

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

1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your name and business address.**

3 A. My name is Ann E. Bulkley. My business address is 293 Boston Post Road West, Suite
4 500, Marlborough, Massachusetts 01752.

5 **Q. What is your position with Concentric Energy Advisors, Inc. (“Concentric”)?**

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

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

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

12 **Q. Please describe your education and experience.**

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

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

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

25 **II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY**

26 **Q. What is the purpose of your direct testimony?**

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

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

35 A. As discussed in more detail in Section VII, I applied the Constant Growth and Projected
36 forms of the Discounted Cash Flow (“DCF”) model, the Capital Asset Pricing Model
37 (“CAPM”), the Empirical Capital Asset Pricing Model (“ECAPM”), the Risk Premium
38 Approach, and the Expected Earnings Analysis. My recommendation also takes into
39 consideration: (1) RMP’s capital expenditure requirements; (2) the regulatory
40 environment in which RMP operates; and (3) RMP’s planned investments in renewable
41 generation assets compared to its current generation portfolio. Finally, I considered
42 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

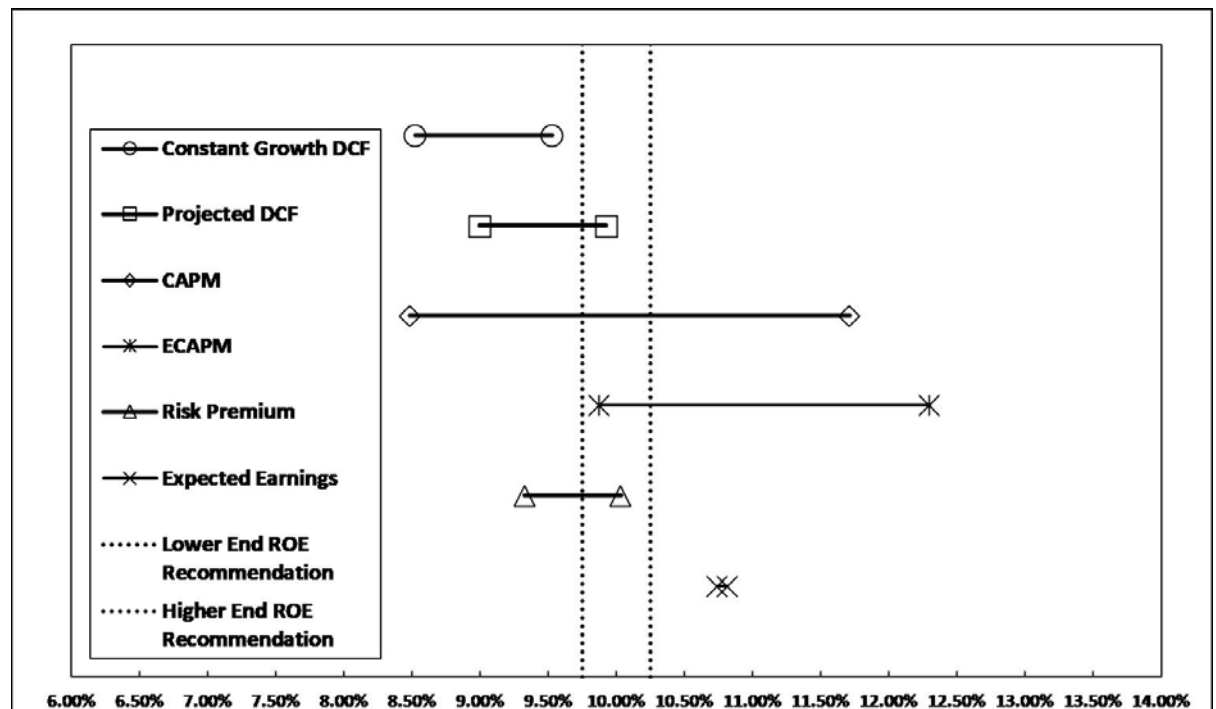
³ *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co. v. Public Serv. Comm'n of W. Virginia*, 262 U.S. 679 (1923).

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 results⁴



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.

120 reviewed the capital structures of the utility subsidiaries of the proxy companies. As
121 shown in Exhibit RMP____(AEB-11), the results of that analysis demonstrate that the
122 average equity ratios for the utility operating companies of the proxy group range from
123 47.49 percent to 61.54 percent with an average of 52.73 percent. RMP's proposed
124 common equity ratio of 53.67 percent closely approximates the average equity ratio for
125 the utility operating subsidiaries of the proxy group companies and is well below the
126 high-end of the range. Moreover, RMP's proposed common equity ratio is reasonable
127 considering that federal tax reform legislation has had a negative effect on the cash
128 flows and credit metrics of regulated utilities.

129 Furthermore, a fundamental aspect of the financial regulation of utilities is
130 the assurance that the subject utility has a reasonable opportunity to earn a return on
131 capital consistent with the return available on investments of similar risk. While this
132 principle is most often discussed in terms of the allowed ROE, it is equally applicable
133 to all aspects of the overall Rate of Return ("ROR"). The equity return, which is the
134 product of the ROE and the equity ratio, (*i.e.*, the Weighted Return on Equity
135 ("WROE")), ultimately defines the return to shareholders, and the product of the cost
136 of debt and the debt ratio ensures that a company's debt obligations are met.

137 Therefore, it is necessary to consider both the rates that are applied to debt and equity
138 and the composition of the capital structure to determine the reasonableness of the
139 ROR. Taken together, RMP's proposed common equity ratio of 53.67 percent and its
140 requested ROE of 10.20 percent, result in a WROE of 5.47 percent. This return
141 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.

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

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

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

194 A. An ROE that is adequate to attract capital at reasonable terms enables a utility to
195 continue to provide safe, reliable service while maintaining its financial integrity.
196 To the extent the utility is provided the opportunity to earn its market-based cost of
197 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).

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

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

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

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

214 In light of the evidence discussed above, we find that Questar's request
215 for continuation of its currently authorized 10.35 percent return on
216 equity is not justified. While we decline to grant Questar's request to
217 maintain a 10.35 percent return on equity, we also find the evidence of
218 record shows a 9.25 or 9.45 return on equity is too low to support
219 properly Questar's operations. In surrebuttal testimony, the Division's
220 witness provides 2013 authorized returns on equity for natural gas
221 distribution companies through December 27, 2013, resulting in a
222 range from 9.08 percent to 10.25 percent, with a mean of 9.66 percent.
223 When looking at authorized returns on equity for the last quarter of
224 2013, there appears to be an upward trend in authorized returns on
225 equity with an average authorized return on equity of 9.81 percent.

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

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

233 **Q. What are your conclusions regarding regulatory guidelines?**

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

241 The financial community carefully monitors the current and expected financial
242 condition of utility companies and the regulatory framework in which they operate. In
243 that respect, the regulatory framework is one of the most important factors in both debt
244 and equity investors' assessments of risk. The Commission's order in this proceeding,
245 therefore, should establish rates that provide RMP with the opportunity to earn an ROE
246 that is: (1) adequate to attract capital at reasonable terms under a variety of economic
247 and financial market conditions; (2) sufficient to ensure good financial management
248 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.

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

271 A. The cost of equity for regulated utility companies is being affected by several factors
272 in the current and prospective capital markets, including: (1) the current market
273 volatility has created a short-term aberration in the market which must be carefully
274 considered when selecting the inputs for the ROE estimation models; 2) utility stock
275 valuations, which are inversely related to dividend yields, are currently unsustainably
276 high given investors demand for defensive sectors during the short-term market
277 dislocation; and (3) recent Federal tax reform. In this section, I discuss each of these
278 factors and how it affects the models used to estimate the cost of equity for regulated
279 utilities.

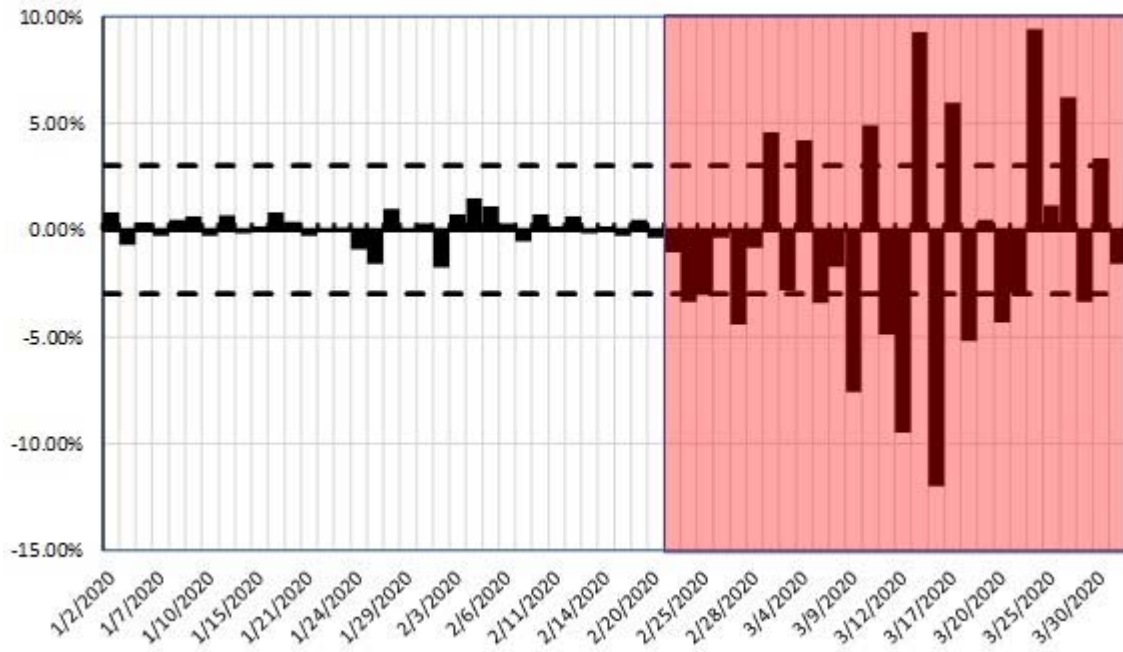
280 **A. Current Market Conditions**

281 **Q. Please summarize current market conditions.**

282 A. In 2020, market conditions have been extremely volatile. In January and early February
283 2020, major market indices were generally increasing, many reaching new threshold
284 levels. By mid-February, as the global health pandemic became more apparent, market
285 conditions became increasingly more volatile. In mid-February utility stock prices
286 reached an all-time high, followed by a significant decline in the overall market and
287 utility stocks. Market conditions in March 2020 were more volatile than the last half of
288 February. As shown in Figure 2 below, the Standard & Poor's ("S&P") 500 Index
289 swung more than 3 percent in 16 of the 22 trading days in the month of March.

290

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

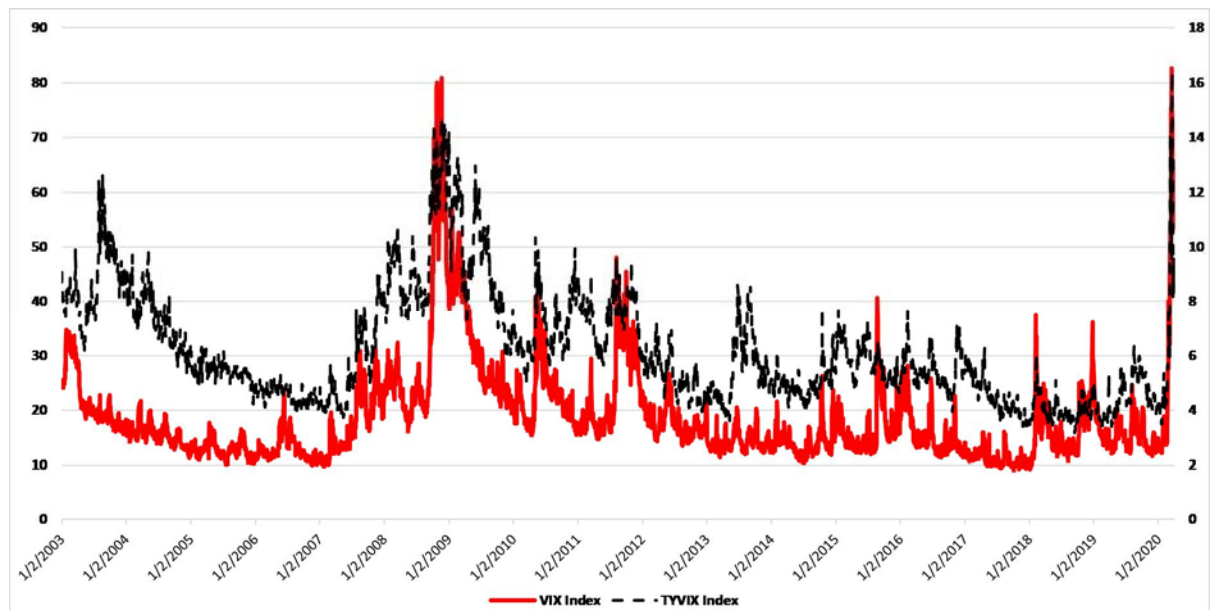


291 **Q. Have you reviewed any other indicators that measure volatility in the financial**
292 **markets?**

293 **A.** Yes, I reviewed two other measures of volatility in financial markets, which are the
294 Chicago Board Options Exchange (“CBOE”) Volatility Index (“VIX”) and the U.S.
295 Treasury Note Volatility Index (“TYVIX”). The VIX measures investors’ expectation
296 of volatility in the S&P 500 over the next 30 days. The TYVIX, also published by
297 CBOE, measures investors’ expectation of volatility in the 10-year Treasury Bond over
298 the next 30 days. As shown in Figure 3, the VIX and TYVIX have recently reached
299 levels not seen since the Great Recession of 2008/09. For example, the VIX was 82.69
300 on March 16, 2020. The VIX has not reached 80.00 since November of 2008; however,
301 it is important to note that the highest level reached during the Great Recession of
302 2008/09 was 80.86. Similarly, the TYVIX was 16.39 on March 19, 2020. Since at least
303 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



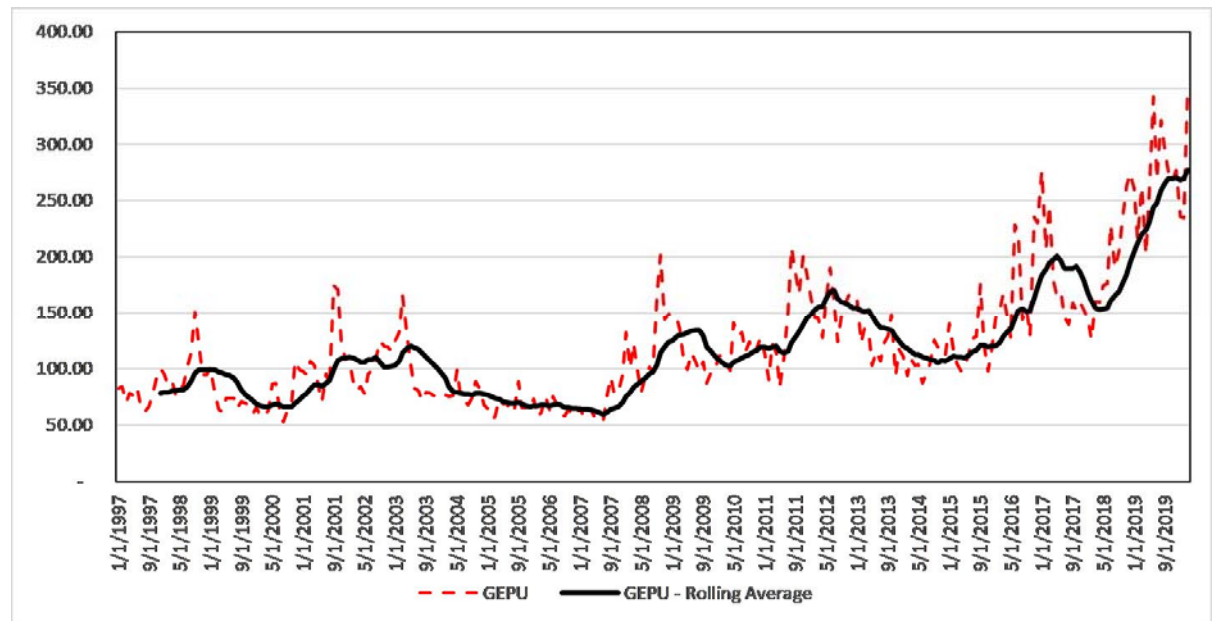
Q. Have you reviewed any indicators that measure the uncertainty in the global economy related to COVID-19?

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

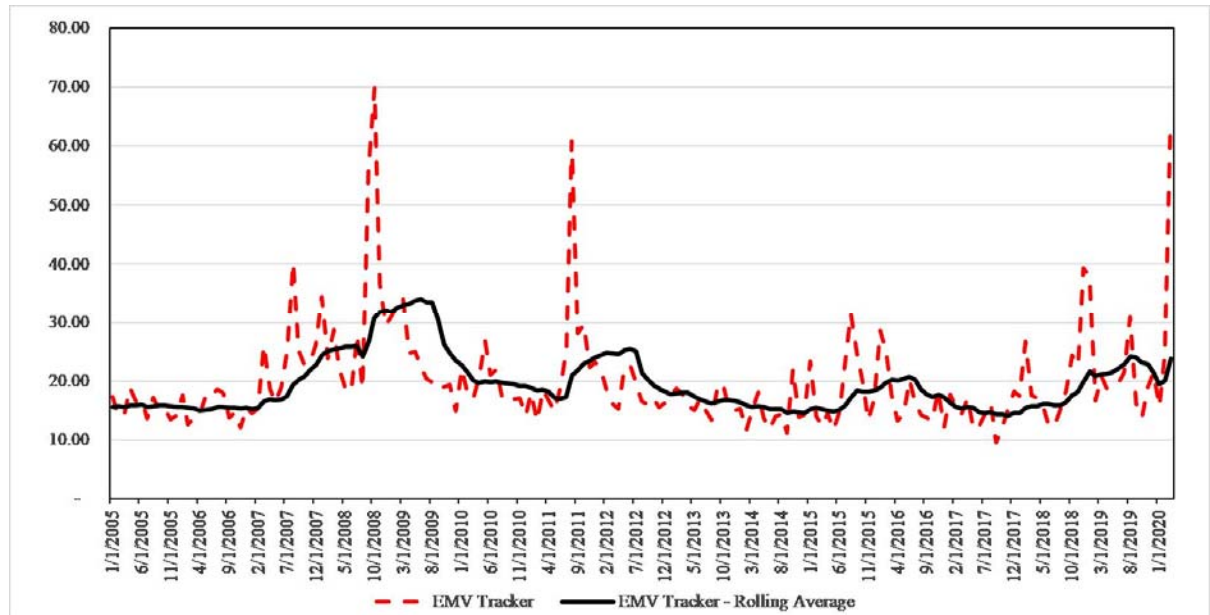


Q. Has the increased global economic uncertainty resulted in increased volatility in financial markets?

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

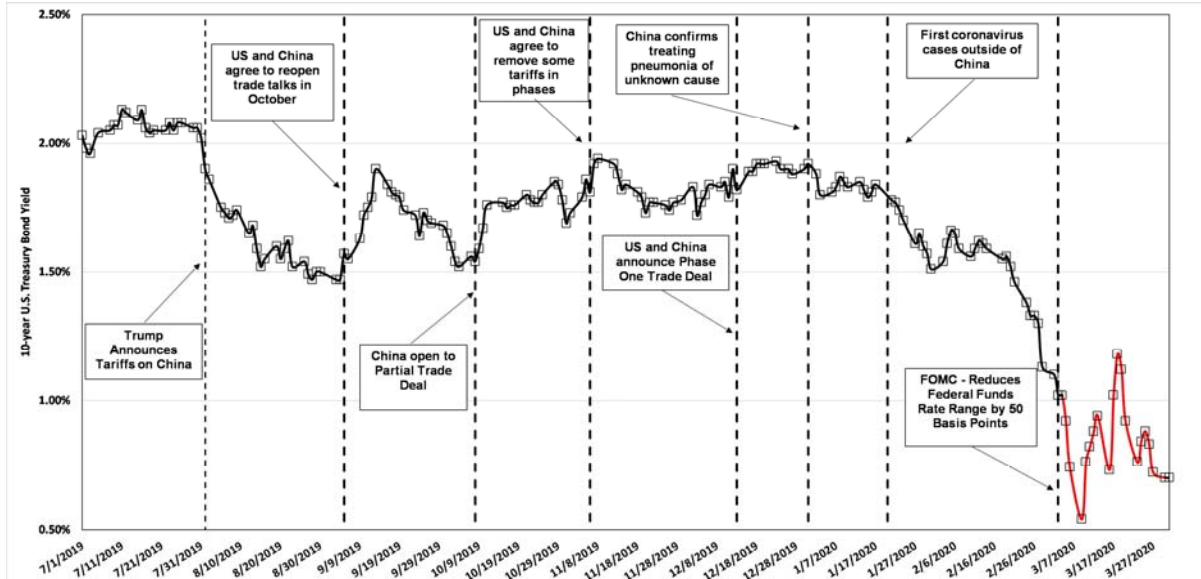
Q. How has the recent uncertainty in the market affected the yields on long-term government bonds?

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

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

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

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

384 **B. The Effect of Market Conditions on Valuations**

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

387 A. The Federal Reserve held a meeting on March 15, 2020, and acknowledged that the
388 recent spread of COVID-19 poses increased risks to economic activity in the U.S. and
389 therefore lowered the federal funds rate by 100 basis points, which resulted in a range
390 of 0.00 percent to 0.25 percent.¹² This is the second unscheduled meeting to occur in
391 March with the first occurring on March 3rd when the Federal Reserve decreased the
392 federal funds rate by 50 basis points. In addition to the reduction in the federal funds
393 rate, the Federal Reserve also announced plans to increase its holdings of both Treasury
394 and mortgage-backed securities.¹³ It is important to view the recent Fed policy
395 decisions in the context of the reactions to global exogenous events in particular
396 COVID-19. The recent spread of COVID-19 has affected the global economy and
397 caused a rise in volatility in the financial markets; thus, the Federal Reserve reacted by
398 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.

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

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

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

408 A. Extraordinary and persistent federal intervention in capital markets artificially lowered
409 government bond yields after the Great Recession of 2008-2009, as the Federal Open
410 Market Committee ("FOMC") used monetary policy (both reductions in short-term
411 interest rates and purchases of Treasury bonds and mortgage-backed securities) to
412 stimulate the U.S. economy. As a result of very low or zero returns on short-term
413 government bonds, yield-seeking investors have been forced into longer-term
414 instruments, bidding up prices and reducing yields on those investments. As investors
415 have moved along the risk spectrum in search of yields that meet their return
416 requirements, there has been increased demand for dividend-paying equities, such as
417 natural gas and electric utility stocks.

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

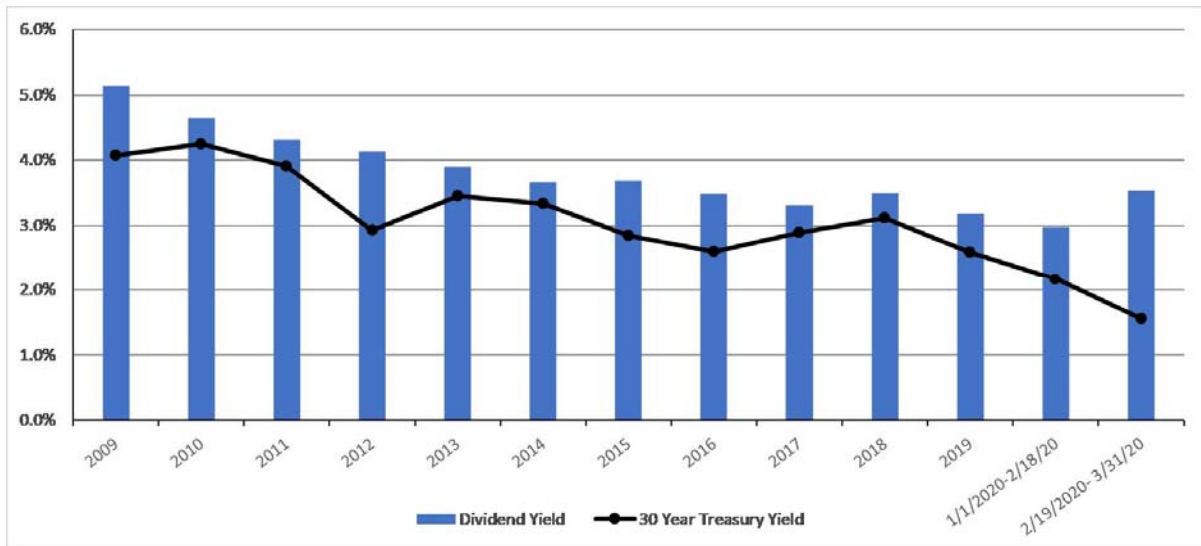
420 A. The Federal Reserve's accommodative monetary policy has caused investors to seek
421 alternatives to the historically low interest rates available on Treasury bonds. A result

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.

422 of this search for higher yield is that share prices for many common stocks, especially
423 dividend-paying stocks such as utilities, have been driven higher while the dividend
424 yields (which are computed by dividing the dividend payment by the stock price) have
425 decreased to levels well below the historical average. As shown in Figure 7, over the
426 period from 2009 through February 18, 2020 (i.e., the peak of the market prior to the
427 recent decline resulting from the effects of COVID-19), Treasury bond yields and
428 utility dividend yields had declined. While investors have responded to the economic
429 effects of COVID-19 resulting heightened volatility and in a recent decline in the
430 market, it is important to highlight the relative performance of electric utilities during
431 this time period. As shown in Figure 7, while the stock prices of electric utilities have
432 declined, which has resulted in an increase in dividend yields, the average dividend
433 yield for electric utilities over the period of February 19, 2020 through March 31, 2020
434 was 3.53 percent which is still unreasonably low when compared to historical dividend
435 yields.

436

Figure 7: Dividend Yields for Electric Utility Stocks¹⁵



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

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

442 Utilities are usually seen as a safe haven when the markets are in
 443 turmoil. Most of these stocks have declined far less than the broader
 444 market averages, but have been much more volatile than their high
 445 Price Stability Indexes suggest. Even a Safety rank of 1 (Highest) does
 446 not necessarily mean that a sharp decline cannot occur. Additionally,
 447 there has been a wide variance in the performance of these equities.
 448 The stock of Xcel Energy has advanced modestly in price this year,
 449 but the stock of Edison International has fallen more than 20% in price.
 450 The average dividend yield of stocks in this industry has risen to 3.55%
 451 after having fallen below 3% before the market tumbled in late
 452 February. Because the broader market has declined far more than the
 453 Electric Utility Industry, the median yield of dividend-paying stocks
 454 in The Value Line Investment Survey is not considerably lower than
 455 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.

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

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

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

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

478 A. High valuations have had the effect of depressing the dividend yields, which results in
479 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.

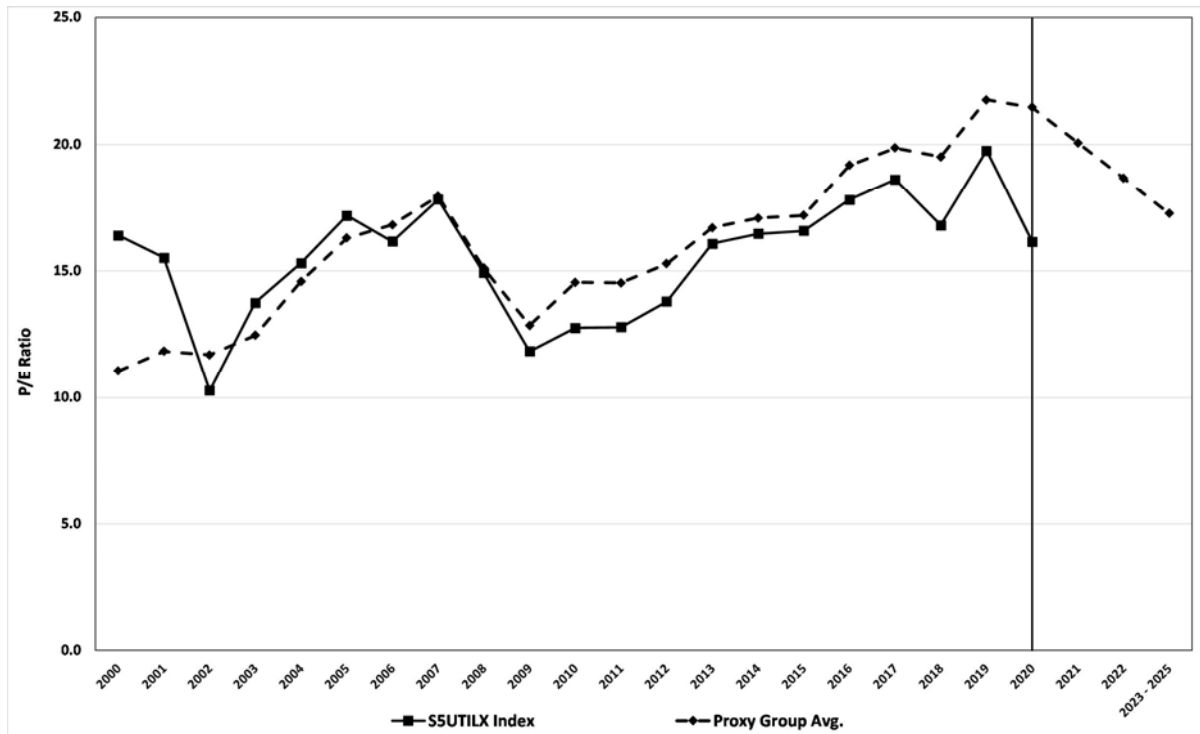
480 **Q. How do the valuations of public utilities compare to the historical average?**

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

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

500

Figure 8: Average Historical Proxy Group P/E Ratios¹⁹



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

503 A. Yes. To further assess how the current low interest rate environment has affected the
 504 valuations of the companies in my proxy group, I reviewed the price/earnings to growth
 505 (“PEG”) ratio for the S&P Utilities Index. The PEG ratio is commonly used by
 506 investors to determine if a company is considered over- or under-valued. The ratio
 507 compares the P/E ratio of a company to the expected growth rate of future earnings.
 508 This allows investors to compare companies with similar P/E ratios but different
 509 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).

531 utilities considering the increased uncertainty associated with the spread of COVID-

532 19:

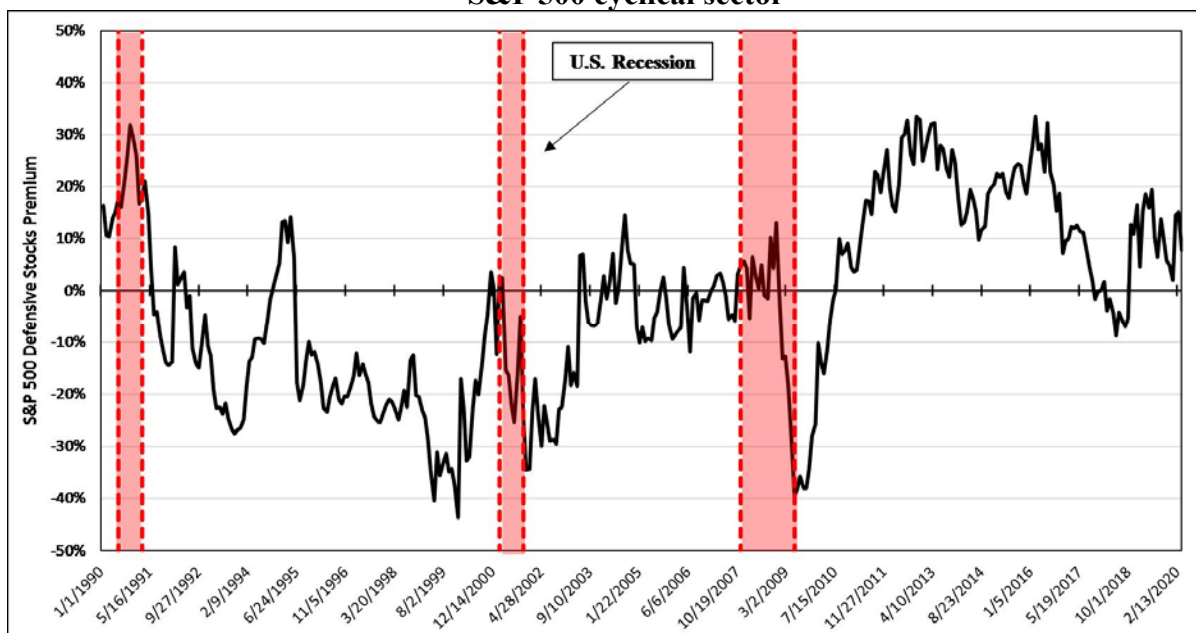
533 The outperformance of low-volatility stocks goes further back as well.
534 The group has been holding up relatively well since the stock market
535 stumbled into its current highly volatile phase two weeks ago. As of
536 Tuesday, the S&P 500 had gained or lost at least 3% over nine of the
537 past 12 trading days and declined 13.6% through the entire period.
538 During the same period, the Invesco Low Volatility ETF has lost only
539 10.7%.

540 That's not surprising. Low-volatility is historically a risk-off strategy,
541 with large exposure to defensive sectors such as utilities and real
542 estate. Nine out of the top 10 holdings in the Invesco fund are utility
543 stocks, including Eversource Energy (ES), Duke Energy Corp. (DUK),
544 and Consolidated Edison (ED). The group is therefore less affected by
545 the ups and downs of the business cycle, and tends to beat the market
546 during downturns, while underperforming during rallies.²¹

547 Moreover, to show the current high valuations of defensive sector stocks, I compared
548 the forward P/E ratio of defensive sector stocks in the S&P 500 to the forward P/E ratio
549 of cyclical sector stocks in the S&P 500. This comparison is shown in Figure 9 below.
550 As shown this figure, the defensive stock premium is currently approximately
551 7.80 percent, above the long-term average (i.e., a cyclical stock premium) from 1990
552 to 2020 of -2.09 percent. Thus, defensive sector stocks are currently trading at a
553 premium over cyclical sectors stocks, indicating that the valuations of defensive sectors
554 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 sector²²



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.

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

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

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

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

583 In S&P's 2019 trends report, the rating agency explains how the utility
584 industry's financial measures weakened in 2018 due to tax reform, capital spending,
585 and negative load growth. In addition, S&P expects that weaker credit metrics will
586 continue for those utilities operating with minimal financial cushion. S&P further
587 expects that these utilities will look to offset the revenue reductions from tax reform
588 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).

589 issued nearly \$35 billion in equity, which is more than twice the equity issuances in
590 either 2016 or 2017.²⁴

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

597 **Q. How has Moody’s responded to the increased risk for utilities resulting from the**
598 **TCJA?**

599 A. In January 2018, Moody’s issued a report changing the rating outlook for several
600 regulated utilities from Stable to Negative.²⁶ At that time, Moody’s noted that the rating
601 change affected companies with limited cushion in their ratings for deterioration in
602 financial performance. In June 2018, Moody’s issued a report that downgraded the
603 outlook for the entire regulated utility industry from Stable to Negative for the first
604 time ever, citing ongoing concerns about the negative effect of the TCJA on cash flows
605 of regulated utilities. Since mid-2018, Moody’s has downgraded the credit ratings of
606 several utilities based in part on the effects of tax reform on financial metrics. As shown
607 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
Integrus 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

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

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

612 published by the credit rating agencies such as Moody's, S&P, and Fitch and are
613 therefore considering the effects of the TCJA. However, utilities are still managing the
614 negative effects of the TCJA and are working with regulators to determine appropriate
615 solutions to mitigate the effect of the TCJA on cash flows. As Moody's noted in its
616 November 2018 report, the TCJA is expected to continue to have a near-term effect on
617 the cash flows of utilities, which resulted in Moody's negative outlook on the industry
618 for 2019.²⁷ Furthermore, as shown in Figure 10, Moody's is continuing to evaluate the
619 effect of the TCJA on the cash flows of individual utilities. As part of the credit
620 evaluation, rating agencies are specifically considering the recent rate case decisions of
621 utilities to determine if the results of these cases help to mitigate the effect of the TCJA
622 on cash flows. Therefore, the credit rating agencies appear to be continuing to monitor
623 the effects of the TCJA on utilities.

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

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

631 Issues that can be viewed as "credit negative" for DEU, potentially
632 leading to an increase in its authorized ROE, include the federal tax
633 reform enacted in late 2017 and the Federal Reserve's cessation of
634 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.

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

637 A. Yes. In a recent rate case for Consumers Energy Company in Michigan, Case No. U-
638 18322, the Michigan Public Service Commission ("Michigan PSC") Staff ("Michigan
639 PSC Staff") recommended a 9.80 percent ROE based on the results of the DCF, CAPM,
640 and Risk Premium approaches, which was supported by the Administrative Law Judge
641 ("ALJ").²⁹ In its Order issued on March 29, 2018, however, the Michigan PSC partly
642 disagreed with the ALJ and Michigan PSC Staff regarding expected market conditions
643 and authorized a 10.00 percent ROE for Consumers Energy Company. The Michigan
644 PSC noted that:

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

658
659 The Michigan PSC references "singular events" and the overall effect the events
660 could have on the ability of a utility to access capital. Consistent with the Michigan
661 PSC's views, it is important to consider that the TCJA has had a negative effect on the
662 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.

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

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

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

674 Staff finds that the Tax Cuts and Jobs Act of 2017 created unanticipated stresses
675 on the Company’s credit ratings. The requested authorization signals to rating
676 agencies that the Company is committed to the equity portion of its capital
677 structure. However, it is Staff’s finding that restoring a notch in credit ratings
678 involves more than just remedying the cause for the downgrade. On December
679 21, 2018, Moody’s stated, “Avista’s credit profile reflects its low-risk vertically
680 integrated electric and gas utility business, regulatory uncertainty in WA and
681 the expected negative cash flow impact of tax reform.” Authorization herein as
682 recommended by Staff starts the process of addressing rating agency concerns
683 and restoring a positive credit outlook.³¹

684 In July 2019, the Oregon PUC approved Avista’s application to issue debt
685 securities, adopting Oregon PUC Staff’s memo stating that “Raising the Company’s
686 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).

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

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

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

708 Additionally, in a recent decision involving Questar Gas Company dba
709 Dominion Energy Wyoming ("DEW"), the Wyoming PSC approved a modification to
710 the stipulation in the Questar-Dominion merger case.³⁴ The original stipulation required
711 DEW to maintain an equity ratio in the range of 50-55 percent, and the modification
712 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).

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

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

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

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

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

742 VI. PROXY GROUP SELECTION

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

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

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

757 **Q. Please provide a brief profile of RMP.**

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

759 subsidiary of Berkshire Hathaway Energy Company. PacifiCorp provides electric
760 utility service to approximately 1.9 million residential, commercial, and industrial
761 customers in California, Idaho, Oregon, Utah, Washington, and Wyoming.³⁵ In Utah,
762 RMP provides electric service to approximately 948,710 residential, commercial, and
763 industrial customers.³⁶ As of December 31, 2019, RMP had a net utility electric plant
764 allocated to Utah of \$7.735 billion.³⁷ RMP's electric operations in Utah represented
765 43 percent of PacifiCorp's electric sales in 2019.³⁸ RMP currently has an investment
766 grade long-term rating of A (Outlook: Stable) from S&P and A3 (Outlook: Stable) from
767 Moody's.³⁹

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

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

- 771 • pay consistent quarterly cash dividends, because companies that do not cannot
772 be analyzed using the Constant Growth DCF model;
- 773 • have investment grade long-term issuer ratings from S&P and/or Moody's;
- 774 • are covered by at least two utility industry analysts;
- 775 • have positive long-term earnings growth forecasts from at least two utility
776 industry equity analysts;
- 777 • 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.

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

786 **Q. What is the composition of your proxy group?**

787 A. The screening criteria discussed above is shown in Exhibit RMP____(AEB-3) and

788 resulted in a proxy group consisting of the 22 companies shown in Figure 11 below.

789 **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
Eversource Energy, Inc.	EVERG
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

790 **VII. COST OF EQUITY ESTIMATION**

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

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

797 **Q. How is the required ROE determined?**

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

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

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

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

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

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

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

826 A. Yes. Low interest rates and the effects of the investor “flight to quality” can be seen in
827 high utility share valuations, relative to historical levels and relative to the broader
828 market. Higher utility stock valuations produce lower dividend yields and result in
829 lower cost of equity estimates from a DCF analysis. Low interest rates also affect the
830 CAPM in two ways: (1) the risk-free rate is lower, and (2) because the market risk
831 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.

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

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

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

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

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

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

855
856 **Q. What are your conclusions about the results of the DCF and CAPM approaches?**

857 A. Recent market data that is used as the basis for the assumptions for both models have
858 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:

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

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

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

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

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

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

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

892 A. The dividend yield in my Constant Growth DCF model is based on the proxy
893 companies' current annualized dividend and average closing stock prices over the 30-,
894 90-, and 180-trading days ended March 31, 2020.

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

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

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

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

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

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

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

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

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

934 **C. Discounted Cash Flow Model Results**

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

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

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

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

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

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

⁴⁴ Source: Bloomberg Professional.

962 **Q. What were the results of your DCF analyses?**

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

969 **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%

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

971 A. As discussed previously, one primary assumption of the DCF models is a constant P/E
972 ratio. That assumption is heavily influenced by the market price of utility stocks.
973 Because current utility stock valuations are relatively high and are likely not
974 sustainable, the results of the DCF models must be considered with caution. The
975 dividend yield on the 30-day average DCF analysis was 3.47 percent, lower than the
976 average dividend yield for electric utilities over the last 10 years. These data points
977 demonstrate that the results of the current DCF models are significantly below more
978 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)

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

981 **D. Capital Asset Pricing Model Analysis**

982 **Q. Please briefly describe the Capital Asset Pricing Model.**

983 A. The CAPM is a risk premium approach that estimates the cost of equity for a given
984 security as a function of a risk-free return plus a risk premium to compensate investors
985 for the non-diversifiable or “systematic” risk of that security. This second component
986 is the product of the market risk premium and the Beta coefficient, which measures the
987 relative riskiness of the security being evaluated.

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

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

990 Where:

991 K_e = the required market ROE;

992 $\hat{\alpha}$ = Beta coefficient of an individual security;

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

994 r_m = the required return on the market.

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

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

999 The variance of the market return (i.e., Variance (r_m)) is a measure of the
1000 uncertainty of the general market, and the covariance between the return on a specific
1001 security and the general market (i.e., Covariance (r_e , r_m)) reflects the extent to which
1002 the return on that security will respond to a given change in the general market return.
1003 Thus, Beta represents the risk of the security relative to the general market.

1004 **Q. What risk-free rate did you use in your CAPM analysis?**

1005 A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day
1006 average yield on 30-year U.S. Treasury bonds of 1.56 percent;⁴⁷ (2) the average
1007 projected 30-year U.S. Treasury bond yield for Q3 2020 through Q3 2021 of
1008 1.80 percent;⁴⁸ and (3) the average projected 30-year U.S. Treasury bond yield for 2021
1009 through 2025 of 3.20 percent.⁴⁹

1010 **Q. Would you place more weight on one of these scenarios?**

1011 A. Yes. Based on current market conditions, I place more weight on the results of the
1012 projected yields on the 30-year Treasury bonds. As discussed previously, the estimation
1013 of the cost of equity in this case should be forward looking because it is the return that
1014 investors would receive over the future rate period. Therefore, the inputs and
1015 assumptions used in the CAPM analysis should reflect the expectations of the market
1016 at that time. While I have included the results of a CAPM analysis that relies on the
1017 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.

1018 market conditions may not be representative of the market's expectations for future
1019 interest rates.

1020 **Q. What Beta coefficients did you use in your CAPM analysis?**

1021 A. As shown on Exhibit RMP___(AEB-6), I used the Beta coefficients for the proxy group
1022 companies as reported by Bloomberg and Value Line. The Beta coefficients reported
1023 by Bloomberg were calculated using ten years of weekly returns relative to the S&P
1024 500 Index. Value Line's calculation is based on five years of weekly returns relative to
1025 the New York Stock Exchange Composite Index.

1026 **Q. How did you estimate the market risk premium in the CAPM?**

1027 A. I estimated the market risk premium based on the expected return on the S&P 500 Index
1028 less the yield on the 30-year Treasury bond. I calculated the expected return on the S&P
1029 500 Index using S&P's published dividend yield and five-year projected growth rate
1030 for the entire S&P 500 Index. As shown in Exhibit RMP___(AEB-6), based on S&P's
1031 five-year growth rate for the S&P 500 of 11.60 percent and dividend yield of
1032 2.31 percent, the estimated required market return for the S&P 500 Index is
1033 14.05 percent. The implied Market Risk Premiums over the current and projected
1034 yields on the 30-year U.S. Treasury bond range from 10.85 percent to 12.49 percent.

1035 **Q. Have other regulators endorsed the use of a forward-looking market risk**
1036 **premium?**

1037 A. Yes. The Staff of the Maine Public Utilities Commission ("Maine PUC") has supported
1038 the forward-looking market risk premium. In the Bench Analysis in Docket No. 2018-
1039 00194 for Central Maine Power Company, Docket No. 2017-00198 for Emera Maine
1040 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:

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

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.

1076

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%

1077 **E. Bond Yield Plus Risk Premium Analysis**

1078 **Q. Please describe the Bond Yield Plus Risk Premium approach.**

1079 A. In general terms, this approach is based on the fundamental principle that equity
1080 investors bear the residual risk associated with equity ownership and therefore require
1081 a premium over the return they would have earned as a bondholder. That is, because
1082 returns to equity holders have greater risk than returns to bondholders, equity investors
1083 must be compensated to bear that risk. Risk premium approaches, therefore, estimate
1084 the cost of equity as the sum of the equity risk premium and the yield on a particular
1085 class of bonds. In my analysis, I used actual authorized returns for electric utility
1086 companies as the historical measure of the cost of equity to determine the risk premium.

1087 **Q. Are there other considerations that should be addressed in conducting this**
1088 **analysis?**

1089 A. Yes. It is important to recognize both academic literature and market evidence
1090 indicating that the equity risk premium (as used in this approach) is inversely related
1091 to the level of interest rates. That is, as interest rates increase (decrease), the equity risk
1092 premium decreases (increases). Consequently, it is also important to develop an
1093 analysis that: (1) reflects the inverse relationship between interest rates and the equity
1094 risk premium; and (2) relies on recent and expected market conditions. Such an analysis
1095 can be developed based on a regression of the risk premium as a function of U.S.

1096 Treasury bond yields. Thus, if authorized ROEs for electric utilities serve as the
1097 measure of required equity returns and the yield on the long-term U.S. Treasury bond
1098 serves as the relevant measure of interest rates, the risk premium simply would be the
1099 difference between those two points.⁵³

1100 **Q. Is the Bond Yield Plus Risk Premium analysis relevant to investors?**

1101 A. Yes. Investors are aware of authorized ROE determinations in other jurisdictions, and
1102 they consider those returns as a benchmark for a reasonable level of equity return for
1103 utilities of comparable risk operating in other jurisdictions. Because my Bond Yield
1104 Plus Risk Premium analysis is based on authorized ROEs for utility companies relative
1105 to corresponding Treasury yields, it provides relevant information to assess the return
1106 expectations of investors.

1107 **Q. What did your Bond Yield Plus Risk Premium analysis reveal?**

1108 A. As shown in Figure 15 below, from 1992 through March 31, 2020, there was a strong
1109 negative relationship between risk premia and interest rates. To estimate that
1110 relationship, I conducted a regression analysis using the following equation:

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

1111 Where:

1112 RP = Risk Premium (difference between allowed ROEs and the yield on 30-
1113 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.

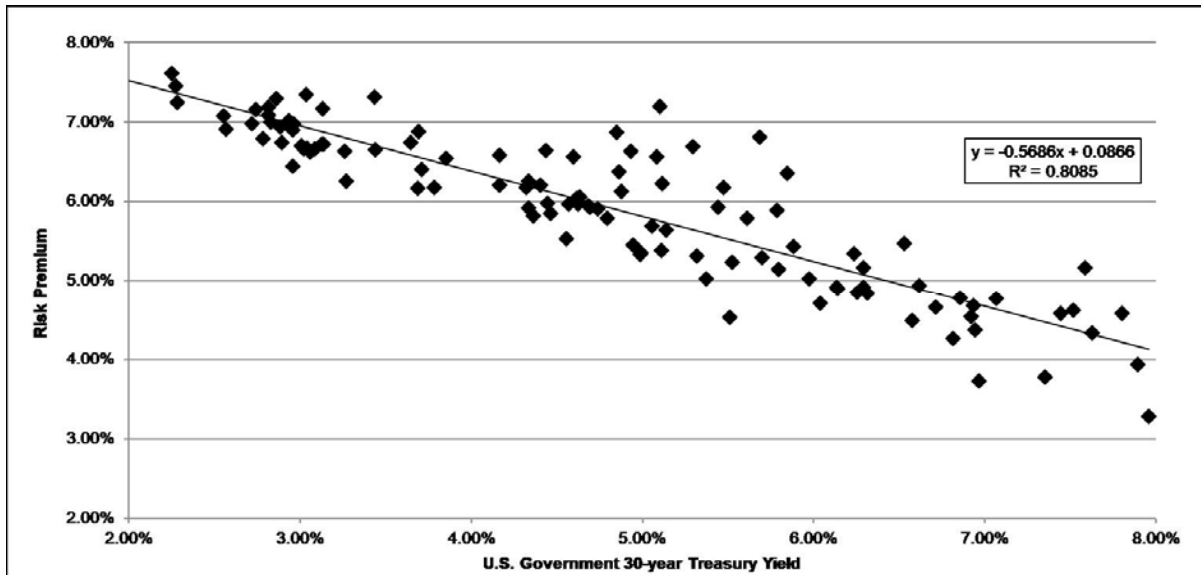
a = intercept term

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.

1127 of 9.43 percent. Based on longer-term (2021 to 2025) projections of the 30-year U.S.
1128 Treasury bond yield (i.e., 3.20 percent), the risk premium would be 6.84 percent,
1129 resulting in an estimated ROE of 10.04 percent.

1130 **Q. How did the results of the Bond Yield Risk Premium inform your recommended**
1131 **ROE for RMP?**

1132 A. I have considered the results of the Bond Yield Risk Premium analysis in setting my
1133 recommended ROE for RMP. As noted above, investors will consider the authorized
1134 ROE of a company when assessing the risk of that company as compared to utilities of
1135 comparable risk operating in other jurisdictions. The risk premium analysis takes into
1136 account this comparison by estimating the return expectations of investors based on the
1137 current and past ROE awards of electric utilities across the U.S.

1138 **F. Expected Earnings Analysis**

1139 **Q. Have you considered any additional analysis to estimate the cost of equity for**
1140 **RMP?**

1141 A. Yes. I have considered an Expected Earnings analysis based on the projected ROEs for
1142 each of the proxy group companies.

1143 **Q. What is an Expected Earnings Analysis?**

1144 A. The Expected Earnings methodology is a comparable earnings analysis that calculates
1145 the earnings that an investor expects to receive on the book value of a stock. The
1146 expected earnings analysis is a forward-looking estimate of investors' expected returns.
1147 The use of an Expected Earnings approach based on the proxy companies provides a
1148 range of the expected returns on a group of risk comparable companies to the subject

1149 company. This range is useful in helping to determine the opportunity cost of investing
1150 in the subject company, which is relevant in determining a company's ROE.

1151 **Q. Have any regulators considered the use of an Expected Earnings Analysis?**

1152 A. Yes. The Washington Utilities & Transportation Commission ("Washington UTC"), in
1153 its order in Dockets UE-170485 and UG-170486, considered the results of the
1154 Comparable Earnings analysis⁵⁵ in establishing the authorized ROE for Avista
1155 Corporation. The Washington UTC noted that it tends to place more weight on the
1156 results of the DCF, CAPM and Risk Premium analyses; however, given the wide range
1157 of CAPM results presented by the ROE witnesses in the case, the Washington UTC
1158 decided to apply weight to the results of the Comparable Earnings analysis.⁵⁶
1159 Specifically, the Washington UTC stated the following:

1160 Finally, as additional data points for our consideration of establishing
1161 Avista's ROE, we note that two witness, Mr. McKenzie for Avista and
1162 Mr. Parcell for Staff, employ the CE approach to two proxy groups of
1163 companies. The respective mid-points of each witnesses' CE analysis
1164 are 10.5 and 9.5 percent, respectively, with an average of 10.0 percent.
1165 Although we generally do not apply material weight to the CE method,
1166 having stronger reliance on the DCF, CAPM and RP methods, we are
1167 inclined to include the CE method here given the anomalous CAPM
1168 results described previously.⁵⁷

1169 **Q. How did you develop the Expected Earnings Approach?**

1170 A. I relied primarily on the projected ROE capital for the proxy companies as reported by
1171 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.

1172 to account for the fact that the ROEs reported by Value Line are calculated on the basis
1173 of common shares outstanding at the end of the period, as opposed to average shares
1174 outstanding over the period. As shown in Exhibit RMP____(AEB-8), the Expected
1175 Earnings analysis results in a mean of 10.82 percent and a median of 10.74 percent.

1176 **VIII. REGULATORY AND BUSINESS RISKS**

1177 **Q. Do the DCF, CAPM, ECAPM, Risk Premium, and Expected Earnings results for**
1178 **the proxy group, taken alone, provide an appropriate estimate of the cost of equity**
1179 **for RMP?**

1180 A. No. These results provide only a range of the appropriate estimate of RMP's cost of
1181 equity. There are several additional factors that must be taken into consideration when
1182 determining where the Company's cost of equity falls within the range of results. These
1183 factors, which are discussed below, should be considered with respect to their overall
1184 effect on the Company's risk profile.

1185 **A. Capital Expenditures**

1186 **Q. Please summarize PacifiCorp's capital expenditure requirements.**

1187 A. PacifiCorp's current projections for 2020 through 2024 include approximately
1188 \$10.8 billion in capital investments for the period.⁵⁹ Based on PacifiCorp's net utility
1189 plant of approximately \$18 billion as of December 31, 2018, the \$10.8 billion
1190 anticipated capital expenditures are approximately 60.00 percent.⁶⁰

1191 **Q. How is PacifiCorp's risk profile affected by its capital expenditure requirements?**

1192 A. As with any utility facing increased capital expenditure requirements, PacifiCorp's risk
1193 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.

1194 heightened level of investment increases the risk of under recovery or delayed recovery
1195 of the invested capital; and (2) an inadequate return would put downward pressure on
1196 key credit metrics.

1197 **Q. Do credit rating agencies recognize the risks associated with elevated levels of**
1198 **capital expenditures?**

1199 A. Yes. From a credit perspective, the additional pressure on cash flows associated with
1200 higher levels of capital expenditures exerts corresponding pressure on credit metrics
1201 and, therefore, credit ratings. To that point, S&P explains the importance of regulatory
1202 support for large capital projects:

1203 When applicable, a jurisdiction's willingness to support large capital
1204 projects with cash during construction is an important aspect of our
1205 analysis. This is especially true when the project represents a major
1206 addition to rate base and entails long lead times and technological
1207 risks that make it susceptible to construction delays. Broad support
1208 for all capital spending is the most credit-sustaining. Support for only
1209 specific types of capital spending, such as specific environmental
1210 projects or system integrity plans, is less so, but still favorable for
1211 creditors. Allowance of a cash return on construction work-in-
1212 progress or similar ratemaking methods historically were
1213 extraordinary measures for use in unusual circumstances, but when
1214 construction costs are rising, cash flow support could be crucial to
1215 maintain credit quality through the spending program. Even more
1216 favorable are those jurisdictions that present an opportunity for a
1217 higher return on capital projects as an incentive to investors.⁶¹

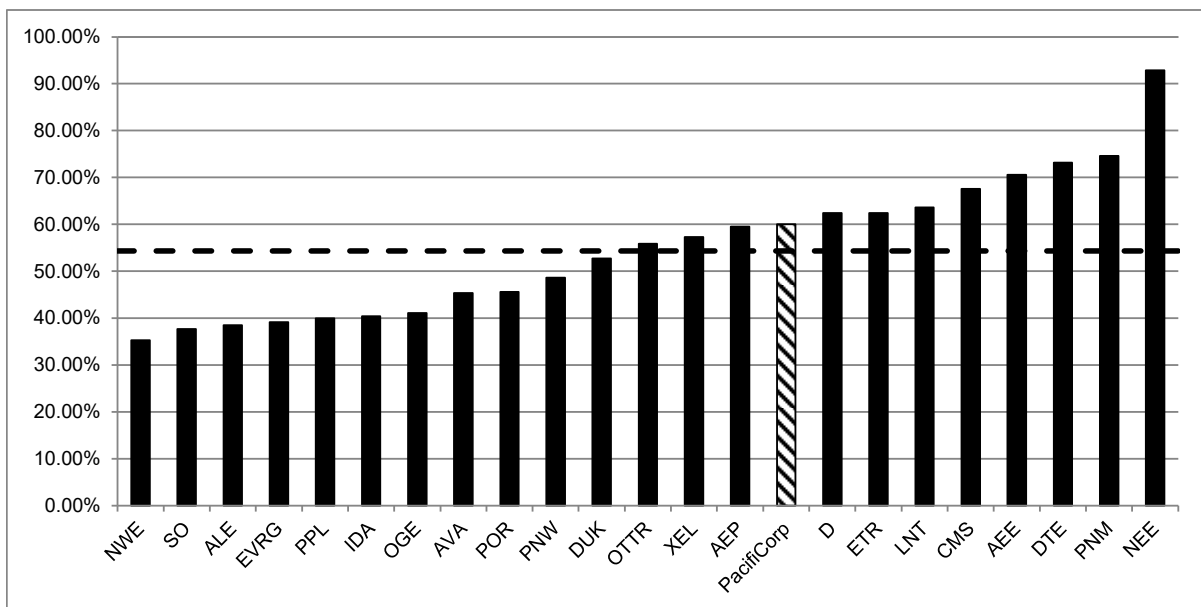
1218 Therefore, to the extent that RMP's rates do not permit the opportunity to
1219 recover its full cost of doing business, RMP will face increased recovery risk and thus
1220 increased pressure on its credit metrics.

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

1221 **Q. How do PacifiCorp's capital expenditure requirements compare to those of the**
1222 **proxy group companies?**

1223 A. As shown in Exhibit RMP___(AEB-9), I calculated the ratio of expected capital
1224 expenditures to net utility plant for PacifiCorp and each of the companies in the proxy
1225 group by dividing each company's projected capital expenditures for the period from
1226 2020-2024 by its total net utility plant as of December 31, 2018. As shown in Exhibit
1227 RMP___(AEB-9) (see also Figure 16 below), PacifiCorp's ratio of capital expenditures
1228 as a percentage of net utility plant of 60.00 percent is approximately 1.10 times the
1229 median for the proxy group companies of 54.30 percent. This result indicates slightly
1230 greater risk relative to the companies in the proxy group.

1231 **Figure 16: Comparison of Capital Expenditures - Proxy Group Companies**



1232 **Q. Does RMP have a capital tracking mechanism to recover the costs associated with**
1233 **its capital expenditures plan between rate cases?**

1234 A. No. RMP does not recover capital investment costs between rate cases utilizing a
1235 capital tracking mechanism. Increased capital expenditure programs like RMP's often
1236 receive cost recovery through infrastructure and capital trackers in other jurisdictions.
1237 As shown in Exhibit RMP___(AEB-10), 52.00 percent of the proxy group utilities
1238 recover costs through capital tracking mechanisms. Since RMP does not currently have
1239 a capital tracking mechanism, RMP's risk relative to the proxy group is significantly
1240 increased.

1241 **Q. What are your conclusions regarding the effect of the PacifiCorp's capital**
1242 **spending requirements on its risk profile and cost of capital?**

1243 A. PacifiCorp's capital expenditure requirements as a percentage of net utility plant are
1244 increasing and will continue over the next few years. Additionally, unlike a number of
1245 the operating subsidiaries of the proxy group, RMP does not have a comprehensive
1246 capital tracking mechanism to recover projected capital expenditures. Therefore,
1247 RMP's plans for increased capital expenditures and limited ability to recover the capital
1248 investment on an as-incurred basis results in a risk profile that is greater than that of
1249 the proxy group and supports an ROE toward the higher end of the reasonable range of
1250 ROEs.

1251 **B. Regulatory Risk**

1252 **Q. Please explain how the regulatory environment affects investors' risk assessments.**

1253 A. The ratemaking process is premised on the principle that, for investors and companies
1254 to commit the capital needed to provide safe and reliable utility service, the subject

1255 utility must have the opportunity to recover the return of, and the market-required
1256 return on, invested capital. Regulatory authorities recognize that because utility
1257 operations are capital intensive, regulatory decisions should enable the utility to attract
1258 capital at reasonable terms; doing so balances the long-term interests of investors and
1259 customers. Utilities must finance their operations and require the opportunity to earn a
1260 reasonable return on their invested capital to maintain their financial profiles. RMP is
1261 no exception. In that respect, the regulatory environment is one of the most important
1262 factors considered in both debt and equity investors' risk assessments.

1263 From the perspective of debt investors, the authorized return should enable the
1264 utility to generate the cash flow needed to meet its near-term financial obligations,
1265 make the capital investments needed to maintain and expand its systems, and maintain
1266 the necessary levels of liquidity to fund unexpected events. This financial liquidity must
1267 be derived not only from internally generated funds, but also by efficient access to
1268 capital markets. Moreover, because fixed income investors have many investment
1269 alternatives, even within a given market sector, the utility's financial profile must be
1270 adequate on a relative basis to ensure its ability to attract capital under a variety of
1271 economic and financial market conditions.

1272 Equity investors require the authorized return to adequately provide a risk-
1273 comparable return on the equity portion of the utility's capital investments. Because
1274 equity investors are the residual claimants on the utility's cash flows (which is to say
1275 that the equity return is subordinate to interest payments), they are particularly
1276 concerned with the strength of regulatory support and its effect on future cash flows.

1277 **Q. Please explain how credit rating agencies consider regulatory risk in establishing**
1278 **a company's credit rating.**

1279 A. Both S&P and Moody's consider the overall regulatory framework in establishing
1280 credit ratings. Moody's establishes credit ratings based on four key factors:
1281 (1) regulatory framework; (2) the ability to recover costs and earn returns;
1282 (3) diversification; and (4) financial strength, liquidity and key financial metrics. Of
1283 these criteria, regulatory framework and the ability to recover costs and earn returns
1284 are each given a broad rating factor of 25.00 percent. Therefore, Moody's assigns
1285 regulatory risk a 50.00 percent weighting in the overall assessment of business and
1286 financial risk for regulated utilities.⁶²

1287 S&P also identifies the regulatory framework as an important factor in credit
1288 ratings for regulated utilities, stating: "One significant aspect of regulatory risk that
1289 influences credit quality is the regulatory environment in the jurisdictions in which a
1290 utility operates."⁶³ S&P identifies four specific factors that it uses to assess the credit
1291 implications of the regulatory jurisdictions of investor-owned regulated utilities:
1292 (1) regulatory stability; (2) tariff-setting procedures and design; (3) financial stability;
1293 and (4) regulatory independence and insulation.⁶⁴

1294 **Q. How does the regulatory environment in which a utility operates affect its access**
1295 **to and cost of capital?**

1296 A. The regulatory environment can significantly affect both the access to, and cost of
1297 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.*

1320 held by my proxy group are allowed to pass through fuel costs and
1321 purchased power costs directly to customers.

- 1322 • Test year convention: RMP has been able to use a test year containing
1323 forecasted data, which is generally consistent with the 49.00 percent of the
1324 operating companies held by the proxy group that provide service in
1325 jurisdictions that use a fully or partially forecast test year.
- 1326 • Rate Base: RMP's rate base in Utah is typically determined using an
1327 average rate base. In contrast, 49.00 percent of the operating subsidiaries
1328 held by the proxy group are allowed to use year-end rate base, meaning that
1329 the rate base includes capital additions that occurred in the second half of
1330 the test year and is more reflective of net utility plant going forward.
- 1331 • Volumetric Risk: RMP does not have protection against volumetric risk in
1332 Utah. In contrast, 52.00 percent of the operating companies held by the
1333 proxy group have some form of protection against volumetric risk through
1334 either a partial or full revenue decoupling mechanism that mitigates the
1335 effect of fluctuations in volume on revenues.
- 1336 • Capital Cost Recovery: As discussed above, RMP does not have a capital
1337 tracking mechanism to recover capital investment costs between rate cases.
1338 However, 52.00 percent of the operating companies held by the proxy group
1339 have some form of capital cost recovery mechanism in place.

1340 **Q. Has RRA provided recent commentary regarding its regulatory ranking for**
1341 **RMP?**

1342 **A.** Yes. In March 2020, RRA updated its evaluation of the regulatory environment in Utah
1343 and noted the following:

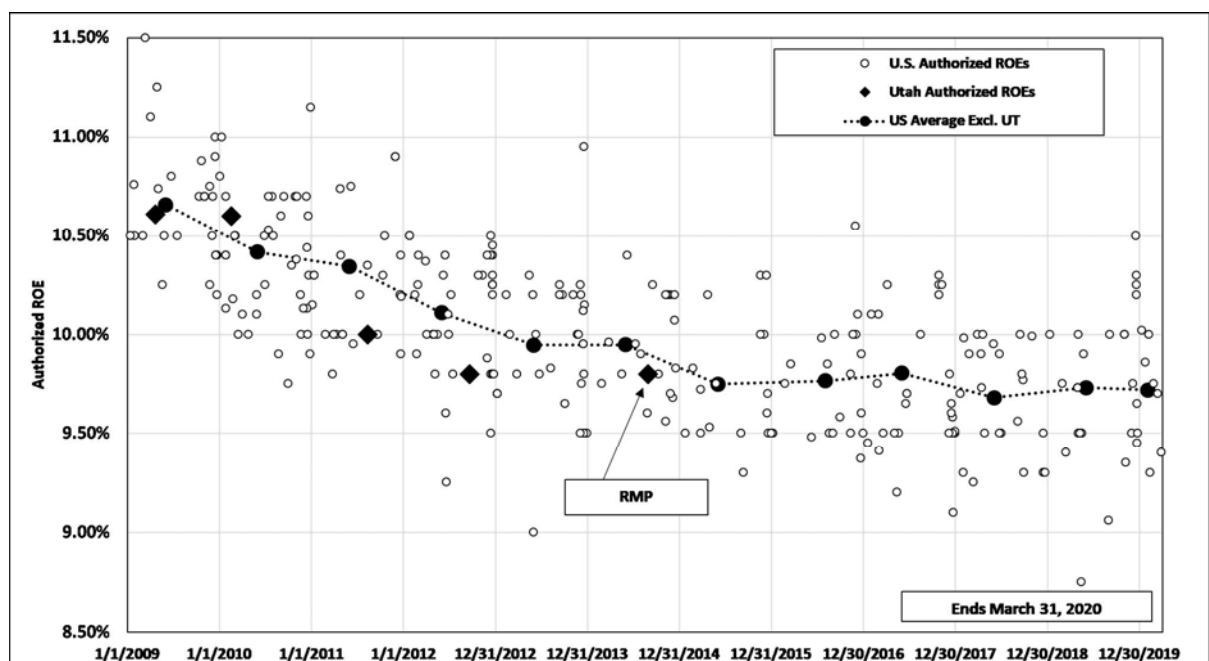
1344 Regulatory Research Associates, a group within S&P Global Market
1345 Intelligence, had viewed the regulatory environment in Utah as
1346 somewhat more constructive than average from an investor point of
1347 view. The state remains traditionally regulated and the PSC has been
1348 receptive to mergers. There has been little base rate activity in recent
1349 years; many prior proceedings had been resolved through settlement
1350 agreements, which had sometimes included multi-year rate
1351 adjustments. However, in the only recent ROE determination issued
1352 by the PSC, the commission granted a below industry average equity
1353 return to Questar Gas [Dominion Energy Utah] in a fully litigated base
1354 rate proceeding. The PSC also chose to phase-in a relatively modest
1355 rate increase in that rate case. On a more constructive note, the use of
1356 test years in base rate proceedings that contain projected data is
1357 commonplace. A bidding process is utilized to determine utilities' new
1358 energy resource needs, and, while authorization of a cash return on
1359 construction work in progress is not commission practice, the PSC has
1360 previously allowed PacifiCorp to recover costs associated with major
1361 plant additions through expedited limited-issue rate proceedings.
1362 PacifiCorp's fuel clause allows the company to recover 100% of its net
1363 power costs. Questar Gas operates under a purchased gas clause that
1364 includes a capacity-release related incentive provision, and the utility
1365 has a full revenue decoupling mechanism in place. In addition, a
1366 mechanism is in place for Questar Gas through which the company
1367 recovers costs associated with the replacement of aging infrastructure.
1368 Based on the foregoing information, particularly the recent rate
1369 decision for Questar Gas, RRA is lowering the rating of Utah
1370 regulation to Average/2 from Average/1, reflective of a relatively
1371 balanced regulatory climate.⁶⁷

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

1372 **Q. How do recent returns in Utah compare to the authorized returns in other**
1373 **jurisdictions?**

1374 **A.** As noted in RRA's evaluation above, the authorized ROEs for electric and natural gas
1375 utilities in Utah, while partially the result of settlement agreements approved by the
1376 Commission, have been below the average authorized ROEs for electric and natural
1377 gas utilities across the U.S. Figure 17 below shows the authorized returns for vertically
1378 integrated electric utilities in other jurisdictions since January 2009, and the returns
1379 authorized in Utah for RMP. As shown in Figure 17, the authorized returns for RMP in
1380 Utah have been below the average authorized ROE for vertically integrated electric
1381 utilities in other jurisdictions since 2011.

1382 **Figure 17: Comparison of Utah and U.S. Authorized Electric Returns**



1383 **Q. Is there any reason that the Commission should be concerned about authorizing**
1384 **equity returns that are at the low end of the range established by other state**
1385 **regulatory jurisdictions?**

1386 A. Yes. Credit rating agencies take the authorized ROE into consideration in the overall
1387 risk analysis of a company. Therefore, to the extent that the returns in a jurisdiction are
1388 lower than the returns that have been authorized more broadly, credit rating agencies
1389 will consider this in the overall risk assessment of the regulatory jurisdiction in which
1390 the company operates. For example, Moody's recently downgraded ALLETE, Inc.
1391 from A3 to Baa1 for reasons that included the less than favorable outcome in Minnesota
1392 Power's last rate case in Minnesota. Moody's viewed Minnesota Power's recent rate
1393 case decision as credit negative for reasons which included: (1) the below average
1394 authorized ROE of 9.25 percent which resulted in a reduction of approximately
1395 \$20 million between the requested and approved revenue requirement; (2) the
1396 disallowance of certain expenses such as prepaid pension expenses; and (3) the decision
1397 to not adopt the annual rate review mechanism ("ARRM") which if adopted would
1398 have mitigated the effect of industrial customers scaling back production in response
1399 to changes in economic conditions.⁶⁸

1400 In addition, FitchRatings recently downgraded CenterPoint Energy Houston
1401 Electric's ("CEHE") Long-Term Issuer Default rating from A- to BBB+ and revised
1402 the rating outlook from Stable to Negative following the approval of an unfavorable
1403 outcome in a recent rate case in Texas. FitchRatings indicated that the unfavorable
1404 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).

1405 authorized ROE and equity ratio, as well as the tax reform refunds will create pressure
1406 on credit metrics. FitchRatings also indicated that further negative rating action could
1407 be possible if the company's FFO leverage remains above 5x.⁶⁹

1408 RMP must compete for capital with other utilities and businesses; therefore,
1409 placing RMP at the low end of authorized ROEs outside Utah over the longer term can
1410 negatively impact its access to capital.

1411 **Q. How should the Commission use the information regarding authorized ROEs in**
1412 **other jurisdictions in determining the ROE for RMP?**

1413 A. As discussed above, the companies in the proxy group operate in multiple jurisdictions
1414 across the U.S. Since RMP must compete directly for capital with investments of
1415 similar risk, it is appropriate to review the authorized ROEs in other jurisdictions. The
1416 comparison is important because investors are considering the authorized returns across
1417 the U.S. and are likely to invest equity in those utilities with the highest returns.
1418 Furthermore, investors are also likely to consider business and financial risks for a
1419 company like RMP which faces increased risk as a result of its capital expenditure plan
1420 and limited cost recovery mechanisms. Therefore, authorizing an ROE for RMP that is
1421 equivalent to the average authorized ROE for other vertically integrated electric utilities
1422 is not sufficient to compensate investors for the added risk of RMP. As such, it is
1423 important that the Commission consider, as I have in my recommendation, the
1424 additional risk of RMP and place the authorized ROE for RMP towards the high end of
1425 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.

1426 **Q. What are your conclusions regarding the perceived risks related to the Utah**
1427 **regulatory environment?**

1428 A. As discussed throughout this section of my testimony, both Moody's and S&P have
1429 identified the supportiveness of the regulatory environment as an important
1430 consideration in developing their overall credit ratings for regulated utilities. Many of
1431 the companies in the proxy group have more timely cost recovery through fuel cost
1432 recovery mechanisms, fully forecasted test years, year-end rate base in all cases, capital
1433 cost recovery trackers, and revenue stabilization mechanisms than RMP has in Utah.
1434 Additionally, authorized ROEs in Utah have been below the average authorized ROEs
1435 for electric and gas utilities across the U.S. Considering all of the similarities and
1436 differences, I conclude that the authorized ROE for RMP should be higher than the
1437 proxy group mean.

1438 **C. Generation Ownership**

1439 **Q. How does the business risk of vertically integrated electric utilities compare to the**
1440 **business risk of other regulated utilities?**

1441 A. According to Moody's, generation ownership causes vertically integrated electric
1442 utilities to have higher business risk than either electric transmission and distribution
1443 companies, or natural gas distribution or transportation companies.⁷⁰ As a result of this
1444 higher business risk, integrated electric utilities typically require a higher ROE or
1445 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.

1446 **Q. Are there other risk factors specific to vertically integrated electric utilities that**
1447 **the credit rating agencies consider when determining the credit rating of a**
1448 **company that owns generation?**

1449 A. Yes. As discussed above, Moody's establishes credit ratings based on four key factors:
1450 (1) regulatory framework; (2) the ability to recover costs and earn returns;
1451 (3) diversification; and (4) financial strength, liquidity and key financial metrics. The
1452 third factor diversification, which Moody's assigns a 10.00 percent weighting in the
1453 overall assessments of a company's business risk, considers the fuel source diversity
1454 of a utility with generation. Moody's notes:

1455 For utilities with electric generation, fuel source diversity can mitigate
1456 the impact (to the utility and to its rate-payers) of changes in
1457 commodity prices, hydrology and water flow, and environmental or
1458 other regulations affecting plant operations and economics. We have
1459 observed that utilities' regulatory environments are most likely to
1460 become unfavorable during periods of rapid rate increases (which are
1461 more important than absolute rate levels) and that fuel diversity leads
1462 to more stable rates over time.

1463 For that reason, fuel diversity can be important even if fuel and
1464 purchased power expenses are an automatic pass-through to the
1465 utility's ratepayers. Changes in environmental, safety and other
1466 regulations have caused vulnerabilities for certain technologies and
1467 fuel sources during the past five years. These vulnerabilities have
1468 varied widely in different countries and have changed over time.⁷¹

1469 **Q. Has Utah enacted legislative requirements related to renewable energy?**

1470 A. Yes. In March 2019, Utah House Bill (HB) 411, the Community Renewable Energy
1471 Act, was signed into law. HB 411 provides the ability for municipalities and counties
1472 in Utah to achieve a net-100 percent renewable electric portfolio by 2030. To
1473 participate, a community was required to adopt a local resolution by the end of 2019

⁷¹ *Id.* at 16.

1474 stating the goal to be net-100 percent renewable by 2030. The communities who opted
1475 into the program will work directly with RMP who will be responsible for contracting
1476 the renewable energy necessary to achieve the net-100 percent renewable goal for each
1477 of the communities by 2030.

1478 **Q. Is PacifiCorp subject to legislative mandates regarding renewable generation in**
1479 **other jurisdictions?**

1480 A. Yes. In March 2016, Oregon Senate Bill No. 1547-B, the Clean Electricity and Coal
1481 Transition Plan, was signed into law. Senate Bill No. 1547-B requires that coal-fueled
1482 resources are eliminated from Oregon's allocation of electricity by January 1, 2030 and
1483 increases the current RPS target from 25 percent in 2025 to 50 percent by 2040.
1484 Similarly, the Washington Clean Energy Transformation Act (“CETA”) will require
1485 PacifiCorp to remove coal-fired generation from rates by 2025, be greenhouse gas
1486 neutral by 2030, and serve retail customers with 100 percent non-emitting resources by
1487 2045.⁷²

1488 **Q. Is a transition to renewable resources supported by all regulatory jurisdictions**
1489 **where PacifiCorp operates?**

1490 A. No, it is not. I am aware of several bills that were enacted in the 2019 and 2020
1491 legislative sessions for Wyoming which would not support the transition to renewable
1492 resources. For example, Wyoming Senate File 159 (“WY SF 159”) in 2019 restricts
1493 utilities from recovering the costs of new generation assets replacing Wyoming-based
1494 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://lawfilesexternal.wa.gov/biennium/2019-20/Pdf/Bills/Session%20Laws/Senate/5116-S2.SL.pdf>.

1495 facilities. While the specific details of the regulatory requirements are still to be
1496 determined through a rulemaking process, any restrictions that inhibit RMP from
1497 seeking the optimal, low-cost resources for their customers can impose additional costs
1498 to customers and risks to investors. That is, if RMP's resource planning process
1499 concludes that new investments are more cost-effective for customers than continued
1500 operation of certain Wyoming, coal-based resources, SF 159 will require that RMP
1501 undergo a potentially protracted and costly sale process for the uneconomic coal plants
1502 before it may retire them and recover the costs of lower-cost replacement resources.
1503 Wyoming House Bill 200 passed in 2020 requires a portion of the public utility's
1504 generation portfolio be met with low carbon generating resources using "carbon
1505 capture, utilization and storage technologies". In addition, this bill limits the recovery
1506 of the costs of new resources to replace retired coal facilities.

1507 **Q. Do the legislative initiatives in Oregon, Utah, Washington, and Wyoming present**
1508 **risk for RMP?**

1509 A. Yes. Utah House Bill 411, Oregon Senate Bill 1547 and Washington's CETA are in
1510 conflict with the Wyoming legislation, SF159. The Wyoming legislation requires that
1511 the Company attempt to sell any Wyoming-based coal-fired generating assets that
1512 would be retired before the Company could recover the cost of a replacement
1513 generating asset. In addition, SF159 requires that the Company engage in a purchase
1514 power agreement to buy back the power from the generating asset. This will present
1515 challenges to PacifiCorp as it diverges from energy policies in other states, such as
1516 Oregon and Washington legislation mandating that the Company transition from coal
1517 to renewable resources. While the Company could assign the costs of some amount of

1518 coal-fired generation directly to the Wyoming customers, the size of the Company's
1519 Wyoming coal fleet exceeds the capacity requirements of its Wyoming customers.
1520 Therefore, the legislative initiatives of these four states are conflicting and create
1521 uncertainty and risk surrounding the recovery of the cost of retired generating assets.
1522 This risk is not uniformly represented in the proxy group companies.

1523 **Q. Have you conducted an analysis to compare the fuel sources for the generation**
1524 **portfolio of RMP to the companies in your proxy group?**

1525 A. Yes, I have. Specifically, I calculated for RMP, and each company in the proxy group,
1526 the percentage of regulated owned generation capacity that was derived from one of
1527 the following fuel sources: oil/natural gas, coal, nuclear, hydro, and other. As shown in
1528 Figure 18, approximately 52.47 percent of RMP's regulated, owned generation came
1529 from coal-fired power plants with approximately 79.20 percent coming from either oil,
1530 natural gas, or coal-fired power plants. Therefore, RMP is more reliant on a limited
1531 number of fuel sources for its regulated generation and overall slightly less diversified
1532 than the companies in the proxy group.

1533
1534

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%
Eversource, 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%

1535 **Q. Is PacifiCorp's generation portfolio currently in a state of transition?**

1536 A. Yes. As further discussed in the testimony of Mr. Rick T. Link, the Company is
1537 responding to changing market conditions and, as indicated by the 2019 Integrated
1538 Resource Plan ("IRP") action plan, is taking near term actions to retire certain coal
1539 units, invest in new renewable generation, and invest in associated transmission.

1540 **Q. How does PacifiCorp's generation investment plan affect its business risk?**

1541 A. The Company's 2019 IRP action plan includes significant investment in building
1542 transmission and adding new wind and solar generation. This significant investment in
1543 transmission and renewable energy will require continued access to capital markets,

1544 which highlights the importance of granting PacifiCorp an allowed ROE and equity
1545 ratio that is sufficient to attract capital at reasonable terms.

1546 **Q. What are your conclusions regarding the perceived risks related to the fuel mix of**
1547 **RMP's generation portfolio?**

1548 A. RMP generates a significant percentage of its electricity using coal-fired generation. As
1549 renewable resources have become more economic, PacifiCorp has planned to reduce
1550 customer costs by making sizable future capital expenditures to become less dependent
1551 on coal-fired generation. While the Company intends to improve fuel diversity over the
1552 long-run, the plans will require continued access to capital markets to finance the new
1553 investments. The Company's existing generation portfolio and proposed transmission
1554 and generation investment plans increase the overall risk profile as compared with the
1555 proxy group.

1556 **IX. CAPITAL STRUCTURE**

1557 **Q. Is the capital structure of RMP an important consideration in the determination**
1558 **of the appropriate ROE?**

1559 A. Yes, it is. Assuming other factors equal, a higher debt ratio increases the risk to
1560 investors. For debt holders, higher debt ratios result in a greater portion of the available
1561 cash flow being required to meet debt service, thereby increasing the risk associated
1562 with the payments on debt. The result of increased risk is a higher interest rate. The
1563 incremental risk of a higher debt ratio is more significant for common equity
1564 shareholders. Common shareholders are the residual claimants on the cash flow of
1565 RMP. Therefore, the greater the debt service requirement, the less cash flow available
1566 for common equity holders.

1567 **Q. What is RMP's proposed capital structure?**

1568 A. As described in the testimony of Ms. Nikki L. Kobliha, RMP's proposal is to establish
1569 a capital structure consisting of 53.67 percent common equity, 46.32 percent long-term
1570 debt, and 0.01 percent preferred equity.

1571 **Q. Did you conduct any analysis to determine if this requested equity ratio was**
1572 **reasonable?**

1573 A. Yes, I did. I reviewed RMP's proposed capital structure and the capital structures of the
1574 utility operating subsidiaries of the proxy companies. Because the ROE is set based on
1575 the return that is derived from the risk-comparable proxy group, it is reasonable to look
1576 to the proxy group average capital structure to benchmark the equity ratio for RMP.

1577 **Q. Please discuss your analysis of the capital structures of the proxy group**
1578 **companies.**

1579 A. I calculated the mean proportions of common equity, long-term debt, and preferred
1580 equity over the most recent eight quarters⁷³ for each of the companies in the proxy
1581 group at the operating subsidiary level. My analysis of the capital structures of the
1582 proxy group companies is provided in Exhibit RMP___(AEB-11). As shown in Exhibit
1583 RMP___(AEB-11), the equity ratios for the proxy group at the operating utility
1584 company level ranged from 47.49 percent to 61.54 percent with an average of
1585 52.73 percent. RMP's proposed equity ratio of 53.67 percent is well within the range
1586 of equity ratios for the utility operating subsidiaries of the proxy group companies and
1587 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.

1588 **Q. Are there other factors to be considered in setting RMP's capital structure?**

1589 A. Yes. The credit rating agencies' response to the TCJA must also be considered when
1590 determining the equity ratio. As discussed previously in my testimony, all three rating
1591 agencies have noted that the TCJA has negative implications for utility cash flows. S&P
1592 and FitchRatings have specifically identified increasing the equity ratio as one
1593 approach to ensure that utilities have sufficient cash flows following the tax cuts and
1594 the loss of bonus depreciation. Furthermore, Moody's unprecedented downgrade of the
1595 rating outlook for the entire utilities sector in June 2018 stresses the importance of
1596 maintaining adequate cash flow metrics for the industry as a whole and RMP in the
1597 context of this proceeding.

1598 **Q. Is there a relationship between the equity ratio and the authorized ROE?**

1599 A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility
1600 such as RMP. To the extent the equity ratio is reduced, it is necessary to increase the
1601 authorized ROE to compensate investors for the greater financial risk associated with
1602 a lower equity ratio.

1603 **Q. What is your conclusion regarding an appropriate capital structure for RMP?**

1604 A. Considering the actual capital structures of the proxy group operating companies, I
1605 believe that RMP's proposed common equity ratio of 53.67 percent is reasonable. The
1606 proposed equity ratio is well within the range established by the capital structures of
1607 the utility operating subsidiaries of the proxy companies. In addition, it is reasonable
1608 to rely on a higher equity ratio than RMP may have relied on in prior cases as a result
1609 of: (1) the cash flow concerns raised by credit rating agencies as a result of the TCJA;
1610 and (2) RMP's above average business risk profile as compared to the proxy group.

1611 The proposed equity ratio in combination with my recommended ROE are reasonable
1612 and would be adequate to support capital attraction on reasonable terms.

1613 **X. CONCLUSIONS AND RECOMMENDATION**

1614 **Q. What is your conclusion regarding a fair ROE for RMP?**

1615 A. Based on the analytical results discussed throughout my direct testimony and
1616 summarized in Figure 19 below, I believe a range from 9.75 percent to 10.25 percent is
1617 reasonable. Within that range, an authorized return of 10.20 percent is reasonable for
1618 RMP. This recommendation reflects the range of results for the proxy group companies,
1619 the relative business, financial, and regulatory risk of RMP's electric operations in Utah
1620 as compared to the proxy group, and current capital market conditions. This ROE
1621 would enable the company to maintain its financial integrity and therefore its ability to
1622 attract capital at reasonable terms under a variety of economic and financial market
1623 conditions, while continuing to provide safe, reliable, and affordable electric utility
1624 service to customers in Utah.

Figure 19: Summary of Analytical Results⁷⁴

<i>Constant Growth DCF</i>			
	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%
<i>Projected DCF</i>			
	Mean Low	Mean	Mean High
2023-2025 Projection	9.00%	9.57%	9.93%
<i>Capital Asset Pricing Model</i>			
	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%
<i>Empirical Capital Asset Pricing Model</i>			
Value Line Beta	9.88%	9.96%	10.42%
Bloomberg Beta	12.03%	12.07%	12.30%
<i>Treasury Yield Plus Risk Premium</i>			
	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%
<i>Expected Earnings Analysis</i>			
	Mean		Median
Expected Earnings Result	10.82%		10.74%

1626 `Q. **What is your conclusion with respect to RMP's proposed capital structure?**

1627 A. My conclusion is that RMP's proposal to establish a capital structure consisting of

1628 53.67 percent common equity, 46.32 percent long-term debt, and 0.01 percent preferred

1629 equity is reasonable when compared to the capital structures of the companies in the

1630 proxy group and taking in consideration the impact of the TCJA on the cash flows, and

1631 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.

1632 **Q.** **Does this conclude your direct testimony?**

1633 **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 RESULTS¹

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

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

Company	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	All Proxy Group					With Exclusions	
									Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE	
ALLETE, Inc.	\$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	\$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	\$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.	\$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	\$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	\$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.	\$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	\$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	\$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%	
Energy Corporation	\$3.72	\$108.98	3.41%	3.49%	3.00%	Negative	6.30%	4.65%	6.46%	8.14%	9.82%	6.46%	8.14%	9.82%	
Evergy, Inc.	\$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.	\$2.68	\$95.98	2.79%	2.83%	3.50%	2.50%	2.50%	2.83%	5.33%	5.67%	6.34%	5.33%	5.67%	6.34%	
NexEra Energy, Inc.	\$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	\$2.40	\$67.37	3.56%	3.62%	2.00%	3.79%	3.10%	2.96%	5.60%	6.58%	7.42%	5.60%	6.58%	7.42%	
OGE Energy Corporation	\$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	\$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	\$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.	\$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	\$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	\$1.66	\$28.22	5.88%	5.93%	2.50%	0.50%	NA%	1.50%	6.40%	7.43%	8.46%	6.40%	7.43%	8.46%	
Southern Company	\$2.48	\$99.10	4.20%	4.27%	4.00%	2.10%	4.00%	3.37%	8.34%	7.63%	8.28%	8.34%	7.63%	8.28%	
Xcel Energy Inc.	\$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%	7.96%	8.75%	9.53%	

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

Company	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line				Yahoo!				Zacks				All Proxy Group				With Exclusions			
					Earnings				Earnings				Earnings				Earnings				Earnings			
					Growth	Growth	Growth	Growth	Growth	Growth	Growth	Growth	Growth	Growth	Growth	Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE
ALLETE, Inc.	ALE	\$2.47	\$77.04	3.21%	3.31%	5.50%	5.50%	7.00%	NA%	6.25%	8.79%	8.79%	10.32%	9.56%	10.32%	10.32%	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%	6.50%	5.65%	5.50%	5.88%	8.37%	8.37%	9.39%	8.76%	9.39%	9.39%	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%	6.00%	4.90%	6.10%	5.67%	7.50%	7.50%	8.72%	8.28%	8.72%	8.72%	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%	5.00%	6.17%	5.80%	5.66%	8.06%	8.06%	9.24%	8.72%	9.24%	9.24%	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%	3.50%	6.30%	5.40%	5.07%	6.94%	6.94%	9.78%	8.53%	9.78%	9.78%	6.94%	8.53%	9.78%	6.94%	8.53%	9.78%		
CMS Energy Corporation	CMS	\$1.63	\$63.31	2.57%	2.67%	7.50%	7.50%	7.50%	7.10%	7.37%	9.77%	9.77%	10.04%	10.04%	10.17%	10.17%	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%	7.00%	4.88%	4.70%	5.53%	9.41%	9.41%	10.25%	10.25%	11.76%	11.76%	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%	5.00%	6.00%	6.00%	5.67%	8.42%	8.42%	9.44%	9.10%	9.44%	9.44%	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%	6.00%	4.12%	4.70%	4.94%	8.36%	8.36%	10.28%	9.19%	10.28%	10.28%	8.36%	9.19%	10.28%	8.36%	9.19%	10.28%		
Energy Corporation	ETR	\$3.72	\$118.35	3.14%	3.22%	3.00%	3.00%	Negative	6.30%	4.65%	6.19%	6.19%	9.54%	7.87%	9.54%	9.54%	6.19%	7.87%	9.54%	6.19%	7.87%	9.54%		
Evergy, Inc.	EVRG	\$2.02	\$65.04	3.11%	3.21%	NMF	NMF	6.50%	6.40%	6.45%	9.61%	9.61%	10.79%	9.66%	10.79%	10.79%	9.61%	9.66%	10.79%	9.61%	9.66%	10.79%		
IDACORP, Inc.	IDA	\$2.68	\$103.79	2.58%	2.62%	3.50%	3.50%	2.50%	2.50%	2.83%	5.11%	5.11%	6.13%	5.45%	6.13%	6.13%	5.11%	5.45%	6.13%	5.11%	5.45%	6.13%		
NexEra Energy, Inc.	NEE	\$5.60	\$246.88	2.27%	2.36%	10.00%	10.00%	7.59%	7.70%	8.43%	9.94%	9.94%	12.38%	10.79%	12.38%	12.38%	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%	2.00%	3.79%	3.10%	2.96%	5.40%	5.40%	7.22%	6.38%	7.22%	7.22%	5.40%	6.38%	7.22%	5.40%	6.38%	7.22%		
OGE Energy Corporation	OGE	\$1.55	\$41.27	3.76%	3.83%	4.50%	4.50%	2.90%	4.00%	3.80%	6.71%	6.71%	8.34%	7.63%	8.34%	8.34%	6.71%	7.63%	8.34%	6.71%	7.63%	8.34%		
Otter Tail Corporation	OTTR	\$1.48	\$49.99	2.96%	3.06%	5.00%	5.00%	9.00%	NA%	7.00%	8.03%	8.03%	12.09%	10.06%	12.09%	12.09%	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%	4.00%	4.62%	4.40%	4.34%	7.56%	7.56%	8.19%	7.91%	8.19%	8.19%	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%	7.00%	6.30%	5.90%	6.40%	8.49%	8.49%	9.61%	9.00%	9.61%	9.61%	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%	4.50%	4.70%	4.90%	4.70%	7.32%	7.32%	7.72%	7.52%	7.72%	7.72%	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%	2.50%	0.50%	NA%	1.50%	5.54%	5.54%	7.59%	6.57%	7.59%	7.59%	5.54%	6.57%	7.59%	5.54%	6.57%	7.59%		
Southern Company	SO	\$2.48	\$63.08	3.93%	4.00%	4.00%	4.00%	2.10%	4.00%	3.37%	6.07%	6.07%	8.01%	7.36%	8.01%	8.01%	6.07%	7.36%	8.01%	6.07%	7.36%	8.01%		
Xcel Energy Inc.	XEL	\$1.72	\$64.28	2.68%	2.75%	5.50%	5.50%	6.10%	6.00%	5.87%	8.25%	8.25%	8.86%	8.62%	8.86%	8.86%	8.25%	8.62%	8.86%	8.25%	8.62%	8.86%		
MEAN				3.23%	3.31%	5.12%	5.12%	5.20%	5.29%	5.20%	7.72%	7.72%	9.29%	8.51%	9.29%	9.29%	7.72%	8.51%	9.29%	7.72%	8.51%	9.29%		

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

Company	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line				Yahoo!				All Proxy Group				With Exclusions				
					Earnings Growth	Value Line Earnings Growth	Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	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%	6.25%	6.25%	7.00%	NA%	NA%	8.62%	9.38%	10.15%	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%	5.88%	5.88%	5.50%	5.50%	5.50%	8.43%	8.82%	9.45%	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%	5.67%	5.67%	6.10%	6.10%	6.10%	7.52%	8.30%	8.74%	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%	5.66%	5.66%	5.80%	5.80%	5.80%	8.10%	8.76%	9.28%	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%	5.07%	5.07%	5.40%	5.40%	5.40%	6.97%	8.56%	9.82%	6.97%	8.56%	9.82%	6.97%	8.56%	9.82%
CMS Energy Corporation	CMS	\$1.63	\$62.53	2.61%	2.70%	7.50%	7.50%	7.37%	7.37%	7.10%	7.10%	7.10%	9.80%	10.07%	10.20%	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%	5.53%	5.53%	4.70%	4.70%	4.70%	9.49%	10.34%	11.84%	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%	5.67%	5.67%	6.00%	6.00%	6.00%	8.32%	9.00%	9.34%	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%	4.94%	4.94%	4.70%	4.70%	4.70%	8.33%	9.17%	10.25%	8.33%	9.17%	10.25%	8.33%	9.17%	10.25%
Energy Corporation	ETR	\$3.72	\$115.82	3.21%	3.29%	3.00%	Negative	4.65%	4.65%	6.30%	6.30%	6.30%	6.26%	7.94%	9.61%	7.94%	7.94%	9.61%	7.94%	7.94%	9.61%
Evergy, Inc.	EVRG	\$2.02	\$64.40	3.14%	3.24%	NMF	6.50%	6.45%	6.45%	6.40%	6.40%	6.40%	9.64%	9.69%	9.74%	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%	2.83%	2.83%	2.50%	2.50%	2.50%	5.07%	5.41%	6.08%	5.07%	5.41%	6.08%	5.07%	5.41%	6.08%
NexEra Energy, Inc.	NEE	\$5.60	\$235.03	2.38%	2.48%	10.00%	7.59%	8.43%	8.43%	7.70%	7.70%	7.70%	10.06%	10.91%	12.50%	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%	2.96%	2.96%	3.10%	3.10%	3.10%	5.38%	6.36%	7.20%	5.38%	6.36%	7.20%	5.38%	6.36%	7.20%
OGE Energy Corporation	OGE	\$1.55	\$42.29	3.67%	3.73%	4.50%	2.90%	3.80%	3.80%	4.00%	4.00%	4.00%	6.62%	7.53%	8.25%	6.62%	7.53%	8.25%	6.62%	7.53%	8.25%
Otter Tail Corporation	OTTR	\$1.48	\$51.30	2.88%	2.99%	5.00%	9.00%	7.00%	7.00%	NA%	NA%	NA%	7.96%	9.99%	12.01%	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%	4.34%	4.34%	4.40%	4.40%	4.40%	7.49%	7.83%	8.12%	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%	6.40%	6.40%	5.90%	5.90%	5.90%	8.45%	8.95%	9.56%	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%	4.70%	4.70%	4.90%	4.90%	4.90%	7.32%	7.52%	7.72%	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%	1.50%	1.50%	NA%	NA%	NA%	5.69%	6.72%	7.74%	5.69%	6.72%	7.74%	5.69%	6.72%	7.74%
Southern Company	SO	\$2.48	\$61.34	4.04%	4.11%	4.00%	2.10%	3.37%	3.37%	4.00%	4.00%	4.00%	6.19%	7.48%	8.12%	6.19%	7.48%	8.12%	6.19%	7.48%	8.12%
Xcel Energy Inc.	XEL	\$1.72	\$63.47	2.71%	2.79%	5.50%	6.10%	5.87%	5.87%	6.00%	6.00%	6.00%	8.28%	8.66%	8.89%	8.28%	8.66%	8.89%	8.28%	8.66%	8.89%
MEAN				3.24%	3.32%	5.12%	5.20%	5.20%	5.20%	5.29%	5.29%	5.29%	7.73%	8.52%	9.30%	7.73%	8.52%	9.30%	7.73%	8.52%	9.30%

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

Company	[1] Annualized Dividend (2023- 2025)	[2] Stock Price (2023 - 2025)			[4] Mean	[5] Dividend Yield	[6] Expected Dividend Yield	[7] Value Line Earnings Growth	[8] Yahoo! Finance Earnings Growth	[9] Zacks Earnings Growth	All Proxy Group			With Exclusions		
		[10] Average Growth Rate	[11] Low ROE	[12] Mean ROE							[13] High ROE	[14] Low ROE	[15] Mean ROE	[16] High ROE		
ALLETE, Inc.	\$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%
Energy 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%	6.85%	8.53%	10.21%
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%
Energy, Inc.																
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%	6.07%	6.41%	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%	5.90%	6.88%	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%	5.01%	6.03%	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%	6.92%	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-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

$$\text{CAPM: } K = R_f + \beta (R_m - R_f)$$

$$\text{ECAPM: } K = R_f + ((0.75 \times \beta (R_m - R_f)) + (0.25 \times (R_m - R_f)))$$

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]
		Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm - Rf)	CAPM ROE (K)	ECAPM ROE (K)
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

$$\text{CAPM: } K = R_f + \beta (R_m - R_f)$$

$$\text{ECAPM: } K = R_f + ((0.75 \times \beta (R_m - R_f)) + (0.25 \times (R_m - R_f)))$$

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]
		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%	0.60	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

$$\text{CAPM: } K = R_f + \beta (R_m - R_f)$$

$$\text{ECAPM: } K = R_f + ((0.75 \times \beta (R_m - R_f)) + (0.25 \times (R_m - R_f)))$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2021 - 2025)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	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.	EVERG	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

$$\text{CAPM: } K = R_f + \beta (R_m - R_f)$$

$$\text{ECAPM: } K = R_f + ((0.75 \times \beta (R_m - R_f)) + (0.25 \times (R_m - R_f)))$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	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.	EVERG	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

$$\text{CAPM: } K = R_f + \beta (R_m - R_f)$$

$$\text{ECAPM: } K = R_f + ((0.75 \times \beta (R_m - R_f)) + (0.25 \times (R_m - R_f)))$$

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (R_m)	[4] Market Risk Premium ($R_m - R_f$)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
		(Q3 2020 - Q3 2021)					
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.	EVERG	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

$$\text{CAPM: } K = R_f + \beta (R_m - R_f)$$

$$\text{ECAPM: } K = R_f + ((0.75 \times \beta (R_m - R_f)) + (0.25 \times (R_m - R_f)))$$

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2021 - 2025)	[2] Beta (β)	[3] Market Return (R_m)	[4] Market Risk Premium ($R_m - R_f$)	[5] CAPM ROE (K)	[6] 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.	EVERG	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 Earnings and Estimate Report 3/31/2020

[8] Source: Standard & Poors, S&P 500 Earnings and Estimate Report 3/31/2020

[9] Equals $([7] \times (1 + (0.5 \times [8]))) + [8]$

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

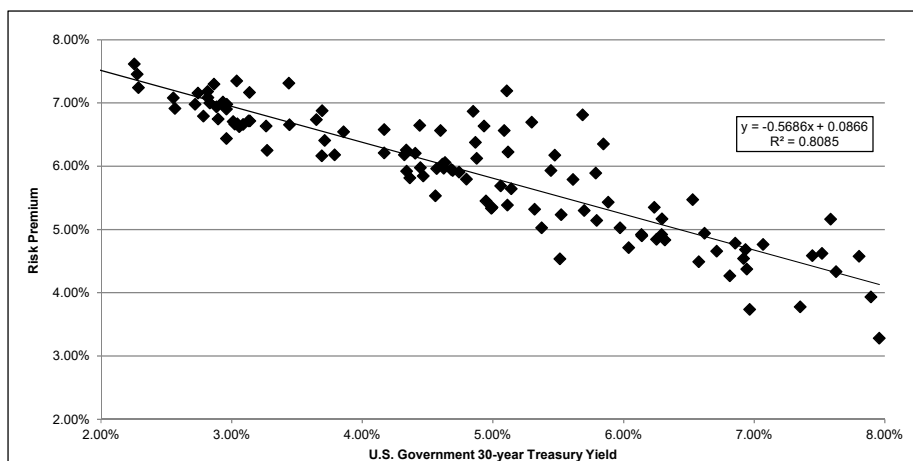
May 2020

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]	[2]	[3]
	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	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]	[8]	[9]
	U.S. Govt. 30-year Treasury	Risk Premium	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 through 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 $0.086555 + (-0.568558 \times \text{Column [7]})$
[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.	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	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	10.0%	17,116.00	47.1%	8,051.64	23,400.00	51.5%	12,051.00	8.37%	1.040	10.40%
American Electric Power Company, Inc.	10.5%	44,759.00	43.9%	19,649.20	56,700.00	49.5%	26,365.50	6.06%	1.029	10.81%
Avista Corporation	8.0%	3,580.30	49.5%	1,772.25	4,575.00	46.5%	2,264.63	5.03%	1.025	8.20%
CMS Energy Corporation	13.5%	17,082.00	29.4%	5,022.11	23,200.00	33.0%	7,666.00	8.80%	1.042	14.07%
Dominion Resources, Inc.	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	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	8.5%	101,375.00	44.5%	45,111.88	125,000.00	44.5%	55,625.00	4.28%	1.021	8.68%
Energy Corporation	11.0%	27,537.00	37.1%	10,223.65	32,600.00	41.0%	13,366.00	5.51%	1.027	11.29%
Evergy, Inc.	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.	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.	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	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	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	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	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.	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	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	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	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.	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 $[2] \times [3]$
- [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 $[5] \times [6]$
- [8] Equals $([7] / [4])^{1/5} - 1$
- [9] Equals $2 \times (1 + [8]) / (2 + [8])$
- [10] Equals $[1] \times [9]$

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:

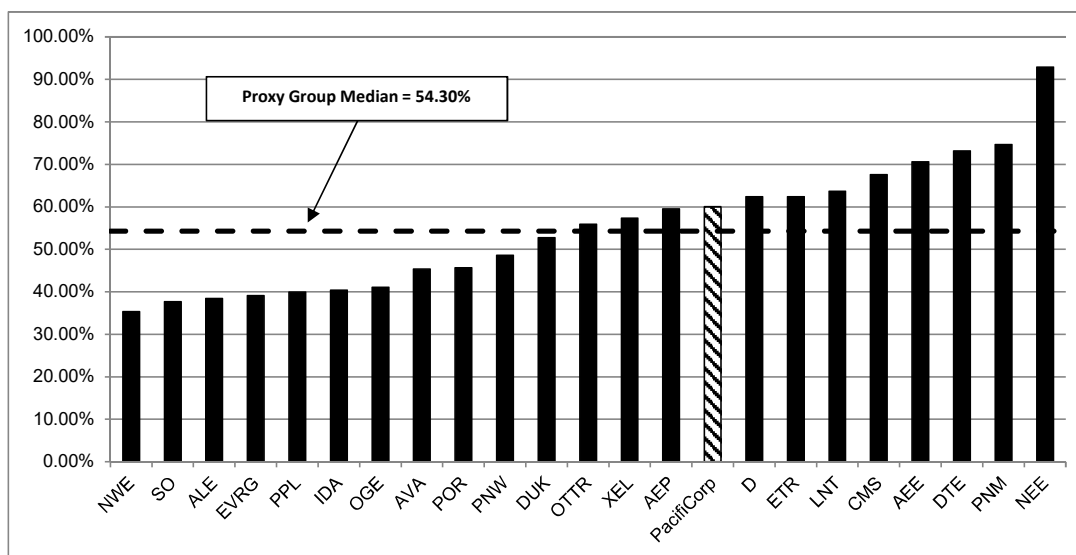
[1] - [6] Source: Value Line, dated January 24, 2020, February 14, 2020 and March 13, 2020.

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

COMPARISON OF RMP AND PROXY GROUP COMPANIES
RISK ASSESSMENT

Company	Jurisdiction	Service	[1]		[2]		[3]		[4]		[5]	
			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			Historical		Average		No		No	
	Nebraska	Gas			Historical		Year End		No		No	
	South Dakota	Electric			Historical		Average		No		No	
OGE Energy Corporation	South Dakota	Gas	Yes		Historical		Average		No		No	
	Arkansas	Electric			Historical		Average		No		No	
	Oklahoma	Electric			Historical		Year End		Partial		Yes	
	Minnesota	Electric			Historical		Year End		Partial		Yes	
Otter Tail Corporation	North Dakota	Electric	Yes		Historical		Average		No		No	
	South Dakota	Electric			Historical		Average		No		Yes	
	Arizona	Electric			Historical		Year End		Partial		Yes	
	New Mexico	Electric			Historical		Year End		No		Yes	
Pinnacle West Capital Corporation	Texas	Electric	Yes - Sharing Band		Historical		Average		No		Yes	
	Oregon	Electric			Historical		Year End		Partial		Yes	
	Kentucky	Electric			Historical		Year End		Partial		No	
	Kentucky	Gas			Historical		Year End		Partial		Yes	
PNM Resources, Inc.	Pennsylvania	Electric	N/A		Historical		Year End		No		Yes	
	Virginia	Electric			Historical		Year End		No		Yes	
	Alabama	Electric			Historical		Year End		No		Yes	
	Georgia	Electric			Historical		Year End		No		Yes	
Portland General Electric Company	Georgia [6]	Gas	Yes - Sharing Band		Historical		Average		Full		Yes	
	Illinois	Gas			Historical		Average		Full		Yes	
	Mississippi	Electric			Historical		Average		Partial		Yes	
	Tennessee	Gas			Historical		Average		Partial		Yes	
Southern Company	Tennessee	Gas	Yes		Historical		Average		Full		No	
	Virginia	Gas			Historical		Year End		Partial		Yes	
	Colorado	Electric			Historical		Year End		No		Yes	
	Colorado	Gas			Historical		Average		Partial		Yes	
Xcel Energy Inc.	Minnesota	Electric	Yes		Historical		Average		Partial		Yes	
	Minnesota	Gas			Historical		Average		No		Yes	
	New Mexico	Electric			Historical		Year End		No		No	
	North Dakota	Electric			Historical		Average		No		Yes	
Proxy Group Average	North Dakota [6]	Gas	Yes		Historical		Average		Full		Yes	
	South Dakota	Electric			Historical		Year End		Partial		No	
	Texas	Electric			Historical		Average		No		Yes	
	Wisconsin	Electric			Historical		Average		No		No	
Rocky Mountain Power [7]	Wisconsin	Gas	Yes		Historical		Average		No		No	
	Utah	Electric			Historical		Average		No		No	
	Utah	Electric			Historical		Average		No		No	
	Utah	Electric			Historical		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-11)
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 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

Proxy Group Company	Ticker	LONG-TERM DEBT RATIO [1]							
		2019Q3	2019Q2	2019Q1	2018Q4	2018Q3	2018Q2	2018Q1	2017Q4
ALLETE (Minnesota Power)	ALE	40.70%	39.13%	39.20%	38.73%	39.67%	39.74%	39.50%	39.57%
Alliant Energy Corporation	LNT	47.71%	48.49%	45.88%	45.89%	48.13%	48.04%	49.13%	49.06%
Ameren Corporation	AEE	45.96%	46.60%	46.81%	46.87%	46.33%	47.61%	46.61%	46.95%
American Electric Power Company, Inc.	AEP	51.17%	51.96%	51.28%	51.45%	52.48%	52.07%	51.46%	51.12%
Avista Corporation	AVA	49.67%	48.60%	48.82%	50.11%	50.45%	50.26%	48.84%	49.25%
CMS Energy Corporation	CMS	48.18%	46.24%	47.35%	49.59%	46.85%	47.01%	46.73%	47.60%
Dominion Resources, Inc.	D	46.57%	47.80%	48.50%	49.48%	47.55%	48.19%	49.47%	48.93%
DTE Energy Company	DTE	50.60%	51.24%	51.31%	49.04%	50.03%	50.77%	48.88%	48.98%
Duke Energy Corporation	DUK	47.38%	46.88%	47.84%	47.29%	47.15%	46.96%	47.12%	46.99%
Entergy Corporation	ETR	52.23%	53.20%	52.97%	51.27%	51.48%	51.78%	53.77%	52.36%
Eergy, Inc.	EVRG	40.25%	39.91%	42.28%	40.70%	40.51%	41.54%	41.41%	41.56%
IDACORP, Inc.	IDA	44.80%	45.42%	45.64%	45.75%	45.75%	46.56%	48.63%	45.78%
NextEra Energy, Inc.	NEE	40.85%	38.71%	36.49%	36.05%	35.99%	39.66%	39.37%	40.59%
NorthWestern Corporation	NWE	52.20%	51.93%	51.26%	52.12%	51.64%	51.59%	52.52%	50.11%
OGE Energy Corporation	OGE	45.04%	46.53%	44.62%	46.80%	46.95%	45.75%	46.41%	46.64%
Otter Tail Corporation	OTTR	44.57%	46.25%	46.10%	46.42%	46.51%	46.89%	47.33%	42.66%
Pinnacle West Capital Corporation	PNW	45.75%	45.59%	45.52%	45.64%	46.32%	46.29%	46.82%	46.86%
PNM Resources, Inc.	PNM	53.43%	53.71%	55.86%	51.82%	50.31%	51.01%	50.73%	50.92%
Portland General Electric Company	POR	48.22%	48.44%	49.40%	49.81%	49.49%	49.71%	49.86%	50.20%
PPL Corporation	PPL	46.07%	46.16%	44.82%	45.08%	45.15%	45.49%	45.40%	45.40%
Southern Company	SO	46.14%	45.20%	45.30%	45.39%	46.60%	48.27%	48.33%	51.45%
Xcel Energy Inc.	XEL	45.87%	44.75%	45.08%	45.52%	45.71%	46.49%	45.60%	45.77%
MEAN		46.97%	46.94%	46.92%	46.86%	46.87%	47.35%	47.45%	47.23%
LOW		40.25%	38.71%	36.49%	36.05%	35.99%	39.66%	39.37%	39.85%
HIGH		53.43%	53.71%	55.86%	52.12%	52.48%	52.07%	53.77%	52.36%

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%
Eergy, 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.