93%
OGE Energy Corporation	OGE	3.20%	0.89	14.05%	10.85%	12.83%	13.14%
Otter Tail Corporation	OTTR	3.20%	0.88	14.05%	10.85%	12.74%	13.07%
Pinnacle West Capital Corporation	PNW	3.20%	0.79	14.05%	10.85%	11.77%	12.34%
PNM Resources, Inc.	PNM	3.20%	0.93	14.05%	10.85%	13.25%	13.45%
Portland General Electric Company	POR	3.20%	0.79	14.05%	10.85%	11.81%	12.37%
PPL Corporation	PPL	3.20%	0.83	14.05%	10.85%	12.25%	12.70%
Southern Company	SO	3.20%	0.68	14.05%	10.85%	10.58%	11.45%
Xcel Energy Inc.	XEL	3.20%	0.71	14.05%	10.85%	10.90%	11.68%
Mean						11.71%	12.30%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14
[2] Source: Bloomberg Professional
[3] Source: Exhibit RMP ___ (AEB-6), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

MARKET RISK PREMIUM DERIVED FROM S&P EARNINGS AND ESTIMATE REPORT

[7] S&P's estimate of the S&P 500 Dividend Yield	2.31%
[8] S&P's estimate of the S&P 500 Growth Rate	11.60%
[9] S&P 500 Estimated Required Market Return	14.05%

Notes:
[7] Source: Standard & Poors, S&P 500 Earnigns and Estimate Report 3/31/2020
[8] Source: Standard & Poors, S&P 500 Earnigns and Estimate Report 3/31/2020
[9] Equals ([7] x (1 + (0.5 x [8]))) + [8]

Rocky Mountain Power
Exhibit RMP___(AEB-7)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Risk Premium Analysis

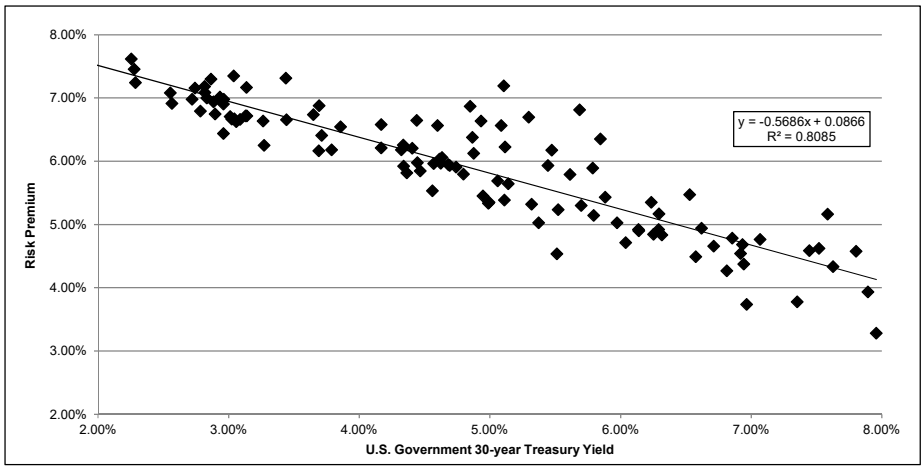
May 2020

BOND YIELD PLUS RISK PREMIUM

	[1]	[2]	[3]
	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
1992.1	12.38%	7.80%	4.58%
1992.2	11.83%	7.89%	3.93%
1992.3	12.03%	7.45%	4.59%
1992.4	12.14%	7.52%	4.62%
1993.1	11.84%	7.07%	4.77%
1993.2	11.64%	6.86%	4.79%
1993.3	11.15%	6.31%	4.84%
1993.4	11.04%	6.14%	4.90%
1994.1	11.07%	6.57%	4.49%
1994.2	11.13%	7.35%	3.78%
1994.3	12.75%	7.58%	5.17%
1994.4	11.24%	7.96%	3.28%
1995.1	11.96%	7.63%	4.34%
1995.2	11.32%	6.94%	4.37%
1995.3	11.37%	6.71%	4.66%
1995.4	11.58%	6.23%	5.35%
1996.1	11.46%	6.29%	5.17%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	6.96%	3.74%
1996.4	11.56%	6.62%	4.94%
1997.1	11.08%	6.81%	4.27%
1997.2	11.62%	6.93%	4.68%
1997.3	12.00%	6.53%	5.47%
1997.4	11.06%	6.14%	4.92%
1998.1	11.31%	5.88%	5.43%
1998.2	12.20%	5.85%	6.35%
1998.3	11.65%	5.47%	6.18%
1998.4	12.30%	5.10%	7.20%
1999.1	10.40%	5.37%	5.03%
1999.2	10.94%	5.79%	5.15%
1999.3	10.75%	6.04%	4.71%
1999.4	11.10%	6.25%	4.85%
2000.1	11.21%	6.29%	4.92%
2000.2	11.00%	5.97%	5.03%
2000.3	11.68%	5.79%	5.89%
2000.4	12.50%	5.69%	6.81%
2001.1	11.38%	5.44%	5.93%
2001.2	11.00%	5.70%	5.30%
2001.3	10.76%	5.52%	5.23%
2001.4	11.99%	5.30%	6.70%
2002.1	10.05%	5.51%	4.54%
2002.2	11.41%	5.61%	5.79%
2002.3	11.65%	5.08%	6.57%
2002.4	11.57%	4.93%	6.64%
2003.1	11.72%	4.85%	6.87%
2003.2	11.16%	4.60%	6.56%
2003.3	10.50%	5.11%	5.39%
2003.4	11.34%	5.11%	6.23%
2004.1	11.00%	4.88%	6.12%
2004.2	10.64%	5.32%	5.32%
2004.3	10.75%	5.06%	5.69%
2004.4	11.24%	4.86%	6.38%
2005.1	10.63%	4.69%	5.93%
2005.2	10.31%	4.47%	5.85%
2005.3	11.08%	4.44%	6.65%
2005.4	10.63%	4.68%	5.95%
2006.1	10.70%	4.63%	6.06%
2006.2	10.79%	5.14%	5.65%
2006.3	10.35%	4.99%	5.35%
2006.4	10.65%	4.74%	5.91%
2007.1	10.59%	4.80%	5.80%
2007.2	10.33%	4.99%	5.34%
2007.3	10.40%	4.95%	5.45%
2007.4	10.65%	4.61%	6.04%
2008.1	10.62%	4.41%	6.21%
2008.2	10.54%	4.57%	5.97%
2008.3	10.43%	4.44%	5.98%
2008.4	10.39%	3.65%	6.74%
2009.1	10.75%	3.44%	7.31%
2009.2	10.75%	4.17%	6.58%
2009.3	10.50%	4.32%	6.18%
2009.4	10.59%	4.34%	6.26%
2010.1	10.59%	4.62%	5.97%
2010.2	10.18%	4.36%	5.82%
2010.3	10.40%	3.86%	6.55%
2010.4	10.38%	4.17%	6.21%
2011.1	10.09%	4.56%	5.53%
2011.2	10.26%	4.34%	5.92%
2011.3	10.57%	3.69%	6.88%

BOND YIELD PLUS RISK PREMIUM

	[1] Average Authorized Electric ROE	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
2011.4	10.39%	3.04%	7.35%
2012.1	10.30%	3.14%	7.17%
2012.2	9.95%	2.93%	7.02%
2012.3	9.90%	2.74%	7.16%
2012.4	10.16%	2.86%	7.30%
2013.1	9.85%	3.13%	6.72%
2013.2	9.86%	3.14%	6.72%
2013.3	10.12%	3.71%	6.41%
2013.4	9.97%	3.79%	6.18%
2014.1	9.86%	3.69%	6.17%
2014.2	10.10%	3.44%	6.66%
2014.3	9.90%	3.26%	6.64%
2014.4	9.94%	2.96%	6.98%
2015.1	9.64%	2.55%	7.08%
2015.2	9.83%	2.88%	6.94%
2015.3	9.40%	2.96%	6.44%
2015.4	9.86%	2.96%	6.90%
2016.1	9.70%	2.72%	6.98%
2016.2	9.48%	2.57%	6.91%
2016.3	9.74%	2.28%	7.46%
2016.4	9.83%	2.83%	7.00%
2017.1	9.72%	3.04%	6.67%
2017.2	9.64%	2.90%	6.75%
2017.3	10.00%	2.82%	7.18%
2017.4	9.91%	2.82%	7.09%
2018.1	9.69%	3.02%	6.66%
2018.2	9.75%	3.09%	6.66%
2018.3	9.69%	3.06%	6.63%
2018.4	9.52%	3.27%	6.25%
2019.1	9.72%	3.01%	6.71%
2019.2	9.58%	2.78%	6.79%
2019.3	9.53%	2.29%	7.24%
2019.4	9.87%	2.25%	7.62%
2020.1	9.72%	1.89%	7.83%
AVERAGE	10.72%	4.77%	5.94%
MEDIAN	10.63%	4.74%	6.06%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.89916
R Square	0.80850
Adjusted R Square	0.80677
Standard Error	0.00430
Observations	113

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.008681	0.008681	468.624473	0.000000
Residual	111	0.002056	0.000019		
Total	112	0.010738			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0866	0.00132	65.69	0.000000	0.083944	0.089166	0.083944	0.089166
U.S. Govt. 30-year Treasury	(0.5686)	0.02626	(21.65)	0.000000	(0.620602)	(0.516514)	(0.620602)	(0.516514)

	[7] U.S. Govt. 30-year Treasury	[8] Risk Premium	[9] ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	1.56%	7.77%	9.33%
Blue Chip Near-Term Projected Forecast (Q3 2020 - Q3 2021) [5]	1.80%	7.63%	9.43%
Blue Chip Long-Term Projected Forecast (2021-2025) [6]	3.20%	6.84%	10.04%
AVERAGE			9.60%

Notes:
[1] Source: Regulatory Research Associates, rate cases throguh March 31, 2020
[2] Source: Bloomberg Professional, quarterly bond yields are the average of each trading day in the quarter
[3] Equals Column [1] − Column [2]
[4] Source: Bloomberg Professional, 30-day average as of March 30, 2020
[5] Source: Blue Chip Financial Forecasts, Vol. 39, No. 4, April 1, 2019, at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14
[7] See notes [4], [5] & [6]
[8] Equals 0.086555 + (-0.568558 x Column [7])
[9] Equals Column [7] + Column [8]

Rocky Mountain Power
Exhibit RMP___(AEB-8)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Expected Earnings Analysis

May 2020

EXPECTED EARNINGS ANALYSIS

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
		Value Line ROE 2023-2025	Value Line Total Capital 2019	Value Line Common Equity Ratio 2019	Total Equity 2019	Value Line Total Capital 2023-2025	Value Line Common Equity Ratio 2023-2025	Total Equity 2023-2025	Compound Annual Growth Rate	Adjustment Factor	Adjusted Return on Common Equity
ALLETE, Inc.	ALE	8.5%	3,632.80	61.4%	2,230.54	4,725.00	58.5%	2,764.13	4.38%	1.021	8.68%
Alliant Energy Corporation	LNT	10.5%	10,000.00	48.5%	4,850.00	12,000.00	48.0%	5,760.00	3.50%	1.017	10.68%
Ameren Corporation	AEE	10.0%	17,116.00	47.1%	8,061.64	23,400.00	51.5%	12,051.00	8.37%	1.040	10.40%
American Electric Power Company, Inc.	AEP	10.5%	44,759.00	43.9%	19,649.20	56,700.00	46.5%	26,365.50	6.06%	1.029	10.81%
Avista Corporation	AVA	8.0%	3,580.30	49.5%	1,772.25	4,575.00	49.5%	2,264.63	5.03%	1.025	8.20%
CMS Energy Corporation	CMS	13.5%	17,082.00	29.4%	5,022.11	23,200.00	33.0%	7,656.00	8.80%	1.042	14.07%
Dominion Resources, Inc.	D	13.5%	70,775.00	40.0%	28,310.00	87,600.00	40.5%	35,478.00	4.62%	1.023	13.80%
DTE Energy Company	DTE	10.5%	27,607.00	42.3%	11,677.76	38,500.00	41.5%	15,977.50	6.47%	1.031	10.83%
Duke Energy Corporation	DUK	8.5%	101,375.00	44.5%	45,111.88	125,000.00	44.5%	55,625.00	4.28%	1.021	8.68%
Entergy Corporation	ETR	11.0%	27,557.00	37.1%	10,223.65	32,600.00	41.0%	13,366.00	5.51%	1.027	11.29%
Evergy, Inc.	EVRG	8.5%	17,337.00	49.4%	8,564.48	20,300.00	48.0%	9,744.00	2.61%	1.013	8.61%
IDACORP, Inc.	IDA	9.5%	4,205.10	56.4%	2,371.68	5,025.00	56.5%	2,839.13	3.66%	1.018	9.67%
NextEra Energy, Inc.	NEE	13.0%	74,550.00	49.5%	36,902.25	96,800.00	50.0%	48,400.00	5.57%	1.027	13.35%
NorthWestern Corporation	NWE	9.0%	4,064.60	47.8%	1,942.88	4,425.00	52.0%	2,301.00	3.44%	1.017	9.15%
OGE Energy Corporation	OGE	11.0%	7,334.70	56.4%	4,136.77	8,975.00	54.5%	4,891.38	3.41%	1.017	11.18%
Otter Tail Corporation	OTTR	11.5%	1,471.10	53.1%	781.15	1,875.00	54.0%	1,012.50	5.33%	1.026	11.80%
Pinnacle West Capital Corporation	PNW	10.0%	9,861.10	53.0%	5,226.38	13,300.00	48.5%	6,450.50	4.30%	1.021	10.21%
PNM Resources, Inc.	PNM	9.0%	4,370.00	38.6%	1,686.82	5,275.00	48.0%	2,532.00	8.46%	1.041	9.37%
Portland General Electric Company	POR	9.0%	4,684.00	53.5%	2,505.94	5,775.00	51.0%	2,945.25	3.28%	1.016	9.15%
PPL Corporation	PPL	13.5%	32,750.00	41.0%	13,427.50	39,600.00	45.5%	18,018.00	6.06%	1.029	13.90%
Southern Company	SO	13.0%	70,300.00	39.0%	27,417.00	82,100.00	41.5%	34,071.50	4.44%	1.022	13.28%
Xcel Energy Inc.	XEL	10.5%	28,025.00	43.6%	12,218.90	39,900.00	42.5%	16,957.50	6.77%	1.033	10.84%
Mean											10.82%
Median											10.74%

Notes:
[1] Source: Value Line, note that Value Line projections for the Electric Utility West Group refer to the 2022-2024 time period, rather than 2023-2025, due to the timing of Value Line's report release dates
[2] Source: Value Line, note that for the Electric Utility West Group the most recent historical year is 2018, rather than 2019, due to the timing of Value Line's report release dates
[3] Source: Value Line, note that for the Electric Utility West Group the most recent historical year is 2018, rather than 2019, due to the timing of Value Line's report release dates
[4] Equals [2] x [3]
[5] Source: Value Line, note that Value Line projections for the Electric Utility West Group refer to the 2022-2024 time period, rather than 2023-2025, due to the timing of Value Line's report release dates
[6] Source: Value Line, note that Value Line projections for the Electric Utility West Group refer to the 2022-2024 time period, rather than 2023-2025, due to the timing of Value Line's report release dates
[7] Equals [5] x [6]
[8] Equals ([7] / [4]) ^ (1/5) - 1
[9] Equals 2 x (1 + [8]) / (2 + [8])
[10] Equals [1] x [9]

Rocky Mountain Power
Exhibit RMP___(AEB-8) 1 of 1
Docket No. 20-035-04
Witness: Ann E. Bulkley

Rocky Mountain Power
Exhibit RMP___(AEB-9)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Capital Expenditure Comparison

May 2020

2020-2024 CAPITAL EXPENDITURES AS A PERCENT OF 2018 NET PLANT
($ Millions)

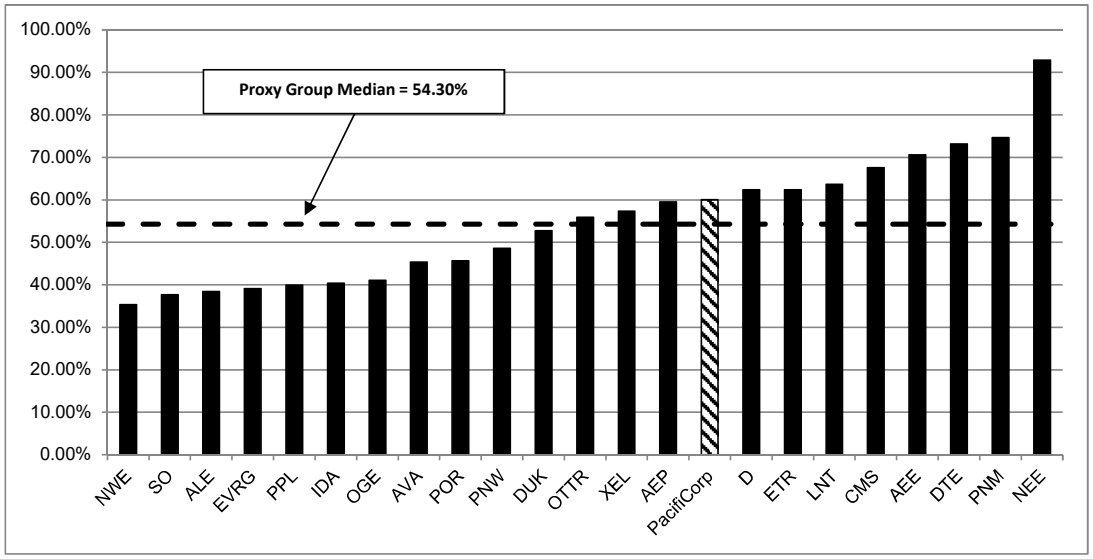
		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2018	2020	2021	2022	2023	2024	2020-24 Cap. Ex. / 2018 Net Plant
ALLETE, Inc.	ALE							
Capital Spending per Share			$10.30	$6.40	$4.95	$3.50	$3.50	
Common Shares Outstanding			52.00	52.25	52.63	53	53	
Capital Expenditures			$535.6	$334.4	$260.5	$185.5	$185.5	38.46%
Net Plant		$3,904.4						
Alliant Energy Corporation	LNT							
Capital Spending per Share			$5.75	$5.95	$6.05	$6.15	$6.15	
Common Shares Outstanding			248.00	250	$255.00	260	260	
Capital Expenditures			$1,426.0	$1,487.5	$1,542.8	$1,599.0	$1,599.0	63.62%
Net Plant		$12,031.0						
Ameren Corporation	AEE							
Capital Spending per Share			$15.85	$11.55	$11.28	$11.00	$11.00	
Common Shares Outstanding			254.00	260	267.50	275	275	
Capital Expenditures			$4,025.9	$3,003.0	$3,016.1	$3,025.0	$3,025.0	70.56%
Net Plant		$22,810.0						
American Electric Power Company, Inc.	AEP							
Capital Spending per Share			$13.25	$13.00	$12.75	$12.50	$12.50	
Common Shares Outstanding			495.00	496	513.00	530	530	
Capital Expenditures			$6,558.8	$6,448.0	$6,540.8	$6,625.0	$6,625.0	59.52%
Net Plant		$55,099.0						
Avista Corporation	AVA							
Capital Spending per Share			$6.05	$6.03	$6.00	$6.00	$6.00	
Common Shares Outstanding			68.00	69.5	71.00	71	71	
Capital Expenditures			$411.4	$418.7	$426.0	$426.0	$426.0	45.35%
Net Plant		$4,648.9						
CMS Energy Corporation	CMS							
Capital Spending per Share			$7.65	$9.30	$8.65	$8.00	$8.00	
Common Shares Outstanding			287.00	290	295.00	300	300	
Capital Expenditures			$2,195.6	$2,697.0	$2,551.8	$2,400.0	$2,400.0	67.55%
Net Plant		$18,126.0						
Dominion Resources, Inc.	D							
Capital Spending per Share			$8.35	$8.30	$8.03	$7.75	$7.75	
Common Shares Outstanding			828.00	832	848.50	865	865	
Capital Expenditures			$6,913.8	$6,905.6	$6,809.2	$6,703.8	$6,703.8	62.38%
Net Plant		$54,560.0						
DTE Energy Company	DTE							
Capital Spending per Share			$20.60	$18.35	$15.43	$12.50	$12.50	
Common Shares Outstanding			194.00	196	201.00	206	206	
Capital Expenditures			$3,996.4	$3,596.6	$3,100.4	$2,575.0	$2,575.0	73.18%
Net Plant		$21,650.0						
Duke Energy Corporation	DUK							
Capital Spending per Share			$14.00	$12.75	$12.38	$12.00	$12.00	
Common Shares Outstanding			754.00	760	$767.50	775	775	
Capital Expenditures			$10,556.0	$9,690.0	$9,497.8	$9,300.0	$9,300.0	52.72%
Net Plant		$91,694.0						
Entergy Corporation	ETR							
Capital Spending per Share			$20.75	$19.15	$18.95	$18.75	$18.75	
Common Shares Outstanding			200.00	204	208.00	212	212	
Capital Expenditures			$4,150.0	$3,906.6	$3,941.6	$3,975.0	$3,975.0	62.39%
Net Plant		$31,974.0						
Evergy, Inc.	EVRG							
Capital Spending per Share			$7.15	$7.00	$6.50	$6.00	$6.00	
Common Shares Outstanding			227.00	227	227.00	227	227	
Capital Expenditures			$1,623.1	$1,589.0	$1,475.5	$1,362.0	$1,362.0	39.11%
Net Plant		$18,952.0						
IDACORP, Inc.	IDA							
Capital Spending per Share			$6.55	$6.90	$7.25	$7.25	$7.25	
Common Shares Outstanding			50.40	50.4	50.40	50.4	50.4	
Capital Expenditures			$330.1	$347.8	$365.4	$365.4	$365.4	40.36%
Net Plant		$4,395.7						

2020-2024 CAPITAL EXPENDITURES AS A PERCENT OF 2018 NET PLANT
($ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2018	2020	2021	2022	2023	2024	2020-24 Cap. Ex. / 2018 Net Plant
NextEra Energy, Inc.	NEE							
Capital Spending per Share			$25.55	$26.05	$26.65	$27.25	$27.25	
Common Shares Outstanding			489.00	489	492.00	495	495	
Capital Expenditures			$12,494.0	$12,738.5	$13,111.8	$13,488.8	$13,488.8	92.87%
Net Plant		$70,334.0						
NorthWestern Corporation	NWE							
Capital Spending per Share			$7.30	$6.53	$5.75	$5.75	$5.75	
Common Shares Outstanding			50.90	51.25	51.60	51.6	51.6	
Capital Expenditures			$371.6	$334.4	$296.7	$296.7	$296.7	35.30%
Net Plant		$4,521.3						
OGE Energy Corporation	OGE							
Capital Spending per Share			$2.90	$3.65	$3.70	$3.75	$3.75	
Common Shares Outstanding			200.00	200	200.00	200	200	
Capital Expenditures			$580.0	$730.0	$740.0	$750.0	$750.0	41.07%
Net Plant		$8,643.8						
Otter Tail Corporation	OTTR							
Capital Spending per Share			$9.40	$3.45	$3.10	$2.75	$2.75	
Common Shares Outstanding			41.00	41.1	41.30	41.5	41.5	
Capital Expenditures			$385.4	$141.8	$128.0	$114.1	$114.1	55.88%
Net Plant		$1,581.1						
Pinnacle West Capital Corporation	PNW							
Capital Spending per Share			$12.15	$11.83	$11.50	$11.50	$11.50	
Common Shares Outstanding			113.50	115.75	118.00	118	118	
Capital Expenditures			$1,379.0	$1,368.7	$1,357.0	$1,357.0	$1,357.0	48.60%
Net Plant		$14,030.0						
PNM Resources, Inc.	PNM							
Capital Spending per Share			$10.25	$9.38	$8.50	$8.50	$8.50	
Common Shares Outstanding			79.65	84.825	90.00	90	90	
Capital Expenditures			$816.4	$795.2	$765.0	$765.0	$765.0	74.63%
Net Plant		$5,234.6						
Portland General Electric Company	POR							
Capital Spending per Share			$9.90	$7.83	$5.75	$5.75	$5.75	
Common Shares Outstanding			89.55	89.775	90.00	90	90	
Capital Expenditures			$886.5	$702.5	$517.5	$517.5	$517.5	45.62%
Net Plant		$6,887.0						
PPL Corporation	PPL							
Capital Spending per Share			$4.05	$3.70	$3.48	$3.25	$3.25	
Common Shares Outstanding			773.00	775	777.50	780	780	
Capital Expenditures			$3,130.7	$2,867.5	$2,701.8	$2,535.0	$2,535.0	39.96%
Net Plant		$34,458.0						
Southern Company	SO							
Capital Spending per Share			$6.50	$6.00	$5.63	$5.25	$5.25	
Common Shares Outstanding			1050.00	1050	1065.00	1080	1080	
Capital Expenditures			$6,825.0	$6,300.0	$5,990.6	$5,670.0	$5,670.0	37.69%
Net Plant		$80,797.0						
Xcel Energy Inc.	XEL							
Capital Spending per Share			$6.70	$7.48	$8.25	$8.25	$8.25	
Common Shares Outstanding			539.00	542.5	546.00	546	546	
Capital Expenditures			$3,611.3	$4,055.2	$4,504.5	$4,504.5	$4,504.5	57.33%
Net Plant		$36,944.0						
PacifiCorp	PacifiCorp							
Capital Expenditures [8]			$2,900.00	$1,400.00	$2,800.00	$2,400.00	$1,300.00	60.00%
Net Plant [9]		$18,000.0						
PacifiCorp CapEx Total (2020 - 2024)								$10,800.0
PacifiCorp CapEx Annual Average								$2,160.0
Proxy Group Median								54.30%
PacifiCorp as % Proxy Group Median								1.10

Notes:
[1] - [6] Source: Value Line, dated January 24, 2020, February 14, 2020 and March 13, 2020.
[7] Equals (Column [2] + [3] + [4] + [5] + [6]) / Column [1]
[8] Source: Company Provided Data
[9] Source: Company Provided Data

2020-2024 CAPITAL EXPENDITURES AS A PERCENT OF 2018 NET PLANT



Projected CAPEX / 2018 Net Plant

Rank	Company		2020-2024
1	NorthWestern Corporation	NWE	35.30%
2	Southern Company	SO	37.69%
3	ALLETE, Inc.	ALE	38.46%
4	Evergy, Inc.	EVRG	39.11%
5	PPL Corporation	PPL	39.96%
6	IDACORP, Inc.	IDA	40.36%
7	OGE Energy Corporation	OGE	41.07%
8	Avista Corporation	AVA	45.35%
9	Portland General Electric Company	POR	45.62%
10	Pinnacle West Capital Corporation	PNW	48.60%
11	Duke Energy Corporation	DUK	52.72%
12	Otter Tail Corporation	OTTR	55.88%
13	Xcel Energy Inc.	XEL	57.33%
14	American Electric Power Company, Inc.	AEP	59.52%
15	PacifiCorp	PacifiCorp	60.00%
16	Dominion Resources, Inc.	D	62.38%
17	Entergy Corporation	ETR	62.39%
18	Alliant Energy Corporation	LNT	63.62%
19	CMS Energy Corporation	CMS	67.55%
20	Ameren Corporation	AEE	70.56%
21	DTE Energy Company	DTE	73.18%
22	PNM Resources, Inc.	PNM	74.63%
23	NextEra Energy, Inc.	NEE	92.87%
	Proxy Group Median		54.30%
	PacifiCorp/Proxy Group		1.10

Notes:
Source: Exhibit RMP__(AEB-9), pages 1-2 col. [7]

Rocky Mountain Power
Exhibit RMP___(AEB-10)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Regulatory Risk Assessment

May 2020

COMPARISON OF RMP AND PROXY GROUP COMPANIES
RISK ASSESSMENT

Company	Jurisdiction	Service	[1] Fuel Cost Recovery Mechanism	[2] Test Year	[3] Rate Base	[4] Revenue Decoupling	[5] Capital Cost Recovery Mechanism
ALLETE, Inc.	Minnesota	Electric	Yes	Fully Forecast	Average	No	No
Alliant Energy Corporation	Iowa	Electric	Yes	Historical	Average	No	No
	Iowa	Gas	Yes	Historical	Average	No	No
	Wisconsin	Electric	Yes	Fully Forecast	Average	No	No
	Wisconsin	Gas	Yes	Fully Forecast	Average	No	No
Ameren Corporation	Illinois	Electric	N/A	Historical	Year End	No	No
	Illinois	Gas	Yes	Fully Forecast	Average	Partial	Yes
	Missouri	Electric	Yes - Sharing Band	Historical	Year End	Partial	Yes
	Missouri	Gas	Yes	Historical	Year End	Partial	Yes
American Electric Power Company, Inc.	Arkansas	Electric	Yes	Historical	Year End	Partial	Yes
	Indiana	Electric	Yes	Fully Forecast	Year End	Partial	Yes
	Kentucky	Electric	Yes	Fully Forecast	Year End	Partial	No
	Louisiana	Electric	Yes	Historical	Year End	Partial	No
	Michigan	Electric	Yes	Fully Forecast	Average	No	No
	Ohio	Electric	N/A	Partially Forecast	Year End	Partial	Yes
	Oklahoma	Electric	Yes	Historical	Year End	Partial	Yes
	Tennessee	Electric	Yes	Fully Forecast	Average	No	No
	Texas	Electric	N/A	Historical	Year End	No	Yes
	Virginia	Electric	Yes	Historical	Year End	No	Yes
	West Virginia	Electric	Yes	Historical	Average	No	No
Avista Corporation	Alaska	Electric	Yes	Historical	Average	No	No
	Idaho	Electric	Yes - Sharing Band	Historical	Year End	Full	No
	Idaho	Gas	Yes	Historical	Year End	Full	No
	Oregon	Gas	Yes - Sharing Band	Fully Forecast	Year End	Full	No
	Washington	Electric	Yes - Sharing Band	Historical	Average	Partial	No
	Washington	Gas	Yes	Historical	Average	Partial	No
CMS Energy Corporation	Michigan	Electric	Yes	Fully Forecast	Average	No	No
	Michigan	Gas	Yes	Fully Forecast	Average	Partial	Yes
Dominion Resources, Inc.	North Carolina	Electric	Yes	Historical	Year End	No	No
	North Carolina	Gas	Yes	Historical	Year End	Full	Yes
	Ohio [6]	Gas	N/A	Partially Forecast	Year End	Full	Yes
	South Carolina	Electric	Yes	Historical	Year End	No	Yes
	South Carolina	Gas	Yes	Historical	Year End	Partial	No
	Utah	Gas	Yes	Fully Forecast	Average	Full	Yes
	Virginia	Electric	Yes	Historical	Year End	No	Yes
	West Virginia	Gas	Yes	Historical	Average	No	Yes
	Wyoming	Gas	Yes	Historical	Year End	Partial	No
DTE Energy Company	Michigan	Electric	Yes	Fully Forecast	Average	No	No
	Michigan	Gas	Yes	Fully Forecast	Average	Partial	Yes
Duke Energy Corporation	Florida	Electric	Yes	Fully Forecast	Average	No	Yes
	Indiana	Electric	Yes	Historical	Year End	Partial	Yes
	Kentucky	Electric	Yes	Fully Forecast	Average	Partial	No
	Kentucky	Gas	Yes	Fully Forecast	Average	Partial	No
	North Carolina	Electric	Yes	Historical	Year End	No	No
	North Carolina	Gas	Yes	Historical	Year End	Full	Yes
	Ohio	Electric	N/A	Partially Forecast	Year End	Partial	Yes
	Ohio [6]	Gas	Yes	Partially Forecast	Year End	Full	Yes
	South Carolina	Electric	Yes	Historical	Year End	No	No
	South Carolina	Gas	Yes	Historical	Year End	Partial	No
	Tennessee	Gas	Yes	Fully Forecast	Average	Partial	Yes
Entergy Corporation	Arkansas	Electric	Yes	Fully Forecast	Average	Partial	Yes
	Louisiana NOCC	Electric	Yes	Historical	Year End	Partial	Yes
	Louisiana NOCC	Gas	Yes	Historical	Year End	No	No
	Louisiana PSC	Electric	Yes	Historical	Average	Partial	Yes
	Louisiana PSC	Gas	Yes	Historical	Average	Partial	Yes
	Mississippi	Electric	Yes	Fully Forecast	Average	Partial	No
	Texas	Electric	Yes	Historical	Year End	No	Yes
Evergy, Inc.	Kansas	Electric	Yes	Historical	Year End	Partial	Yes
	Missouri	Electric	Yes - Sharing Band	Historical	Year End	Partial	Yes
IDACORP, Inc.	Idaho	Electric	Yes - Sharing Band	Partially Forecast	Year End	Full	No
	Oregon	Electric	Yes - Sharing Band	Partially Forecast	Average	No	No
NextEra Energy, Inc.	Florida	Electric	Yes	Fully Forecast	Average	No	Yes
	Florida	Gas	Yes	Fully Forecast	Average	No	Yes
	Texas	Electric	N/A	Historical	Year End	No	Yes

Rocky Mountain Power
Exhibit RMP___(AEB-10) 1 of 2
Docket No. 20-035-04
Witness: Ann E. Bulkley

COMPARISON OF RMP AND PROXY GROUP COMPANIES
RISK ASSESSMENT

			[1]	[2]	[3]	[4]	[5]
Company	**Jurisdiction**	**Service**	**Fuel Cost Recovery Mechanism**	**Test Year**	**Rate Base**	**Revenue Decoupling**	**Capital Cost Recovery Mechanism**
NorthWestern Corporation	Montana	Electric	Yes - Sharing Band	Historical	Average	No	No
	Montana	Gas	Yes	Historical	Average	No	No
	Nebraska	Gas	Yes	Historical	Year End	No	No
	South Dakota	Electric	Yes	Historical	Average	No	No
	South Dakota	Gas	Yes	Historical	Average	No	No
OGE Energy Corporation	Arkansas	Electric	Yes	Fully Forecast	Year End	Partial	Yes
	Oklahoma	Electric	Yes	Partially Forecast	Year End	Partial	Yes
Otter Tail Corporation	Minnesota	Electric	Yes	Fully Forecast	Average	No	No
	North Dakota	Electric	Yes	Fully Forecast	Average	No	Yes
	South Dakota	Electric	Yes	Historical	Average	No	Yes
Pinnacle West Capital Corporation	Arizona	Electric	Yes - Sharing Band	Historical	Year End	Partial	No
PNM Resources, Inc.	New Mexico	Electric	Yes	Fully Forecast	Average	No	Yes
	Texas	Electric	N/A	Historical	Year End	No	Yes
Portland General Electric Company	Oregon	Electric	Yes - Sharing Band	Fully Forecast	Year End	Partial	No
PPL Corporation	Kentucky	Electric	Yes	Fully Forecast	Year End	Partial	No
	Kentucky	Gas	Yes	Fully Forecast	Year End	Partial	Yes
	Pennsylvania	Electric	N/A	Fully Forecast	Year End	No	Yes
	Virginia	Electric	Yes	Historical	Year End	No	No
Southern Company	Alabama	Electric	Yes	Fully Forecast	Average	No	Yes
	Georgia	Electric	Yes	Fully Forecast	Average	No	Yes
	Georgia [6]	Gas	N/A	Fully Forecast	Average	Full	Yes
	Illinois	Gas	Yes	Fully Forecast	Average	Partial	Yes
	Mississippi	Electric	Yes	Fully Forecast	Average	Partial	No
	Tennessee	Gas	Yes	Fully Forecast	Average	Full	No
	Virginia	Gas	Yes	Historical	Year End	Partial	Yes
Xcel Energy Inc.	Colorado	Electric	Yes	Historical	Year End	No	Yes
	Colorado	Gas	Yes	Historical	Average	Partial	Yes
	Minnesota	Electric	Yes	Fully Forecast	Average	Partial	No
	Minnesota	Gas	Yes	Fully Forecast	Average	No	Yes
	New Mexico	Electric	Yes	Historical	Year End	No	No
	North Dakota	Electric	Yes	Fully Forecast	Average	No	Yes
	North Dakota [6]	Gas	Yes	Fully Forecast	Average	Full	No
	South Dakota	Electric	Yes	Historical	Average	Partial	Yes
	Texas	Electric	Yes	Historical	Year End	No	Yes
	Wisconsin	Electric	Yes	Fully Forecast	Average	No	No
	Wisconsin	Gas	Yes	Fully Forecast	Average	No	No
Proxy Group Average		Yes	81	Fully Forecast 42	Year End 49	Full 12	Yes 52
		No	0	Partially Forecast 7	Average 51	Partial 40	No 48
		N/A	9	Historical 51		No 48	
		Yes - Sharing Band	10				
		Yes	90.00%	Forecast 49.00%	Year-End 49.00%	RDM 52.00%	CCRM 52.00%
Rocky Mountain Power [7]	Utah	Electric	Yes	Fully Forecast	Average	No	No

Notes:
[1] Source: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries not covered in this report were excluded from this exhibit.
[2] Source: "Alternative Regulation for Evolving Utility Challenges," Prepared by Pacific Economics Group Research for Edison Electric Institute, Table 6, November 2015; S&P RRA Research; Company Investor Presentations.
[3] Source: Regulatory Research Associates, effective as of March 31, 2020.
[4] - [5] Source: S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019.
[6] Operations classified as full revenue decoupling since the company operates under a straight fixed-variable rate design.
[7] Data provided by the Company

Rocky Mountain Power
Exhibit RMP___(AEB-10) 2 of 2
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Rocky Mountain Power
Exhibit RMP___(AEB-11)
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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Ann E. Bulkley

Proxy Group Capital Structure Analysis

May 2020

CAPITAL STRUCTURE ANALYSIS

COMMON EQUITY RATIO [1]

Proxy Group Company	Ticker	2019Q3	2019Q2	2019Q1	2018Q4	2018Q3	2018Q2	2018Q1	2017Q4	Average
ALLETE (Minnesota Power)	ALE	59.30%	60.87%	60.80%	61.27%	60.33%	60.26%	60.50%	60.15%	60.43%
Alliant Energy Corporation	LNT	50.48%	49.65%	52.17%	52.11%	49.88%	49.85%	48.68%	48.74%	50.19%
Ameren Corporation	AEE	53.13%	52.48%	52.27%	52.18%	52.72%	51.43%	52.38%	52.02%	52.33%
American Electric Power Company, Inc.	AEP	48.83%	48.04%	48.72%	48.55%	47.52%	47.93%	48.54%	48.88%	48.37%
Avista Corporation	AVA	50.33%	51.40%	51.18%	49.89%	49.55%	49.74%	51.16%	50.75%	50.50%
CMS Energy Corporation	CMS	51.57%	53.50%	52.38%	50.14%	52.86%	52.71%	52.97%	52.10%	52.28%
Dominion Resources, Inc.	D	53.43%	52.20%	51.50%	50.52%	52.45%	51.81%	50.53%	51.07%	51.69%
DTE Energy Company	DTE	49.40%	48.76%	48.69%	50.96%	49.97%	49.23%	51.12%	51.02%	49.89%
Duke Energy Corporation	DUK	52.62%	53.12%	52.16%	52.71%	52.85%	53.04%	52.88%	53.01%	52.80%
Entergy Corporation	ETR	47.64%	46.80%	47.03%	48.73%	48.31%	48.00%	46.00%	47.41%	47.49%
Evergy, Inc.	EVRG	59.75%	60.09%	57.72%	59.30%	59.49%	58.46%	58.59%	58.44%	58.98%
IDACORP, Inc.	IDA	55.20%	54.58%	54.36%	54.25%	54.25%	53.44%	51.37%	54.22%	53.96%
NextEra Energy, Inc.	NEE	59.15%	61.29%	63.51%	63.95%	64.01%	60.34%	60.63%	59.41%	61.54%
NorthWestern Corporation	NWE	47.80%	48.07%	48.74%	47.88%	48.36%	48.41%	47.48%	49.89%	48.33%
OGE Energy Corporation	OGE	54.96%	53.47%	55.38%	53.20%	53.05%	54.25%	53.59%	53.36%	53.91%
Otter Tail Corporation	OTTR	55.43%	53.75%	53.90%	53.58%	53.49%	53.11%	52.67%	57.34%	54.16%
Pinnacle West Capital Corporation	PNW	54.25%	54.41%	54.48%	54.36%	53.68%	53.71%	53.18%	53.14%	53.90%
PNM Resources, Inc.	PNM	46.31%	46.03%	43.88%	47.91%	49.43%	48.72%	49.00%	48.80%	47.51%
Portland General Electric Company	POR	51.78%	51.56%	50.60%	50.19%	50.51%	50.29%	50.14%	49.80%	50.61%
PPL Corporation	PPL	53.93%	53.84%	55.18%	54.92%	54.85%	54.51%	54.60%	54.60%	54.55%
Southern Company	SO	53.24%	54.15%	54.05%	53.92%	52.64%	50.95%	50.90%	47.76%	52.20%
Xcel Energy Inc.	XEL	54.13%	55.25%	54.92%	54.48%	54.29%	53.51%	54.40%	54.23%	54.40%
MEAN		52.85%	52.88%	52.89%	52.95%	52.93%	52.44%	52.33%	52.55%	52.73%
LOW		46.31%	46.03%	43.88%	47.88%	47.52%	47.93%	46.00%	47.41%	47.49%
HIGH		59.75%	61.29%	63.51%	63.95%	64.01%	60.34%	60.63%	60.15%	61.54%

COMMON EQUITY RATIO - UTILITY OPERATING COMPANIES [2]

Company Name	Ticker	2019Q3	2019Q2	2019Q1	2018Q4	2018Q3	2018Q2	2018Q1	2017Q4	Average
ALLETE (Minnesota Power)	ALE	59.33%	60.94%	60.87%	61.39%	60.43%	60.33%	60.38%	60.04%	60.46%
Superior Water, Light and Power Company	ALE	58.03%	58.38%	58.19%	56.86%	56.58%	57.34%	65.80%	64.99%	59.52%
Interstate Power and Light Company	LNT	48.56%	50.11%	51.59%	51.70%	47.96%	48.62%	48.01%	48.37%	49.37%
Wisconsin Power and Light Company	LNT	53.40%	49.01%	53.03%	52.69%	52.62%	51.52%	49.57%	49.23%	51.38%
Ameren Illinois Company	AEE	54.01%	53.59%	53.19%	52.40%	52.69%	52.25%	53.71%	52.84%	53.09%
Union Electric Company	AEE	52.36%	51.49%	51.45%	51.98%	52.73%	50.77%	51.30%	51.38%	51.68%
AEP Texas, Inc.	AEP	46.97%	46.32%	47.54%	45.38%	43.80%	43.20%	46.75%	45.14%	45.64%
Appalachian Power Company	AEP	48.74%	48.19%	47.77%	49.51%	49.30%	48.93%	49.35%	48.72%	48.81%
Indiana Michigan Power Company	AEP	46.51%	45.83%	45.43%	44.62%	44.53%	44.15%	46.64%	46.33%	45.50%
Kentucky Power Company	AEP	46.94%	46.50%	46.42%	45.72%	45.28%	44.89%	44.40%	43.52%	45.46%
Kingsport Power Company	AEP	54.24%	50.18%	51.54%	50.79%	50.71%	47.69%	47.28%	46.53%	49.87%
Ohio Power Company	AEP	53.63%	52.92%	58.86%	57.80%	56.85%	57.11%	52.91%	58.63%	56.09%
Public Service Company of Oklahoma	AEP	49.89%	48.02%	47.19%	49.16%	49.55%	48.59%	48.10%	48.50%	48.62%
Southwestern Electric Power Company	AEP	48.63%	47.45%	47.59%	46.97%	43.43%	47.91%	47.72%	48.52%	47.28%
Wheeling Power Company	AEP	53.66%	53.83%	54.27%	54.62%	54.70%	54.19%	54.27%	54.26%	54.23%
Avista Corporation	AVA	50.33%	51.40%	51.18%	49.89%	49.55%	49.74%	51.16%	50.75%	50.50%
Consumers Energy Company	CMS	51.57%	53.50%	52.38%	50.14%	52.86%	52.71%	52.97%	52.10%	52.28%
Virginia Electric and Power Company	D	53.33%	53.30%	52.42%	52.62%	53.64%	52.81%	51.03%	51.71%	52.61%
South Carolina Electric & Gas Co.	D	53.79%	48.67%	48.52%	44.88%	49.63%	49.44%	49.30%	49.54%	49.22%
DTE Electric Company	DTE	49.40%	48.76%	48.69%	50.96%	49.97%	49.23%	51.12%	51.02%	49.89%
Duke Energy Carolinas, LLC	DUK	51.80%	52.94%	52.32%	51.78%	52.64%	52.10%	51.70%	52.98%	52.28%
Duke Energy Florida, LLC	DUK	52.82%	51.55%	50.56%	50.04%	49.65%	48.79%	49.92%	49.25%	50.32%
Duke Energy Indiana, LLC	DUK	51.52%	54.83%	54.29%	53.26%	52.79%	52.64%	52.54%	51.94%	52.98%
Duke Energy Kentucky, Inc.	DUK	45.44%	53.04%	52.81%	51.95%	56.58%	55.79%	53.72%	53.11%	52.80%
Duke Energy Ohio, Inc.	DUK	64.90%	64.45%	59.29%	68.09%	67.73%	67.10%	66.06%	66.24%	65.48%
Duke Energy Progress, LLC	DUK	50.86%	50.09%	49.60%	51.00%	50.76%	53.22%	52.82%	52.27%	51.33%
Entergy Arkansas, Inc.	ETR	47.72%	46.49%	47.04%	49.42%	49.13%	48.03%	45.60%	45.67%	47.39%
Entergy Louisiana, LLC	ETR	47.13%	46.32%	45.79%	47.37%	46.77%	46.97%	44.58%	47.43%	46.55%
Entergy Mississippi, Inc.	ETR	48.35%	44.93%	49.41%	49.11%	49.70%	48.71%	47.93%	47.45%	48.20%
Entergy New Orleans, LLC	ETR	50.33%	49.02%	48.00%	47.91%	47.37%	49.91%	49.02%	48.75%	48.79%
Entergy Texas, Inc.	ETR	48.13%	50.79%	50.13%	53.46%	52.61%	51.38%	50.79%	50.45%	50.97%
Kansas City Power & Light Company	EVRG	50.43%	49.62%	46.04%	49.49%	49.50%	48.88%	49.25%	49.15%	49.05%
Kansas Gas and Electric Company	EVRG	81.84%	81.49%	75.13%	74.97%	74.91%	74.45%	74.29%	74.18%	76.41%
KCP&L Greater Missouri Operations Company	EVRG	51.18%	51.74%	52.68%	54.71%	55.70%	52.03%	52.63%	52.40%	52.88%
Westar Energy (KPL)	EVRG	57.66%	59.18%	58.80%	59.08%	59.34%	58.68%	58.75%	58.74%	58.78%
Idaho Power Co.	IDA	55.20%	54.58%	54.36%	54.25%	54.25%	53.44%	51.37%	54.22%	53.96%
Florida Power & Light Company	NEE	59.78%	61.30%	64.03%	64.37%	64.78%	60.84%	61.23%	59.93%	62.03%
Gulf Power Company	NEE	52.52%	61.15%	58.06%	59.73%	55.34%	54.90%	54.27%	54.19%	56.27%
NorthWestern Corporation	NWE	47.80%	48.07%	48.74%	47.88%	48.36%	48.41%	47.48%	49.89%	48.33%
Oklahoma Gas and Electric Company	OGE	54.96%	53.47%	55.38%	53.20%	53.05%	54.25%	53.59%	53.36%	53.91%
Otter Tail Corporation	OTTR	55.43%	53.75%	53.90%	53.58%	53.49%	53.11%	52.67%	57.34%	54.16%
Arizona Public Service Company	PNW	54.25%	54.41%	54.48%	54.36%	53.68%	53.71%	53.18%	53.14%	53.90%
Public Service Company of New Mexico	PNM	45.16%	43.69%	43.29%	45.45%	47.83%	46.51%	46.03%	45.89%	45.48%
Texas-New Mexico Power Company	PNM	48.89%	51.47%	45.11%	53.95%	53.69%	54.56%	57.21%	56.90%	52.72%
Portland General Electric Company	POR	51.78%	51.56%	50.60%	50.19%	50.51%	50.29%	50.14%	49.80%	50.61%
Kentucky Utilities Company	PPL	52.97%	52.81%	55.44%	54.85%	54.76%	54.51%	54.08%	54.00%	54.18%
Louisville Gas and Electric Company	PPL	54.10%	53.88%	56.16%	55.80%	55.35%	54.97%	54.46%	55.42%	55.02%
PPL Electric Utilities Corporation	PPL	54.44%	54.51%	54.52%	54.52%	54.65%	54.28%	55.04%	54.57%	54.57%
Alabama Power Company	SO	50.60%	51.63%	51.31%	46.88%	47.24%	46.62%	47.91%	46.12%	48.54%
Georgia Power Company	SO	55.38%	56.39%	56.43%	59.02%	57.27%	54.97%	53.81%	50.06%	55.42%
Mississippi Power Company	SO	50.23%	49.87%	49.73%	50.35%	44.81%	43.41%	42.54%	38.96%	46.24%
Northern States Power Company - MN	XEL	51.79%	53.66%	53.64%	52.81%	52.64%	52.61%	52.59%	52.38%	52.77%
Northern States Power Company - WI	XEL	53.56%	53.49%	53.59%	53.60%	48.45%	53.85%	53.79%	53.36%	52.96%
Public Service Company of Colorado	XEL	56.35%	57.53%	56.68%	56.31%	56.08%	54.17%	56.67%	56.50%	56.29%
Southwestern Public Service Company	XEL	54.21%	54.14%	54.13%	54.17%	56.29%	53.88%	53.54%	53.55%	54.24%

Notes:
[1] Ratios are weighted by actual common capital, preferred capital, and long-term debt of Operating Subsidiaries.
[2] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

CAPITAL STRUCTURE ANALYSIS

LONG-TERM DEBT RATIO [1]

Proxy Group Company	Ticker	2019Q3	2019Q2	2019Q1	2018Q4	2018Q3	2018Q2	2018Q1	2017Q4	Average
ALLETE (Minnesota Power)	ALE	40.70%	39.13%	39.20%	38.73%	39.67%	39.74%	39.50%	39.85%	39.57%
Alliant Energy Corporation	LNT	47.71%	48.49%	45.88%	45.89%	48.13%	48.04%	49.13%	49.06%	47.79%
Ameren Corporation	AEE	45.96%	46.60%	46.81%	46.87%	46.33%	47.61%	46.61%	46.95%	46.72%
American Electric Power Company, Inc.	AEP	51.17%	51.96%	51.28%	51.45%	52.48%	52.07%	51.46%	51.12%	51.63%
Avista Corporation	AVA	49.67%	48.60%	48.82%	50.11%	50.45%	50.26%	48.84%	49.25%	49.50%
CMS Energy Corporation	CMS	48.18%	46.24%	47.35%	49.59%	46.85%	47.01%	46.73%	47.60%	47.44%
Dominion Resources, Inc.	D	46.57%	47.80%	48.50%	49.48%	47.55%	48.19%	49.47%	48.93%	48.31%
DTE Energy Company	DTE	50.60%	51.24%	51.31%	49.04%	50.03%	50.77%	48.88%	48.98%	50.11%
Duke Energy Corporation	DUK	47.38%	46.88%	47.84%	47.29%	47.15%	46.96%	47.12%	46.99%	47.20%
Entergy Corporation	ETR	52.23%	53.20%	52.97%	51.27%	51.48%	51.78%	53.77%	52.36%	52.38%
Evergy, Inc.	EVRG	40.25%	39.91%	42.28%	40.70%	40.51%	41.54%	41.41%	41.56%	41.02%
IDACORP, Inc.	IDA	44.80%	45.42%	45.64%	45.75%	45.75%	46.56%	48.63%	45.78%	46.04%
NextEra Energy, Inc.	NEE	40.85%	38.71%	36.49%	36.05%	35.99%	39.66%	39.37%	40.59%	38.46%
NorthWestern Corporation	NWE	52.20%	51.93%	51.26%	52.12%	51.64%	51.59%	52.52%	50.11%	51.67%
OGE Energy Corporation	OGE	45.04%	46.53%	44.62%	46.80%	46.95%	45.75%	46.41%	46.64%	46.09%
Otter Tail Corporation	OTTR	44.57%	46.25%	46.10%	46.42%	46.51%	46.89%	47.33%	42.66%	45.84%
Pinnacle West Capital Corporation	PNW	45.75%	45.59%	45.52%	45.64%	46.32%	46.29%	46.82%	46.86%	46.10%
PNM Resources, Inc.	PNM	53.43%	53.71%	55.86%	51.82%	50.31%	51.01%	50.73%	50.92%	52.22%
Portland General Electric Company	POR	48.22%	48.44%	49.40%	49.81%	49.49%	49.71%	49.86%	50.20%	49.39%
PPL Corporation	PPL	46.07%	46.16%	44.82%	45.08%	45.15%	45.49%	45.40%	45.40%	45.45%
Southern Company	SO	46.14%	45.20%	45.30%	45.39%	46.60%	48.27%	48.33%	51.45%	47.09%
Xcel Energy Inc.	XEL	45.87%	44.75%	45.08%	45.52%	45.71%	46.49%	45.60%	45.77%	45.60%
MEAN		46.97%	46.94%	46.92%	46.86%	46.87%	47.35%	47.45%	47.23%	47.07%
LOW		40.25%	38.71%	36.49%	36.05%	35.99%	39.66%	39.37%	39.85%	38.46%
HIGH		53.43%	53.71%	55.86%	52.12%	52.48%	52.07%	53.77%	52.36%	52.38%

LONG-TERM DEBT RATIO - UTILITY OPERATING COMPANIES [2]

Company Name	Ticker	2019Q3	2019Q2	2019Q1	2018Q4	2018Q3	2018Q2	2018Q1	2017Q4	Average
ALLETE (Minnesota Power)	ALE	40.67%	39.06%	39.13%	38.61%	39.57%	39.67%	39.62%	39.96%	39.54%
Superior Water, Light and Power Company	ALE	41.97%	41.62%	41.81%	43.14%	43.42%	42.66%	34.20%	35.01%	40.48%
Interstate Power and Light Company	LNT	48.44%	46.70%	45.13%	44.90%	48.66%	47.72%	48.17%	47.78%	47.19%
Wisconsin Power and Light Company	LNT	46.60%	50.99%	46.97%	47.31%	47.38%	48.48%	50.43%	50.77%	48.62%
Ameren Illinois Company	AEE	45.15%	45.56%	45.95%	46.73%	46.39%	46.83%	45.31%	46.15%	46.01%
Union Electric Company	AEE	46.67%	47.52%	47.56%	47.00%	46.27%	48.24%	47.66%	47.58%	47.31%
AEP Texas, Inc.	AEP	53.03%	53.68%	52.46%	54.62%	56.20%	56.80%	53.25%	54.86%	54.36%
Appalachian Power Company	AEP	51.26%	51.81%	52.23%	50.49%	50.70%	51.07%	50.65%	51.28%	51.19%
Indiana Michigan Power Company	AEP	53.49%	54.17%	54.57%	55.38%	55.47%	55.85%	53.36%	53.67%	54.50%
Kentucky Power Company	AEP	53.06%	53.50%	53.58%	54.28%	54.72%	55.11%	55.60%	56.48%	54.54%
Kingsport Power Company	AEP	45.76%	49.82%	48.46%	49.21%	49.29%	52.31%	52.72%	53.47%	50.13%
Ohio Power Company	AEP	46.37%	47.08%	41.14%	42.20%	43.15%	42.89%	47.09%	41.37%	43.91%
Public Service Company of Oklahoma	AEP	50.11%	51.98%	52.81%	50.84%	50.45%	51.41%	51.90%	51.50%	51.38%
Southwestern Electric Power Company	AEP	51.37%	52.55%	52.41%	53.03%	56.57%	52.09%	52.28%	51.48%	52.72%
Wheeling Power Company	AEP	46.34%	46.17%	45.73%	45.38%	45.30%	45.81%	45.73%	45.74%	45.77%
Avista Corporation	AVA	49.67%	48.60%	48.82%	50.11%	50.45%	50.26%	48.84%	49.25%	49.50%
Consumers Energy Company	CMS	48.18%	46.24%	47.35%	49.59%	46.85%	47.01%	46.73%	47.60%	47.44%
Virginia Electric and Power Company	D	46.67%	46.70%	47.58%	47.38%	46.36%	47.19%	48.97%	48.29%	47.39%
South Carolina Electric & Gas Co.	D	46.20%	51.33%	51.48%	55.12%	50.37%	50.56%	50.70%	50.46%	50.78%
DTE Electric Company	DTE	50.60%	51.24%	51.31%	49.04%	50.03%	50.77%	48.88%	48.98%	50.11%
Duke Energy Carolinas, LLC	DUK	48.20%	47.06%	47.68%	48.22%	47.36%	47.90%	48.30%	47.02%	47.72%
Duke Energy Florida, LLC	DUK	47.18%	48.45%	49.44%	49.96%	50.35%	51.21%	50.08%	50.75%	49.68%
Duke Energy Indiana, LLC	DUK	48.48%	45.17%	45.71%	46.74%	47.21%	47.36%	47.46%	48.06%	47.02%
Duke Energy Kentucky, Inc.	DUK	54.56%	46.96%	47.19%	48.05%	43.42%	44.21%	46.28%	46.89%	47.20%
Duke Energy Ohio, Inc.	DUK	35.10%	35.55%	40.71%	31.91%	32.27%	32.90%	33.94%	33.76%	34.52%
Duke Energy Progress, LLC	DUK	49.14%	49.91%	50.40%	49.00%	49.24%	46.78%	47.18%	47.73%	48.67%
Entergy Arkansas, Inc.	ETR	52.28%	53.51%	52.96%	50.58%	50.35%	51.44%	53.80%	53.73%	52.33%
Entergy Louisiana, LLC	ETR	52.87%	53.68%	54.21%	52.63%	53.23%	53.03%	55.42%	52.57%	53.45%
Entergy Mississippi, Inc.	ETR	51.65%	55.07%	50.59%	50.89%	49.51%	50.49%	51.26%	51.72%	51.40%
Entergy New Orleans, LLC	ETR	49.67%	50.98%	52.00%	52.09%	52.63%	50.09%	50.98%	51.25%	51.21%
Entergy Texas, Inc.	ETR	50.84%	49.21%	49.87%	46.54%	47.39%	48.62%	49.21%	49.55%	48.91%
Kansas City Power & Light Company	EVRG	49.57%	50.38%	53.96%	50.51%	50.50%	51.12%	50.75%	50.85%	50.95%
Kansas Gas and Electric Company	EVRG	18.16%	18.51%	24.87%	25.03%	25.09%	25.55%	25.71%	25.82%	23.59%
KCP&L Greater Missouri Operations Company	EVRG	48.82%	48.26%	47.32%	45.29%	44.30%	47.97%	47.37%	47.60%	47.12%
Westar Energy (KPL)	EVRG	42.34%	40.82%	41.20%	40.92%	40.66%	41.32%	41.25%	41.26%	41.22%
Idaho Power Co.	IDA	44.80%	45.42%	45.64%	45.75%	45.75%	46.56%	48.63%	45.78%	46.04%
Florida Power & Light Company	NEE	40.22%	38.70%	35.97%	35.63%	35.22%	39.16%	38.77%	40.07%	37.97%
Gulf Power Company	NEE	47.48%	38.85%	41.94%	40.27%	44.66%	45.10%	45.73%	45.81%	43.73%
NorthWestern Corporation	NWE	52.20%	51.93%	51.26%	52.12%	51.64%	51.59%	52.52%	50.11%	51.67%
Oklahoma Gas and Electric Company	OGE	45.04%	46.53%	44.62%	46.80%	46.95%	45.75%	46.41%	46.64%	46.09%
Otter Tail Corporation	OTTR	44.57%	46.25%	46.10%	46.42%	46.51%	46.89%	47.33%	42.66%	45.84%
Arizona Public Service Company	PNW	45.75%	45.59%	45.52%	45.64%	46.32%	46.29%	46.82%	46.86%	46.10%
Public Service Company of New Mexico	PNM	54.47%	55.93%	56.33%	54.17%	51.81%	53.12%	53.60%	53.74%	54.15%
Texas-New Mexico Power Company	PNM	51.11%	48.53%	54.89%	46.05%	46.31%	45.44%	42.79%	43.10%	47.28%
Portland General Electric Company	POR	48.22%	48.44%	49.40%	49.81%	49.49%	49.71%	49.86%	50.20%	49.39%
Kentucky Utilities Company	PPL	47.03%	47.19%	44.56%	45.15%	45.24%	45.49%	45.92%	46.00%	45.82%
Louisville Gas and Electric Company	PPL	45.90%	46.12%	43.84%	44.20%	44.65%	45.03%	45.54%	44.58%	44.98%
PPL Electric Utilities Corporation	PPL	45.56%	45.49%	45.48%	45.48%	45.35%	45.72%	44.96%	45.43%	45.43%
Alabama Power Company	SO	47.74%	46.63%	46.93%	51.26%	50.91%	51.50%	50.15%	51.86%	49.62%
Georgia Power Company	SO	44.62%	43.61%	43.57%	40.98%	42.73%	45.03%	46.19%	49.94%	44.58%
Mississippi Power Company	SO	49.77%	50.13%	50.27%	49.65%	54.16%	55.55%	56.40%	60.08%	53.25%
Northern States Power Company - MN	XEL	48.21%	46.34%	46.36%	47.19%	47.36%	47.39%	47.41%	47.62%	47.23%
Northern States Power Company - WI	XEL	46.44%	46.51%	46.41%	46.40%	51.55%	46.15%	46.21%	46.64%	47.04%
Public Service Company of Colorado	XEL	43.65%	42.47%	43.32%	43.69%	43.92%	45.83%	43.33%	43.50%	43.71%
Southwestern Public Service Company	XEL	45.79%	45.86%	45.87%	45.83%	43.71%	46.12%	46.46%	46.45%	45.76%

Notes:
[1] Ratios are weighted by actual common capital, preferred capital, and long-term debt of Operating Subsidiaries.
[2] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

CAPITAL STRUCTURE ANALYSIS

PREFERRED EQUITY RATIO [1]

Proxy Group Company	Ticker	2019Q3	2019Q2	2019Q1	2018Q4	2018Q3	2018Q2	2018Q1	2017Q4	Average
ALLETE (Minnesota Power)	ALE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Alliant Energy Corporation	LNT	1.81%	1.85%	1.95%	2.00%	1.99%	2.11%	2.19%	2.21%	2.01%
Ameren Corporation	AEE	0.91%	0.92%	0.93%	0.95%	0.96%	0.96%	1.01%	1.02%	0.96%
American Electric Power Company, Inc.	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Avista Corporation	AVA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CMS Energy Corporation	CMS	0.25%	0.26%	0.27%	0.27%	0.29%	0.29%	0.30%	0.30%	0.28%
Dominion Resources, Inc.	D	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DTE Energy Company	DTE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Corporation	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Corporation	ETR	0.13%	0.00%	0.00%	0.00%	0.21%	0.22%	0.22%	0.23%	0.13%
Evergy, Inc.	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IDACORP, Inc.	IDA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NextEra Energy, Inc.	NEE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OGE Energy Corporation	OGE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Otter Tail Corporation	OTTR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pinnacle West Capital Corporation	PNW	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PNM Resources, Inc.	PNM	0.25%	0.26%	0.25%	0.27%	0.26%	0.27%	0.27%	0.27%	0.26%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PPL Corporation	PPL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Southern Company	SO	0.62%	0.65%	0.65%	0.69%	0.76%	0.78%	0.76%	0.79%	0.71%
Xcel Energy Inc.	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MEAN		0.18%	0.18%	0.18%	0.19%	0.20%	0.21%	0.22%	0.22%	0.20%
LOW		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
HIGH		1.81%	1.85%	1.95%	2.00%	1.99%	2.11%	2.19%	2.21%	2.01%

PREFERRED EQUITY RATIO - UTILITY OPERATING COMPANIES [2]

Company Name	Ticker	2019Q3	2019Q2	2019Q1	2018Q4	2018Q3	2018Q2	2018Q1	2017Q4	Average
ALLETE (Minnesota Power)	ALE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Superior Water, Light and Power Company	ALE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Interstate Power and Light Company	LNT	2.99%	3.18%	3.28%	3.41%	3.37%	3.66%	3.81%	3.85%	3.44%
Wisconsin Power and Light Company	LNT	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ameren Illinois Company	AEE	0.84%	0.85%	0.86%	0.87%	0.92%	0.92%	0.98%	1.00%	0.91%
Union Electric Company	AEE	0.97%	0.99%	0.99%	1.01%	1.00%	0.99%	1.04%	1.04%	1.00%
AEP Texas, Inc.	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Appalachian Power Company	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Indiana Michigan Power Company	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kentucky Power Company	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kingsport Power Company	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ohio Power Company	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Public Service Company of Oklahoma	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Southwestern Electric Power Company	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Wheeling Power Company	AEP	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Avista Corporation	AVA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumers Energy Company	CMS	0.25%	0.26%	0.27%	0.27%	0.29%	0.29%	0.30%	0.30%	0.28%
Virginia Electric and Power Company	D	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
South Carolina Electric & Gas Co.	D	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DTE Electric Company	DTE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Carolinas, LLC	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Florida, LLC	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Indiana, LLC	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Kentucky, Inc.	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Ohio, Inc.	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Duke Energy Progress, LLC	DUK	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Arkansas, Inc.	ETR	0.00%	0.00%	0.00%	0.00%	0.52%	0.53%	0.59%	0.60%	0.28%
Entergy Louisiana, LLC	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Mississippi, Inc.	ETR	0.00%	0.00%	0.00%	0.00%	0.79%	0.80%	0.81%	0.82%	0.40%
Entergy New Orleans, LLC	ETR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Entergy Texas, Inc.	ETR	1.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.13%
Kansas City Power & Light Company	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kansas Gas and Electric Company	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KCP&L Greater Missouri Operations Company	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Westar Energy (KPL)	EVRG	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Idaho Power Co.	IDA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Florida Power & Light Company	NEE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gulf Power Company	NEE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Oklahoma Gas and Electric Company	OGE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Otter Tail Corporation	OTTR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Arizona Public Service Company	PNW	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Public Service Company of New Mexico	PNM	0.37%	0.38%	0.38%	0.38%	0.36%	0.37%	0.37%	0.37%	0.37%
Texas-New Mexico Power Company	PNM	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Kentucky Utilities Company	PPL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Louisville Gas and Electric Company	PPL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PPL Electric Utilities Corporation	PPL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Alabama Power Company	SO	1.66%	1.74%	1.75%	1.87%	1.85%	1.88%	1.94%	2.01%	1.84%
Georgia Power Company	SO	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mississippi Power Company	SO	0.00%	0.00%	0.00%	0.00%	1.04%	1.04%	1.05%	0.96%	0.51%
Northern States Power Company - MN	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Northern States Power Company - WI	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Public Service Company of Colorado	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Southwestern Public Service Company	XEL	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Notes:
[1] Ratios are weighted by actual common capital, preferred capital, and long-term debt of Operating Subsidiaries.
[2] Natural Gas and Electric Operating Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.