ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

1407 West North Temple
Salt Lake City, Utah 84116

September 17, 2020

VIA ELECTRONIC FILING

Public Service Commission of Utah
Heber M. Wells Building, 4th Floor
160 East 300 South
Salt Lake City, UT 84114

Attention: Gary Widerburg
Commission Administrator

Re: Docket 20-035-04
Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations
Phase I – Cost of Capital Rebuttal Testimony

Pursuant to the Scheduling Order, Notice of Technical Conference, Notice of Hearings, and Notice of Public Witness Hearing issued by the Public Service Commission of Utah, Rocky Mountain Power hereby submits for filing its Phase I – Cost of Capital rebuttal testimony and exhibits.

Rocky Mountain Power respectfully requests that all formal correspondence and requests for additional information regarding this filing be addressed to the following:

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Informal inquiries may be directed to Jana Saba at (801) 220-2823.

Sincerely,

Joelle Steward

Vice President, Regulation

cc: Service List Docket No. 20-035-04

CERTIFICATE OF SERVICE

Docket No. 20-035-04

I hereby certify that on September 17, 2020, a true and correct copy of the foregoing was served by electronic mail and/or overnight delivery to the following:

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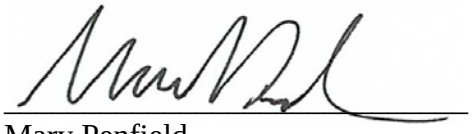


Mary Penfield
Adviser, Regulatory Operations

Rocky Mountain Power
Docket No. 20-035-04
Witness: Gary W. Hoogeveen

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Rebuttal Testimony of Gary W. Hoogeveen

September 2020

I. INTRODUCTION

Q. Are you the same Gary W. Hoogeveen who filed direct testimony in this proceeding on behalf of PacifiCorp d/b/a Rocky Mountain Power ("Rocky Mountain Power" or the "Company")?

A. Yes.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your rebuttal testimony in this proceeding?

A. In my rebuttal testimony, I address the update the Company makes to its requested return on equity ("ROE") in this rate case in light of the COVID-19 pandemic and related economic impacts. I also explain why the Company's updated ROE is appropriate in order to continue to deliver capital-intensive investments in its electric system in a cost-effective manner. Finally, I introduce Company witnesses submitting rebuttal testimony in the cost of capital phase of this proceeding.

III. UPDATE TO THE COMPANY'S DIRECT CASE

Q. Have the impacts of the COVID-19 pandemic evolved since the filing of the Company's direct case?

A. Yes. At the time the Company filed this rate case on May 8, 2020, Utah was still operating under moderate risk protocols as a result of the COVID-19 pandemic. Under the moderate risk protocols, gyms, salons, and other personal care businesses were allowed to reopen and restaurants were allowed to resume dine-in services modified to follow hygiene standards and social distancing guidelines.[1] On May 20, 2020, the state set forth Utah Leads Together III, which continued the color-coded reopening plan

[1] https://governor.utah.gov/2020/04/30/gov-herbert-issues-executive-order-placing-utah-under-moderate-risk-protocols-for-covid-19/.

adopted in Utah Leads Together I on March 24, 2020, and focused on protecting high-risk individuals and minority communities.[2] On June 17, 2020, the state set forth Utah Leads Together IV, which provides Utah's recovery and revitalization plan to emerge from the COVID-19 pandemic with a stronger, more resilient, and inclusive economy.[3] On June 29, 2020, Governor Gary Herbert approved a plan for reopening schools in the fall.[4] Currently, counties in Utah have moved from moderate risk protocols to either low level restriction or minimal level restriction protocols.[5]

Q. Has the Company updated its rebuttal position in response to the COVID-19 pandemic?

A. Yes. To respond to the continued impact of the pandemic on its customers and communities, the Company has updated its requested ROE in this rate case proceeding. Specifically, in response to the economic difficulties being experienced by its customers in the state of Utah, the Company is lowering its requested ROE from 10.2 percent to 9.8 percent, which is its currently authorized ROE.

Q. Why is a 9.8 percent ROE appropriate in Utah?

A. While the Company continues to believe the 10.20 percent ROE proposed in its initial application fairly reflects the Company's risk, the Company is reducing its requested ROE to 9.8 percent in light of the current circumstances.[6] Also important is the signal that a reasonable ROE, such as 9.8 percent, and a strong equity position send to the capital markets and rating agencies as the Company invests in a zero-fuel cost

[2] https://coronavirus-download.utah.gov/Governor/Utah_Leads_Together_3.0_May2020_v20.pdf.
[3] https://coronavirus-download.utah.gov/Governor/Utah_Leads_Together_Version_4.0_061720.pdf.
[4] https://www.abc4.com/news/top-stories/governor-approves-board-of-education-requirements-recommendations-for-reopening-schools/.
[5] https://coronavirus.utah.gov/utahs-health-guidance-system/.
[6] The impact to the revenue requirement resulting from the Company's update to ROE will be discussed in the Company's rebuttal testimony that will be filed on October 5, 2020.

generation portfolio with new and repowered wind generation resources and new transmission, such as Energy Vision 2020. It is the Company's investment in these capital-intensive projects that supports an energy future that decreases the amount of emissions, while providing customers with the benefits of zero-fuel cost generation. The capital structure and ROE supported by Ms. Nikki L. Kobliha and Ms. Ann E. Bulkley, respectively, will enable the Company to undertake necessary investments in a cost efficient manner that will be beneficial to customers. On the other hand, any reduction to the Company's current capital structure and ROE will send the wrong signal to the capital markets and rating agencies potentially slowing the Company's cost-effective investment in zero-fuel cost generation and/or causing it and other necessary transmission and distribution investments to be more costly.[7]

Furthermore, as I explained in my direct testimony, the Company has made a concerted effort to manage its controllable costs since the Company's last filed general rate case in 2014.[8] While this rate case requests an increase in the overall revenue requirement, the filing reflects the Company's prudent and efficient management of its costs that has allowed it to avoid seeking an increase in base rates for seven years. During this stay-out period, the Company has continued to invest in its power system, transform its generation resource portfolio, pioneer a new energy market that saves customers money and reduces emissions, and adhere to its core mission of providing safe, reliable, and affordable service for customers. Allowing the Company to maintain

[7] Direct Testimony of Ann E. Bulkley at 67-76.
[8] *In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations*, Docket No. 13-035-184, Report and Order Approving the Settlement Stipulation dated June 25, 2014. (Aug. 29, 2014).

its currently authorized ROE will provide it an opportunity to continue this trend to stay out of rate cases and allow it to make necessary investments in a cost-effective manner, while earning a reasonable return on its investment.

IV. INTRODUCTION OF REBUTTAL WITNESSES

Q. Please identify the witnesses supporting the Company's cost of capital rebuttal testimony.

A. In addition to myself, the Company witnesses filing cost of capital rebuttal testimony are as follows:

Nikki L. Kobliha, Vice President, Chief Financial Officer and Treasurer, discusses the Company's updated cost of capital recommendation and responds to intervenor testimony regarding capital structure.

Ann E. Bulkley, economist and principal at Concentric Energy Advisors, supports the Company's revised recommendation for ROE. She also responds to intervenor ROE recommendations.

Q. Does this conclude your cost of capital rebuttal testimony?

A. Yes.

REDACTED
Rocky Mountain Power
Docket No. 20-035-04
Witness: Nikki L. Kobliha

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

REDACTED
Rebuttal Testimony of Nikki L. Kobliha

September 2020

Q. Are you the same Nikki L. Kobliha who previously submitted direct testimony in this proceeding on behalf of PacifiCorp d/b/a Rocky Mountain Power ("PacifiCorp" or the "Company")?

A. Yes, I am.

I. PURPOSE AND SUMMARY OF TESTIMONY

Q. What is the purpose of your rebuttal testimony?

A. I will respond to certain issues raised by intervening parties in their direct testimony filed with the Public Service Commission of Utah ("Commission").

Q. Please explain how your testimony is organized and the issues you will address in your rebuttal testimony.

A. I will comment on the following issues and recommendations and explain why my analysis continues to support the capital structure proposed in my direct testimony.

1. In Section II, I will provide the Commission with an updated cost of capital reflecting an interest rate update for the projected variable rate debt, plus a new return on equity.
2. In Section III, I respond to the recommendations by Dr. J. Randall Woolridge sponsored by the Office of Consumer Services ("OCS") on the Company's proposed capital structure and explain why the Company's proposed capital structure is reasonable and necessary.

II. UPDATED COST OF CAPITAL

Q. Please discuss the recent financing work that the Company has completed.

A. As provided in my direct testimony, during April 2020, the Company completed the issuance of two new series of long-term debt — $400 million of 2.70 percent first

mortgage bonds due September 2030 and $600 million of 3.30 percent first mortgage bonds due March 2051. The Company does not anticipate any further long-term debt issuances will be required through the end of the 2021 calendar year period, nor any dividend payments to Berkshire Hathaway Energy in 2020 or 2021.

Q. Please explain any interest rates that have been updated.

A. I have updated the projected rates for the Company's variable rate long-term debt. As more fully described in my direct testimony, the Company will have on average $218 million in principal amount of these variable rate securities during the test period. The projected interest rates on these securities is based on forward 30-day London Interbank Offer Rate ("LIBOR") rates at each future quarter-end spanning the test period. I have updated with current forward 30-day LIBOR rates during the test period and also updated the historical relationship for these securities through July 2020 as reflected in Exhibit RMP___(NLK-1R). The result of this update is that these securities are now expected to have a reduced percentage average cost (including the cost of issuance and credit enhancements) during the test period of 0.63 percent versus the prior projected average cost of 1.61 percent reflected for my direct testimony.

Q. What is the new cost of debt?

A. As shown in Exhibit RMP___(NLK-2R), the net impact from these described changes above results in a reduction to the overall cost of long-term debt of two basis points, making the new cost of debt 4.79 percent.

Q. Are you currently recommending an update to the percentage capital structure recommendation in your direct testimony for PacifiCorp?

A. I continue to recommend a 53.67 percent equity level capital structure as detailed in

my direct testimony. At the 53.67 percent the Company will remain financially sound and keep costs low for customers while transforming its generation portfolio.

Q. What overall cost of capital do you recommend for PacifiCorp?

A. I am recommending an overall cost of capital of 7.48 percent. This cost includes the return on equity recommendation of 9.80 percent, supported by the rebuttal testimony of Company witnesses Mr. Gary W. Hoogeveen and Ms. Ann E. Bulkley. The capital structure and costs are shown in Table 1.

Table 1: Overall Cost of Capital

Component	% of Total		Cost %	Weighted Ave Cost %	
Long-Term Debt	46.32	%	4.79%	2.22	%
Preferred Stock	0.01	%	6.75%	—	%
Common Stock Equity	53.67	%	9.80%	5.26	%
	100.00	%		7.48	%

III. CAPITAL STRUCTURE

Q. Please summarize Dr. Woolridge's position on the Company's capital structure.

A. Dr. Woolridge recommends a capital structure consisting of 50.00 percent common equity. He supports this by comparing the Company's common equity ratio to the average 2019 common equity ratio of a group of proxy companies that he has dubbed the "Electric Proxy Group" at the holding company level and inclusive of short-term debt. Dr. Woolridge concludes that the Electric Proxy Group funds their utility assets at an average common equity ratio of 44.00 percent.

Q. Do you agree with Dr. Woolridge's approach and conclusions?

A. No, for several reasons. First, the Company is requesting a capital structure including a 53.67 percent equity level using an average of the five quarter-ending balances

spanning the test period. This approach has been accepted by the Commission in Rocky Mountain Power's prior applications and facilitates comparisons over time.[1] In addition, the Company expects to maintain its actual capital structure at this level for reasons Dr. Woolridge's recommendation fails to consider, including the Company's forecasted capital spending requirements and the impact of the 2017 Tax Cut and Jobs Act, both of which will necessitate an equity level at the proposed 53.67 percent to ensure rating agency metrics can be met and the Company's current credit ratings maintained. Maintaining the Company's current credit rating is critical to ensure continued access to capital markets at a reasonable cost.

Second, I believe the proper proxy group comparison is at the utility operating company level as presented in Exhibit RMP___ (AEB-11) prepared by Ms. Bulkley in direct testimony and not the utility holding company level. Use of the utility operating company level provides a direct comparison to the entities providing the utility service, entities that often have common financing practices and objectives. Ms. Bulkley's exhibit shows the low, high and mean of the proxy group average equity ratios are 47.49 percent, 61.54 percent and 52.73 percent. The Company's proposed capital structure is well within this range. Holding companies may have non-utility investments that influence their financing practices and objectives. For example WEC Energy Group, noted in the Electric Proxy Group, includes Wispark, a company that develops complex real estate projects. This demonstrates use of holding company

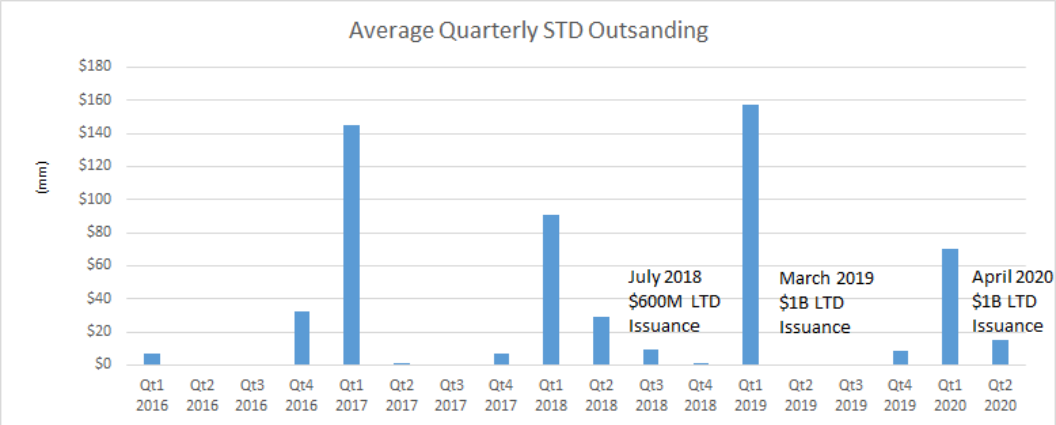
[1] See *In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations*, Docket No. 09-035-23, Report and Order on Revenue Requirement and Cost of Service and Spread of Rates, at 15 (Feb. 18, 2010) (accepting the Company's cost of capital position because the five-quarter average "smooths out the variability which is inherent in the lumpy nature of equity infusions and debt issuances").

comparisons for capital structure can cause distortions.

Third, Dr. Woolridge includes an assumption of short-term debt when preparing his recommended capital structure. The Company believes that it is inappropriate and inequitable to include short-term debt in the capital structure as short-term debt would effectively be double-counted as financing both rate base and construction work in progress. Short-term debt balances can move dramatically and as demonstrated in Table 2 below, the Company often has periods of time when there is no short-term debt outstanding, demonstrating that short-term debt is not a permanent source of financing rate base.

Periods of high short-term debt generally occur right before the Company is about to issue long-term debt as issuances are normally timed around an upcoming long-term debt maturity or other significant cash outflow.

Table 2: Average Quarterly Short Term Debt Outstanding



Q. Please comment on the use of Berkshire Hathaway Energy debt to finance the equity in Rocky Mountain Power.

A. Dr. Woolridge references a definition of double leverage supplied by Moody's wherein a parent company raises debt and provides the proceeds to its operating

subsidiary in the form of an equity investment.[2] Rocky Mountain Power finances its own operations through ongoing cash from operations, short-term debt which is generally commercial paper, and long-term debt using secured first mortgage bonds. It is not the Company's practice to receive regular capital contributions from Berkshire Hathaway Energy, which they may or may not have issued debt to fund. In fact, the last time the Company received a capital contribution from Berkshire Hathaway Energy was in 2010, and no capital contributions are anticipated to occur in the foreseeable future. To conclude Berkshire Hathaway Energy is using debt to finance the equity in the Company is not accurate.

Q. In your direct testimony, you note the proposed capital structure is consistent with the Company's current credit rating and the ability to achieve financial metrics. Dr. Woolridge concludes you provide no evidence to support this statement. How do you respond?

A. My direct testimony makes specific reference to the requirements from Moody's[3] to maintain its credit rating which include a ratio of CFO pre-W/C to debt ratio in excess of 20 percent. Because there are several inputs to the CFO pre-W/C to debt ratio, it is difficult to estimate what the ratio would at various capitalization levels. However, looking at recent historical data and estimated impacts through the remainder of 2020, I have replicated Moody's CFO pre-W/C to debt ratio calculation in order to provide a high-level indicator of where this metric may land if a capital structure less than the level proposed by the Company was awarded. Based on the Company's 12 months

[2] Direct Testimony of Dr. Woolridge, at lines 574-602.
[3] The FFO to Debt ratio used by Moody's is referred to as "CFO Pre-W/C / Debt" in Moody's credit opinion updates. The Company is focusing on the Moody's rating as it is the lower of the two corporate ratings from the agencies.

ended June 30, 2020 results, the CFO pre-W/C to debt ratio is [redacted] The [redacted] in this metric as calculated for the most recent 12-month period compared to the calendar year 2019 period result of 18.4 percent [redacted] The Company's current forecast for the 12 months ended December 31, 2020 period for the Moody's CFO pre-W/C to debt ratio is [redacted] and is based on a projected average common equity percentage of 51.6 percent for the period, which is 207 basis points lower than the equity levels forecast during the test period and 160 basis points higher than the level recommended by Dr. Woolridge. With a low metric result reported in 2019 [redacted] without thickening the equity to the requested levels and favorable regulatory support during the Company's continuing capital growth cycle.

Q. What do you mean by favorable regulatory support?

A. The Company can manage the capital structure through the timing and amount of long-term debt issuances and dividend distributions; however, there are neither long term debt issuances nor dividend distributions planned for 2021. Hence, PacifiCorp must rely on continued regulatory support to recover costs and achieve a reasonable rate of

return to have adequate cash from operations during this period of growth when additional debt issuance would increasingly dampen the Company's already stressed key CFO pre-W/C to debt credit metric. A reasonable rate of return on a capital structure of 53.67 percent equity would constitute favorable regulatory support in this instance.

Favorable regulatory support is a contributing factor to the rating agencies assessment of PacifiCorp as noted in the following quote from Moody's:

Q. Dr. Woolridge indicates the Company's credit ratings are superior to the average of the two electric proxy groups. Do you think that the Company is seeking a credit rating that is higher than is necessary to provide the lowest cost of capital for customers?

A. No. The Company and its customers have benefited and will continue to benefit from the Company's credit rating, and industry analysts support that a single A credit rating is in the best interest of customers. My direct testimony notes this rating has benefited the Company, and therefore customers, through lower rates on 14 series of debt when

[4] Moody's Investor Services, Credit Opinion (June 25, 2020) at 1
[5] S&P Global Ratings, Ratings Direct (April 8, 2020) at 5

compared to lower rated entities, and during times of market turmoil. In particular, during the Great Recession of 2008-2009 PacifiCorp was able to issue long-term debt during the midst of the turmoil at reasonable rates. Not all entities were able to issue debt, and some of those who could issue debt did so at high rates due to their lower credit ratings.

The Company, and utilities in general, do not have a significant amount of flexibility when they access capital markets due to their obligation to serve customers. Being able to access capital markets in any condition at low costs will help keep rates low for customers. The Company's current credit rating has enabled such low cost access.

In addition, as represented in the following quote from New Regulatory Finance, Roger A. Morin, PhD textbook:

> The optimal capital structure ....suggests that long-term achievement of a single A credit rating is in a utility company's and its ratepayers best interests. Debt leverage targets should be set in the lower part of the range required to attain this optimal rating. If the company maintains its debt ratio close to the optimal range required for a single A bond rating, its overall cost of capital should be minimized.

As suggested by the textbook, the Company's efforts to maintain its current credit ratings will minimize its overall cost of capital. In my opinion, the optimal capital structure for the Company at this time is the requested 53.67 percent equity, which will enable the Company to maintain current credit ratings and have continued access to capital markets at a reasonable cost.

Q. What is your recommendation regarding the Company's capital structure?

A. For the reasons noted above, I recommend the equity component of the capital structure

remain at the 53.67 percent included in my direct testimony.

Q. Does that conclude your testimony?

A. Yes.

Rocky Mountain Power
Exhibit RMP___(NLK-1R)
Docket No. 20-035-04
Witness: Nikki L. Kobliha

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Nikki L. Kobliha

Indicative Forward PCRB Variable Rates

September 2020

Indicative Forward PCRB Variable Rates
For Quarter End Periods for Year Ending December 31, 2021

	30 Day LIBOR Daily Ave	Floating Rate PCRBs Daily Ave	PCRB / LIBOR
	(a)	(b)	(b)/(a)
Jan-00	5.81%	3.33%	57%
Feb-00	5.89%	3.62%	62%
Mar-00	6.05%	3.68%	61%
Apr-00	6.16%	4.02%	65%
May-00	6.54%	4.89%	75%
Jun-00	6.65%	4.35%	65%
Jul-00	6.63%	3.99%	60%
Aug-00	6.62%	4.09%	62%
Sep-00	6.62%	4.50%	68%
Oct-00	6.62%	4.36%	66%
Nov-00	6.63%	4.33%	65%
Dec-00	6.68%	4.14%	62%
Jan-01	5.88%	3.10%	53%
Feb-01	5.53%	3.59%	65%
Mar-01	5.13%	3.18%	62%
Apr-01	4.82%	3.72%	77%
May-01	4.16%	3.38%	81%
Jun-01	3.92%	3.03%	77%
Jul-01	3.82%	2.65%	69%
Aug-01	3.64%	2.36%	65%
Sep-01	3.17%	2.42%	76%
Oct-01	2.48%	2.18%	88%
Nov-01	2.13%	1.79%	84%
Dec-01	1.96%	1.64%	84%
Jan-02	1.81%	1.49%	82%
Feb-02	1.85%	1.39%	75%
Mar-02	1.89%	1.46%	77%
Apr-02	1.86%	1.58%	85%
May-02	1.84%	1.67%	91%
Jun-02	1.84%	1.58%	86%
Jul-02	1.83%	1.49%	81%
Aug-02	1.80%	1.49%	83%
Sep-02	1.82%	1.69%	93%
Oct-02	1.81%	1.84%	102%
Nov-02	1.44%	1.66%	115%
Dec-02	1.42%	1.57%	110%
Jan-03	1.36%	1.40%	103%
Feb-03	1.34%	1.43%	107%
Mar-03	1.31%	1.45%	111%
Apr-03	1.31%	1.52%	115%
May-03	1.31%	1.56%	119%
Jun-03	1.16%	1.38%	119%
Jul-03	1.11%	1.12%	102%
Aug-03	1.11%	1.16%	104%
Sep-03	1.12%	1.24%	111%
Oct-03	1.12%	1.24%	111%
Nov-03	1.13%	1.36%	121%
Dec-03	1.15%	1.32%	114%
Jan-04	1.11%	1.21%	110%
Feb-04	1.10%	1.17%	107%
Mar-04	1.09%	1.20%	110%
Apr-04	1.10%	1.27%	115%
May-04	1.10%	1.29%	117%
Jun-04	1.25%	1.28%	102%
Jul-04	1.41%	1.26%	89%
Aug-04	1.60%	1.40%	88%
Sep-04	1.78%	1.49%	83%
Oct-04	1.90%	1.72%	91%
Nov-04	2.19%	1.65%	75%
Dec-04	2.39%	1.67%	70%
Jan-05	2.49%	1.78%	72%
Feb-05	2.61%	1.88%	72%
Mar-05	2.81%	1.95%	69%
Apr-05	2.97%	2.50%	84%
May-05	3.09%	2.93%	95%
Jun-05	3.25%	2.39%	74%
Jul-05	3.43%	2.28%	67%
Aug-05	3.69%	2.44%	66%
Sep-05	3.78%	2.55%	68%
Oct-05	3.99%	2.66%	67%

Indicative Forward PCRB Variable Rates
For Quarter End Periods for Year Ending December 31, 2021

	30 Day LIBOR Daily Ave	Floating Rate PCRBs Daily Ave	PCRB / LIBOR
	(a)	(b)	(b)/(a)
Nov-05	4.15%	2.93%	71%
Dec-05	4.36%	3.10%	71%
Jan-06	4.48%	3.02%	67%
Feb-06	4.58%	3.13%	68%
Mar-06	4.76%	3.11%	65%
Apr-06	4.92%	3.45%	70%
May-06	5.08%	3.52%	69%
Jun-06	5.24%	3.74%	71%
Jul-06	5.37%	3.60%	67%
Aug-06	5.35%	3.53%	66%
Sep-06	5.33%	3.61%	68%
Oct-06	5.32%	3.57%	67%
Nov-06	5.32%	3.62%	68%
Dec-06	5.35%	3.70%	69%
Jan-07	5.32%	3.64%	68%
Feb-07	5.32%	3.63%	68%
Mar-07	5.32%	3.64%	68%
Apr-07	5.32%	3.79%	71%
May-07	5.32%	3.90%	73%
Jun-07	5.32%	3.76%	71%
Jul-07	5.32%	3.66%	69%
Aug-07	5.52%	3.76%	68%
Sep-07	5.48%	3.84%	70%
Oct-07	4.98%	3.56%	72%
Nov-07	4.75%	3.53%	74%
Dec-07	5.00%	3.25%	65%
Jan-08	3.95%	3.02%	76%
Feb-08	3.14%	2.86%	91%
Mar-08	2.80%	3.79%	135%
Apr-08	2.79%	2.23%	80%
May-08	2.63%	1.93%	73%
Jun-08	2.47%	2.77%	112%
Jul-08	2.46%	4.12%	168%
Aug-08	2.47%	3.03%	123%
Sep-08	2.94%	4.57%	155%
Oct-08	3.87%	4.89%	126%
Nov-08	1.68%	2.34%	139%
Dec-08	1.01%	1.02%	101%
Jan-09	0.39%	0.70%	181%
Feb-09	0.46%	0.68%	147%
Mar-09	0.53%	0.66%	124%
Apr-09	0.45%	0.63%	140%
May-09	0.35%	0.53%	153%
Jun-09	0.32%	0.45%	143%
Jul-09	0.29%	0.41%	142%
Aug-09	0.27%	0.43%	158%
Sep-09	0.25%	0.40%	161%
Oct-09	0.24%	0.39%	159%
Nov-09	0.24%	0.37%	157%
Dec-09	0.23%	0.38%	165%
Jan-10	0.23%	0.32%	138%
Feb-10	0.23%	0.32%	137%
Mar-10	0.24%	0.32%	135%
Apr-10	0.26%	0.35%	134%
May-10	0.33%	0.34%	101%
Jun-10	0.35%	0.33%	93%
Jul-10	0.33%	0.30%	90%
Aug-10	0.27%	0.31%	115%
Sep-10	0.26%	0.31%	119%
Oct-10	0.26%	0.27%	106%
Nov-10	0.25%	0.27%	107%
Dec-10	0.26%	0.29%	110%
Jan-11	0.26%	0.26%	100%
Feb-11	0.26%	0.26%	98%
Mar-11	0.25%	0.24%	96%
Apr-11	0.22%	0.24%	106%
May-11	0.20%	0.20%	100%
Jun-11	0.19%	0.12%	62%
Jul-11	0.19%	0.07%	38%
Aug-11	0.21%	0.18%	83%

Indicative Forward PCRB Variable Rates
For Quarter End Periods for Year Ending December 31, 2021

	30 Day LIBOR Daily Ave (a)	Floating Rate PCRBs Daily Ave (b)	PCRB / LIBOR (b)/(a)
Sep-11	0.23%	0.18%	78%
Oct-11	0.24%	0.17%	69%
Nov-11	0.25%	0.18%	70%
Dec-11	0.28%	0.18%	62%
Jan-12	0.28%	0.18%	64%
Feb-12	0.25%	0.22%	86%
Mar-12	0.24%	0.20%	84%
Apr-12	0.24%	0.25%	104%
May-12	0.24%	0.22%	90%
Jun-12	0.24%	0.19%	78%
Jul-12	0.25%	0.17%	68%
Aug-12	0.24%	0.16%	68%
Sep-12	0.22%	0.18%	81%
Oct-12	0.21%	0.20%	93%
Nov-12	0.21%	0.20%	95%
Dec-12	0.21%	0.15%	71%
Jan-13	0.21%	0.10%	51%
Feb-13	0.20%	0.13%	63%
Mar-13	0.20%	0.13%	66%
Apr-13	0.20%	0.18%	92%
May-13	0.20%	0.18%	90%
Jun-13	0.19%	0.11%	57%
Jul-13	0.19%	0.08%	43%
Aug-13	0.18%	0.09%	47%
Sep-13	0.18%	0.09%	49%
Oct-13	0.17%	0.10%	61%
Nov-13	0.17%	0.13%	78%
Dec-13	0.17%	0.14%	82%
Jan-14	0.16%	0.12%	74%
Feb-14	0.16%	0.11%	74%
Mar-14	0.15%	0.11%	73%
Apr-14	0.15%	0.13%	87%
May-14	0.15%	0.12%	80%
Jun-14	0.15%	0.10%	67%
Jul-14	0.15%	0.09%	61%
Aug-14	0.16%	0.09%	61%
Sep-14	0.15%	0.09%	55%
Oct-14	0.15%	0.08%	55%
Nov-14	0.15%	0.09%	59%
Dec-14	0.16%	0.08%	50%
Jan-15	0.17%	0.06%	38%
Feb-15	0.17%	0.06%	36%
Mar-15	0.18%	0.06%	35%
Apr-15	0.18%	0.09%	50%
May-15	0.18%	0.15%	79%
Jun-15	0.19%	0.13%	69%
Jul-15	0.19%	0.10%	55%
Aug-15	0.20%	0.09%	46%
Sep-15	0.20%	0.09%	47%
Oct-15	0.19%	0.10%	50%
Nov-15	0.21%	0.09%	45%
Dec-15	0.35%	0.08%	24%
Jan-16	0.43%	0.09%	20%
Feb-16	0.43%	0.08%	20%
Mar-16	0.44%	0.19%	45%
Apr-16	0.44%	0.41%	94%
May-16	0.44%	0.41%	93%
Jun-16	0.45%	0.43%	95%
Jul-16	0.48%	0.43%	89%
Aug-16	0.51%	0.49%	96%
Sep-16	0.53%	0.71%	134%
Oct-16	0.53%	0.77%	146%
Nov-16	0.56%	0.58%	103%
Dec-16	0.71%	0.66%	93%
Jan-17	0.77%	0.69%	89%
Feb-17	0.78%	0.66%	84%
Mar-17	0.93%	0.71%	77%
Apr-17	0.99%	0.90%	91%
May-17	1.01%	0.82%	81%
Jun-17	1.17%	0.83%	71%

Indicative Forward PCRB Variable Rates
For Quarter End Periods for Year Ending December 31, 2021

	30 Day LIBOR Daily Ave (a)	Floating Rate PCRBs Daily Ave (b)	PCRB / LIBOR (b)/(a)
Jul-17	1.23%	0.85%	69%
Aug-17	1.23%	0.79%	65%
Sep-17	1.23%	0.87%	71%
Oct-17	1.24%	0.93%	75%
Nov-17	1.29%	0.96%	75%
Dec-17	1.49%	1.25%	84%
Jan-18	1.56%	1.35%	86%
Feb-18	1.60%	1.10%	69%
Mar-18	1.80%	1.32%	73%
Apr-18	1.90%	1.75%	92%
May-18	1.95%	1.46%	75%
Jun-18	2.07%	1.33%	64%
Jul-18	2.08%	1.10%	53%
Aug-18	2.07%	1.53%	74%
Sep-18	2.18%	1.56%	72%
Oct-18	2.29%	1.60%	70%
Nov-18	2.32%	1.69%	73%
Dec-18	2.45%	1.70%	69%
Jan-19	2.51%	1.43%	57%
Feb-19	2.49%	1.64%	66%
Mar-19	2.49%	1.67%	67%
Apr-19	2.48%	1.90%	77%
May-19	2.44%	1.72%	70%
Jun-19	2.40%	1.79%	74%
Jul-19	2.31%	1.45%	63%
Aug-19	2.17%	1.45%	67%
Sep-19	2.04%	1.48%	72%
Oct-19	1.88%	1.41%	75%
Nov-19	1.74%	1.18%	68%
Dec-19	1.75%	1.34%	77%
Jan-20	1.67%	1.10%	66%
Feb-20	1.64%	1.21%	74%
Mar-20	0.92%	2.68%	292%
Apr-20	0.68%	0.85%	124%
May-20	0.19%	0.27%	139%
Jun-20	0.18%	0.19%	102%
Jul-20	0.17%	0.21%	125%
Average			85%

	Forward 30 Day LIBOR* (1)	Historical Floating Rate PCRB / 30 Day LIBOR (2)	Forecast Floating Rate PCRB (1) * (2)
12/31/20	0.27%	85%	0.227%
3/31/21	0.20%	85%	0.174%
6/30/21	0.19%	85%	0.159%
9/30/21	0.19%	85%	0.160%
12/31/21	0.21%	85%	0.182%
5QE Ave			0.180%

* Source: Bloomberg L.P. (8/20/20)

Rocky Mountain Power
Exhibit RMP___(NLK-2R)
Docket No. 20-035-04
Witness: Nikki L. Kobliha

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Nikki L. Kobliha

Weighted Average Cost of LTD Pro-forma

September 2020

PACIFICORP
Electric Operations
Pro forma Ave Cost of Long-Term Debt Summary
12 months ended December 31, 2021

LINE NO.	DESCRIPTION	AMOUNT 5QE AVE OUTSTANDING	ISSUANCE EXPENSES	REDEMPTION EXPENSES	NET PROCEEDS TO COMPANY	ANNUAL DEBT SERVICE COST	INTEREST RATE	ALL-IN COST	ORIG LIFE	LINE NO.
1										1
2	**Total First Mortgage Bonds**	**$8,205,000,000**	**($88,373,492)**	**($30,672,073)**	**$8,085,954,435**	**$401,824,290**	**4.758%**	**4.897%**	**24.4**	2
3										3
4	Subtotal - Pollution Control Revenue Bonds secured by FMBs	$193,750,000	($4,953,665)	($2,181,869)	$186,614,466	$1,242,739	0.506%	0.641%	30.0	4
5	Subtotal - Pollution Control Revenue Bonds	$24,400,000	($225,000)	($428,469)	$23,746,531	$140,544	0.479%	0.576%	29.9	5
6	**Total Pollution Control Revenue Bonds**	**$218,150,000**	**($5,178,665)**	**($2,610,338)**	**$210,360,997**	**$1,383,283**	**0.503%**	**0.634%**	**29.9**	6
7										7
8	Loss on Long Term Debt Reacquistions, without Refunding					$205,126				8
9	**Total Cost of Long Term Debt**	**$8,423,150,000**	**($93,552,157)**	**($33,282,411)**	**$8,296,315,432**	**$403,412,699**	**4.648%**	**4.789%**	**24.5**	9
10										10

Rocky Mountain Power
Exhibit RMP___(NLK-2R) 1 of 3
Docket No. 20-035-04
Witness: Nikki L. Kobliha

PACIFICORP
Electric Operations
Pro forma Ave Cost of Long-Term Debt Summary
12 months ended December 31, 2021

LINE NO.	INTEREST RATE	DESCRIPTION	ISSUANCE DATE	MATURITY DATE	ORIG LIFE	PRINCIPAL AMOUNT ORIGINAL ISSUE	PRINCIPAL AMOUNT 5QE AVE OUTSTANDING	ISSUANCE EXPENSES	REDEMPTION EXPENSES	NET PROCEEDS TO COMPANY TOTAL DOLLAR AMOUNT	NET PROCEEDS TO COMPANY PER $100 PRINCIPAL AMOUNT	MONEY TO COMPANY	ANNUAL DEBT SERVICE COST	LINE NO.
	(a)	(b)	(c)	(d)	(e)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	
1														1
2														2
3	3.850%	Series due Jun 2021	05/12/11	06/15/21	10	$400,000,000	$160,000,000	($1,500,455)	$0	$158,499,545	$99.062	3.963%	$6,340,800	3
4	2.950%	Series due Feb 2022	01/06/12	02/01/22	10	$350,000,000	$350,000,000	($2,732,350)	$0	$347,267,650	$99.219	3.040%	$10,640,000	4
5	2.950%	Series due Feb 2022 (2)	03/06/12	02/01/22	10	$100,000,000	$100,000,000	($173,129)	($4,970,793)	$94,856,079	$94.856	3.571%	$3,571,000	5
6	2.950%	Series due Jun 2023	06/06/13	06/01/23	10	$300,000,000	$300,000,000	($2,759,352)	$0	$297,240,648	$99.080	3.058%	$9,174,000	6
7	3.600%	Series due Apr 2024	03/13/14	04/01/24	10	$425,000,000	$425,000,000	($3,600,164)	($1,943,075)	$419,456,761	$98.696	3.757%	$15,967,250	7
8	3.350%	Series due Jul 2025	06/19/15	07/01/25	10	$250,000,000	$250,000,000	($2,441,421)	$0	$247,558,579	$99.023	3.466%	$8,665,000	8
9	3.500%	Series due Jun 2029	03/01/19	06/15/29	10	$400,000,000	$400,000,000	($2,874,181)	$0	$397,125,819	$99.281	3.584%	$14,336,000	9
10	2.700%	Series due Sep 2030	04/08/20	09/15/30	10	$400,000,000	$400,000,000	($2,880,000)	$0	$397,120,000	$99.280	2.780%	$11,120,000	10
11	7.700%	Series due Nov 2031	11/21/01	11/15/31	30	$300,000,000	$300,000,000	($3,701,310)	$0	$296,298,690	$98.766	7.807%	$23,421,000	11
12	5.900%	Series due Aug 2034	08/24/04	08/15/34	30	$200,000,000	$200,000,000	($2,614,365)	$0	$197,385,635	$98.693	5.994%	$11,988,000	12
13	5.250%	Series due Jun 2035	06/08/05	06/15/35	30	$300,000,000	$300,000,000	($3,992,021)	($1,295,995)	$294,711,984	$98.237	5.369%	$16,107,000	13
14	6.100%	Series due Aug 2036	08/10/06	08/01/36	30	$350,000,000	$350,000,000	($4,048,881)	$0	$345,951,119	$98.843	6.185%	$21,647,500	14
15	5.750%	Series due Apr 2037	03/14/07	04/01/37	30	$600,000,000	$600,000,000	($613,216)	$0	$599,386,784	$99.898	5.757%	$34,542,000	15
16	6.250%	Series due Oct 2037	10/03/07	10/15/37	30	$600,000,000	$600,000,000	($5,877,281)	$0	$594,122,719	$99.020	6.323%	$37,938,000	16
17	6.350%	Series due Jul 2038	07/17/08	07/15/38	30	$300,000,000	$300,000,000	($3,961,333)	$0	$296,038,667	$98.680	6.450%	$19,350,000	17
18	6.000%	Series due Jan 2039	01/08/09	01/15/39	30	$650,000,000	$650,000,000	($12,309,687)	$0	$637,690,313	$98.106	6.139%	$39,903,500	18
19	4.100%	Series due Feb 2042	01/06/12	02/01/42	30	$300,000,000	$300,000,000	($3,724,911)	$0	$296,275,089	$98.758	4.173%	$12,519,000	19
20	4.125%	Series due Jan 2049	07/13/18	01/15/49	31	$600,000,000	$600,000,000	($6,984,085)	$0	$593,015,915	$98.836	4.193%	$25,158,000	20
21	4.150%	Series due Feb 2050	03/01/19	02/15/50	31	$600,000,000	$600,000,000	($7,938,771)	$0	$592,061,229	$98.677	4.227%	$25,362,000	21
22	3.300%	Series due Mar 2051	04/08/20	03/15/51	31	$600,000,000	$600,000,000	($10,134,000)	$0	$589,866,000	$98.311	3.388%	$20,328,000	22
23	**4.631%**	**Subtotal - Bullet FMBs**			**24**		**$7,785,000,000**	**($84,860,911)**	**($8,209,863)**	**$7,691,929,226**		**4.728%**	**$368,078,050**	23
24														24
25	8.530%	Series C due Dec 2021	12/16/91	12/16/21	30	$15,000,000	$12,000,000	($92,161)	($1,643,137)	$10,264,702	$85.539	10.066%	$1,207,920	25
26	8.375%	Series C due Dec 2021	12/31/91	12/31/21	30	$5,000,000	$4,000,000	($30,720)	($547,712)	$3,421,567	$85.539	9.889%	$395,560	26
27	8.260%	Series C due Jan 2022	01/08/92	01/07/22	30	$5,000,000	$5,000,000	($33,243)	($684,641)	$4,282,117	$85.642	9.745%	$487,250	27
28	8.270%	Series C due Jan 2022	01/09/92	01/10/22	30	$4,000,000	$4,000,000	($30,594)	($547,712)	$3,421,693	$85.542	9.768%	$390,720	28
29	**2.975%**	**Subtotal - Series C MTNs**			**11**		**$25,000,000**	**($186,718)**	**($3,423,203)**	**$21,390,079**		**9.926%**	**$2,481,450**	29
30														30
31	8.050%	Series E due Sep 2022	09/18/92	09/01/22	30	$15,000,000	$15,000,000	($131,471)	($1,695,566)	$13,172,963	$87.820	9.257%	$1,388,550	31
32	8.070%	Series E due Sep 2022	09/09/92	09/09/22	30	$8,000,000	$8,000,000	($70,118)	($904,302)	$7,025,580	$87.820	9.280%	$742,400	32
33	8.110%	Series E due Sep 2022	09/11/92	09/09/22	30	$12,000,000	$12,000,000	($105,177)	($1,356,453)	$10,538,370	$87.820	9.325%	$1,119,000	33
34	8.120%	Series E due Sep 2022	09/11/92	09/09/22	30	$50,000,000	$50,000,000	($438,238)	($5,651,887)	$43,909,875	$87.820	9.336%	$4,668,000	34
35	8.050%	Series E due Sep 2022	09/14/92	09/14/22	30	$10,000,000	$10,000,000	($87,648)	($1,130,377)	$8,781,975	$87.820	9.258%	$925,800	35
36	8.080%	Series E due Oct 2022	10/15/92	10/14/22	30	$25,000,000	$25,000,000	($200,190)	($2,061,627)	$22,738,182	$90.953	8.953%	$2,238,250	36
37	8.080%	Series E due Oct 2022	10/15/92	10/14/22	30	$26,000,000	$26,000,000	($208,198)	($2,938,981)	$22,852,821	$87.895	9.283%	$2,413,580	37
38	8.230%	Series E due Jan 2023	01/29/93	01/20/23	30	$4,000,000	$4,000,000	$51,229	($88,989)	$3,962,241	$99.056	8.316%	$332,640	38
39	8.230%	Series E due Jan 2023	01/20/93	01/20/23	30	$5,000,000	$5,000,000	($37,914)	($335,843)	$4,626,243	$92.525	8.951%	$447,550	39
40	**8.099%**	**Subtotal - Series E MTNs**			**30**		**$155,000,000**	**($1,227,725)**	**($16,164,025)**	**$137,608,250**		**9.210%**	**$14,275,770**	40
41														41
42	7.260%	Series F due Jul 2023	07/22/93	07/21/23	30	$11,000,000	$11,000,000	($100,622)	($589,062)	$10,310,316	$93.730	7.804%	$858,440	42
43	7.260%	Series F due Jul 2023	07/22/93	07/21/23	30	$27,000,000	$27,000,000	($246,981)	($1,445,880)	$25,307,139	$93.730	7.804%	$2,107,080	43
44	7.230%	Series F due Aug 2023	08/16/93	08/16/23	30	$15,000,000	$15,000,000	($137,211)	($268,624)	$14,594,165	$97.294	7.457%	$1,118,550	44
45	7.240%	Series F due Aug 2023	08/16/93	08/16/23	30	$30,000,000	$30,000,000	($274,423)	($537,248)	$29,188,329	$97.294	7.467%	$2,240,100	45
46	6.750%	Series F due Sep 2023	09/14/93	09/14/23	30	$2,000,000	$2,000,000	($15,300)	$0	$1,984,700	$99.235	6.810%	$136,200	46
47	6.720%	Series F due Sep 2023	09/14/93	09/14/23	30	$2,000,000	$2,000,000	($15,300)	$0	$1,984,700	$99.235	6.780%	$135,600	47
48	6.750%	Series F due Sep 2023	09/14/93	09/14/23	30	$5,000,000	$5,000,000	($38,250)	($34,169)	$4,927,581	$98.552	6.865%	$343,250	48
49	6.750%	Series F due Oct 2023	10/26/93	10/26/23	30	$12,000,000	$12,000,000	($91,396)	$0	$11,908,604	$99.238	6.810%	$817,200	49
50	6.750%	Series F due Oct 2023	10/26/93	10/26/23	30	$16,000,000	$16,000,000	($121,861)	$0	$15,878,139	$99.238	6.810%	$1,089,600	50
51	6.750%	Series F due Oct 2023	10/26/93	10/26/23	30	$20,000,000	$20,000,000	($152,326)	$0	$19,847,674	$99.238	6.810%	$1,362,000	51
52	**7.044%**	**Subtotal - Series F MTNs**			**30**		**$140,000,000**	**($1,193,670)**	**($2,874,983)**	**$135,931,347**		**7.291%**	**$10,208,020**	52

PACIFICORP
Electric Operations
Pro forma Ave Cost of Long-Term Debt Summary
12 months ended December 31, 2021

LINE NO.	INTEREST RATE	DESCRIPTION	ISSUANCE DATE	MATURITY DATE	ORIG LIFE	PRINCIPAL AMOUNT ORIGINAL ISSUE	PRINCIPAL AMOUNT 5QE AVE OUTSTANDING	ISSUANCE EXPENSES	REDEMPTION EXPENSES	NET PROCEEDS TO COMPANY TOTAL DOLLAR AMOUNT	NET PROCEEDS TO COMPANY PER $100 PRINCIPAL AMOUNT	MONEY TO COMPANY	ANNUAL DEBT SERVICE COST	LINE NO.
	(a)	(b)	(c)	(d)	(e)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	
53														53
54	6.710%	Series G due Jan 2026	01/23/96	01/15/26	30	$100,000,000	$100,000,000	($904,467)	$0	$99,095,533	$99.096	6.781%	$6,781,000	54
55	**6.710%**	**Subtotal - Series G MTNs**			**30**		**$100,000,000**	**($904,467)**	**$0**	**$99,095,533**		**6.781%**	**$6,781,000**	55
56														56
57	**4.758%**	**Total First Mortgage Bonds**			**24**		**$8,205,000,000**	**($88,373,492)**	**($30,672,073)**	**$8,085,954,435**		**4.897%**	**$401,824,290**	57
58														58
59														59
60	0.510%	Converse 94 due Nov 2024	11/17/94	11/01/24	30	$8,190,000	$8,190,000	($209,778)	($86,323)	$7,893,899	$96.385	0.643%	$52,662	60
61	0.477%	Emery 94 due Nov 2024	11/17/94	11/01/24	30	$121,940,000	$121,940,000	($3,274,246)	($1,925,767)	$116,739,987	$95.736	0.634%	$773,100	61
62	0.618%	Lincoln 94 due Nov 2024	11/17/94	11/01/24	30	$15,060,000	$15,060,000	($422,858)	($81,427)	$14,555,715	$96.651	0.743%	$111,896	62
63	0.543%	Sweetwater 94 due Nov 2024	11/17/94	11/01/24	30	$21,260,000	$21,260,000	($510,479)	($88,352)	$20,661,169	$97.183	0.647%	$137,552	63
64	0.460%	Converse 95 due Nov 2025	11/17/95	11/01/25	30	$5,300,000	$5,300,000	($132,043)	$0	$5,167,957	$97.509	0.550%	$29,150	64
65	0.562%	Lincoln 95 due Nov 2025	11/17/95	11/01/25	30	$22,000,000	$22,000,000	($404,262)	$0	$21,595,738	$98.162	0.629%	$138,380	65
66	**0.506%**	**Subtotal - Secured PCRBs**			**30**		**$193,750,000**	**($4,953,665)**	**($2,181,869)**	**$186,614,466**		**0.641%**	**$1,242,739**	66
67														67
68	0.479%	Sweetwater 95 due Nov 2025	12/14/95	11/01/25	30	$24,400,000	$24,400,000	($225,000)	($428,469)	$23,746,531	$97.322	0.576%	$140,544	68
69	**0.479%**	**Subtotal - Unsecured PCRBs**			**30**		**$24,400,000**	**($225,000)**	**($428,469)**	**$23,746,531**		**0.576%**	**$140,544**	69
70														70
71	**0.503%**	**Total PCRB Obligations**			**30**		**$218,150,000**	**($5,178,665)**	**($2,610,338)**	**$210,360,997**		**0.634%**	**$1,383,283**	71
72														72
73			**REACQ DATE**	**ORG MAT DATE**										73
74														74
75		8.375% Series A QUIDS	11/17/00	06/30/35									$107,887	75
76		8.55% Series B QUIDS	11/17/00	12/31/25									$84,084	76
77		Carbon '94 PCRB Series	02/18/16	11/01/24									$13,155	77
78		**Long-Term Debt Reacquisition, without refunding amortization**											**$205,126**	78
79														79
80	**4.648%**	**Total Long-Term Debt**			**24**		**$8,423,150,000**	**($93,552,157)**	**($33,282,411)**	**$8,296,315,432**		**4.789%**	**$403,412,699**	80
81														81

Rocky Mountain Power
Exhibit RMP___(NLK-2R) 3 of 3
Docket No. 20-035-04
Witness: Nikki L. Kobliha

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

Rebuttal Testimony of Ann E. Bulkley

September 2020

I. INTRODUCTION

Q. Please state your name and business address.

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

Q. Are you the same Ann E. Bulkley who previously submitted direct testimony in this proceeding on behalf of PacifiCorp d/b/a Rocky Mountain Power Company?

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

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the Direct Testimonies of Casey J. Coleman on behalf of the Division of Public Utilities ("Division"), Dr. J. Randall Woolridge on behalf of the Office of Consumer Services ("OCS"), and Steve W. Chriss on behalf of Walmart, Inc. ("Walmart"), as those testimonies relate to the just and reasonable return on equity ("ROE") and the appropriate capital structure for RMP in Utah.

Q. Have you prepared any rebuttal exhibits?

A. Yes, I am sponsoring Exhibit RMP___(AEB-1R) through Exhibit RMP___(AEB-11R), which have been prepared by me or under my direction.

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

A. The remainder of my rebuttal testimony is organized as follows:

- In Section II, I provide a summary and overview of my rebuttal testimony and the important factors to be considered in establishing the ROE for RMP.
- In Section III, I provide an overview of the other ROE witnesses' recommendations in this proceeding and a comparison to the comparable returns for integrated electric utilities nationwide.
- In Section IV, I update the ROE analysis from my direct testimony using market data as of July 31, 2020.
- In Section V, I discuss capital market conditions and the implications for the models used to estimate the cost of equity for RMP.
- In Section VI, I respond to Division witness Mr. Coleman's testimony regarding the ROE and capital structure for RMP.
- In Section VII, I respond to OCS witness Dr. Woolridge's return on equity and capital structure recommendations.
- In Section VIII, I respond to Walmart witness Mr. Chriss' recommendation.
- Finally, in Section IX, I summarize my conclusions and recommendations.

II. SUMMARY AND OVERVIEW

Q. What are your key conclusions and recommendations regarding the appropriate ROE and capital structure for RMP?

A. My key conclusions and recommendations are as follows:

1) Capital market conditions have changed dramatically in 2020. Government bond yields have decreased substantially since February 2020 due to actions of the Federal Reserve and the U.S. Congress to provide unprecedented support for the U.S. economy during the COVID-19 pandemic. However,

these lower yields on U.S. Treasury bonds are not the sole determining factor in setting the authorized ROE for RMP in this proceeding. Other market indicators suggest that the cost of equity has risen. These include: heightened volatility in equity and bond markets, and significantly higher beta coefficients (the measure of risk in the CAPM) from both Bloomberg and Value Line.

2) The Capital Asset Pricing Model (CAPM) and Empirical CAPM (ECAPM) are producing higher return estimates based on market data as of July 31, 2020, than at the time the analysis in my direct testimony was conducted (based on market data as of March 31, 2020), while the Discounted Cash Flow (DCF) model results have increased at the mean high end and remained steady at the mean and mean low as compared to March 2020. These higher CAPM results are consistent with other market indicators suggesting that the cost of equity has increased in recent months as the COVID-19 pandemic has flowed through the market data.

3) An authorized ROE of 9.25 percent (as recommended by Division witness Coleman) or 9.00 percent (as recommended by OCS witness Woolridge) would place the return for RMP in the bottom quartile of authorized returns for vertically-integrated electric utility companies in the U.S. This is not reasonable, especially given the evidence regarding RMP's business and financial risks in Utah. RMP has above average risk relative to the proxy group companies, as discussed in my direct testimony, and investors should be compensated for that risk through a higher than average return.

4) While Mr. Coleman and Dr. Woolridge recognize that market conditions have affected the assumptions used in the ROE estimation models, they have not accurately reflected how these conditions have affected the DCF and CAPM methods. By relying too heavily on the DCF model results, and by failing to use forward-looking assumptions in the CAPM, the other witnesses fail to account for current market conditions and understate the forward-looking cost of equity.

5) Specifically, while Dr. Woolridge acknowledges the "weeks of chaos" that resulted from the pandemic and recognizes that utility stocks have not performed as safe haven investments, as has traditionally been the case in volatile economic times, his recommended ROE remains essentially unchanged from pre-pandemic levels for companies of similar risk.

6) Mr. Coleman's and Dr. Woolridge's CAPM analyses should also be considered with caution due to: (a) Mr. Coleman's use of a mean Beta coefficient for his proxy group companies, which triple counts the methodology used by Yahoo! Finance, Zacks Investment Research and Ned Davis Research to calculate Beta, and therefore results in substantially lower Beta coefficients than the current Beta coefficients for electric utility companies from Value Line; (b) Mr. Coleman's reliance on Value Line Betas from prior to the COVID-19 pandemic since utility Betas have increased substantially due to the economic effects of COVID-19; and (c) Mr. Coleman's and Dr. Woolridge's reliance on unreasonably low market risk premiums, which do not reflect the inverse relationship between

interest rates and the market risk premium. These assumptions bias the results of Mr. Coleman's and Dr. Woolridge's CAPM results downwards, thereby producing results which are well below the authorized ROE for any U.S. electric utility in the past 40 years.[1]

7) Utility commissions across the nation are looking beyond the results of the traditional ROE estimation models to establish returns that are reasonable under current market conditions.

    a) Even though the ROE estimation models are producing return estimates between 5.06 percent and 7.60 percent, utility regulators recognize that such low returns are not compensatory for investors. The first and third quartiles of authorized ROEs for integrated electric utility companies since 2018 have been within a range from 9.48 percent to 9.99 percent, which suggests that regulators are relying on more than just the results of the traditional models. As shown in Figure 2 of my rebuttal testimony, the majority of authorized ROEs for integrated electric utilities since 2018 have been within the range of results established in my direct testimony.

8) The investor required return is not established with respect to any individual model. Rather than endorsing the results of a specific methodology, the Commission should consider how current market conditions affect the risks for equity investors as well as the results of a broader range of ROE estimation methodologies. Finally, the Commission's adherence to the

[1] Source: Regulatory Research Associates.

Hope and *Bluefield* decisions suggests that the methodology is not what is to be determined, but rather a "just and reasonable" return that is comparable to the return available on investments of similar risk.

9) The other ROE witnesses' recommendations fail to consider the overall risk related to the Tax Cuts and Jobs Act ("TCJA") for utilities in general and how their recommended ROE and capital structure could affect the financial risk of RMP. In regard to the TCJA, it is important that the Commission consider that:

   i. Moody's Investors Service (Moody's) has continued to downgrade utilities throughout 2019 and 2020 related to the negative cash flow implications of tax reform.

   ii. The other ROE witnesses' recommended ROEs ignore this risk and the potential remedies that have been offered by the rating agencies to mitigate that risk, such as approving higher authorized returns and equity ratios to improve cash flow metrics.

Q. Have you updated your ROE analyses in rebuttal?

A. Yes. As discussed in Section IV of my rebuttal testimony, I have updated my analytical results based on market data as of July 31, 2020. The updated DCF results are similar to those in my direct testimony, while the updated CAPM results have increased. Although my updated ROE analysis continues to support an authorized ROE of 10.20 percent for PacifiCorp in Utah, the Company has decided to lower its requested ROE by 40 basis points to 9.80 percent. In addition, while the analytical results of ROE estimation models provide a starting point, my recommendation continues to

appropriately consider the results of multiple methodologies as well as other factors, including company-specific risks, capital market conditions and the capital attraction and comparable return standards. Further, I support RMP's proposed capital structure consisting of 53.67 percent common equity, 46.32 percent long-term debt, and 0.01 percent preferred equity as reasonable relative to the operating utility companies held by the proxy group.

III. COMPARABLE RETURN STANDARD

Q. Please summarize the ROE recommendations of the other ROE witnesses in this proceeding.

A. Figure 1 summarizes the results of the ROE analyses presented by the other witnesses in this proceeding and their final recommendations. Division witness Mr. Coleman recommends an authorized ROE of 9.25 percent for RMP based primarily on the principle of gradualism, while also considering the results of his DCF model, CAPM analysis, Risk Premium analysis and authorized ROEs for electric utilities nationwide,[2] while OCS witness Dr. Woolridge's primary ROE recommendation of 9.00 percent is based in large part on the results of his DCF analysis while also considering the results of his CAPM analysis and authorized returns for electric utilities across the country.[3] Walmart witness Mr. Chriss does not perform his own ROE analysis and does not provide a specific recommendation. However, Mr. Chriss does conclude that the authorized ROE for RMP should be no greater than 9.80 percent (i.e., RMP's current

[2] Direct Testimony of Casey J. Coleman, at 67.
[3] Dr. Woolridge also provides an alternative ROE recommendation of 8.75 percent if the Commission adopts RMP's proposed capital structure.

authorized ROE), which he notes "is generally consistent with recent Commission decisions and national trends."[4]

Figure 1: Summary of Other ROE Witnesses' Model Results[5]

	Mr. Coleman (DPU)	Dr. Woolridge (OCS)
Constant Growth DCF	8.91% - 9.17%	8.70% – 8.95%
CAPM	5.06% - 5.90%	7.60%
Risk Premium	9.06%	N/A
Recommendation	9.25%	9.00%

Q. Do the other witnesses in this proceeding discuss the current market conditions?

A. Yes. OCS witness Dr. Woolridge disputes my conclusion regarding the effect of market conditions on the ROE estimation models, asserting that the DCF model is producing reliable estimates of the current market cost of equity for utility companies.[6] Similarly, while Mr. Coleman does not specifically discuss current market conditions, he concludes that current market conditions support a cost of equity for RMP in the range of 7.24 percent to 9.17 percent which is based on the results of his DCF, CAPM and Risk Premium analyses.[7] Mr. Coleman has not considered how current market conditions are affecting the models. Despite their views, Dr. Woolridge and Mr. Coleman both rely on a normalized risk-free rate in his CAPM analysis to compensate for the current low interest rate environment. In addition, Dr. Woolridge and Mr. Coleman ultimately recognize that models can produce results that are too low as both witnesses do not rely on the results of their CAPM analysis, essentially acknowledging that these results do not meet the fair return standards of *Hope* and *Bluefield*. Therefore,

[4] Direct Testimony of Steve W. Chriss, at 9-10.
[5] Wal-Mart witness Chriss did not perform his own ROE analysis and did not provide specific ROE recommendations. Therefore, Mr. Chriss is not included in this summary table.
[6] Direct Testimony of Dr. J. Randall Woolridge, at 76.
[7] Direct Testimony of Casey J. Coleman, at 67.

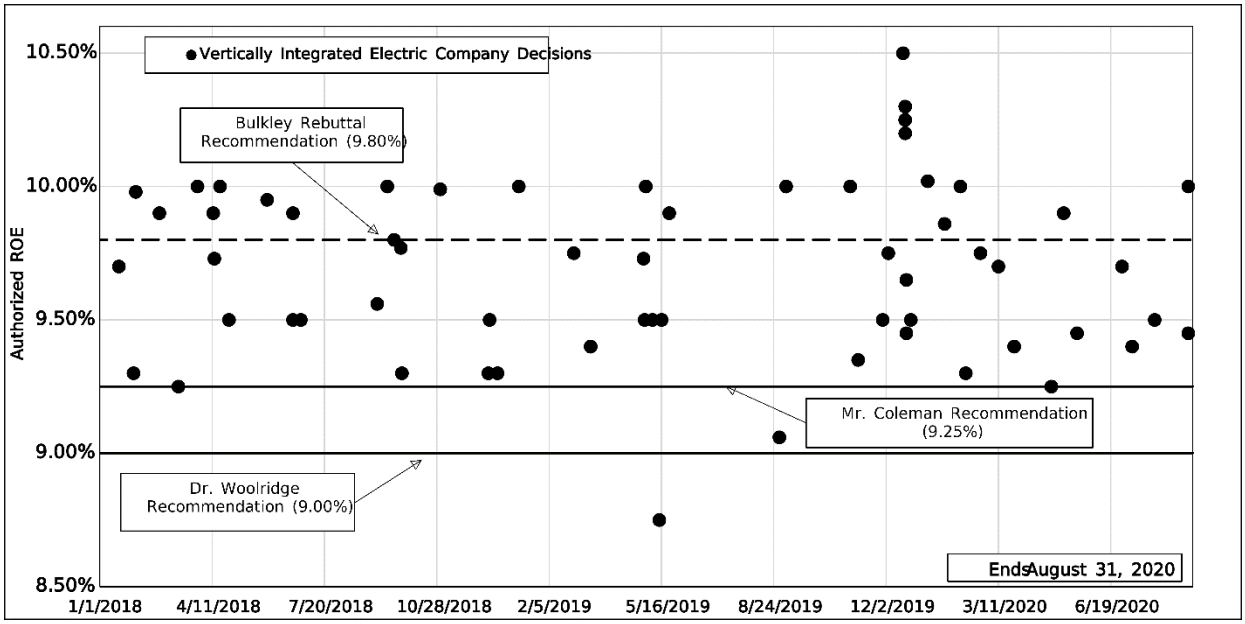
while Dr. Woolridge and Mr. Coleman suggest that market conditions have not affected the model results, in the development of their analyses and their review of the results of his models, both recognize that there are model results that are so low that they cannot be relied upon.

Q. Are authorized returns in other jurisdictions a relevant benchmark that investors consider?

A. Yes. The regulatory decisions of other Commissions provide a basic test of reasonableness and a benchmark that investors consider in assessing the authorized ROE against the returns available from other regulated utilities with comparable risk. Division witness Coleman, OCS witness Woolridge and Walmart witness Chriss all present evidence regarding authorized returns for electric utilities in other jurisdictions, suggesting that these returns are relevant for purposes of establishing the authorized ROE for RMP in this proceeding.

Figure 2 shows the distribution of authorized returns for integrated electric utilities from January 2018 through August 2020. The range of authorized ROEs has been from 8.75 percent to 10.50 percent over this period, with an average authorized ROE of 9.69 percent and a median of 9.73 percent.

Figure 2: Authorized ROEs 2018-Present[8]



As shown in Figure 2, the large majority of authorized returns for integrated electric utilities (47 out of 63 decisions) from 2018 through August 2020 have been between 9.50 percent and 10.50 percent. The other ROE witnesses in this proceeding have recommended a range of 9.00 percent to 9.25 percent, which is well below the majority of authorized ROEs over this period. The Company's requested ROE of 9.80 percent is generally consistent with the range established by recently authorized ROEs for integrated electric utilities nationwide.

Q. Mr. Coleman and Dr. Woolridge both claim that their ROE recommendation recognizes the concept of "gradualism."[9] Please comment.

A. While Mr. Coleman and Dr. Woolridge both indicate their ROE recommendations reflect gradualism, their recommendations are 55 and 80 basis points, respectively, below RMP's currently authorized ROE 9.80 percent. Furthermore, credit rating

[8] Source: Regulatory Research Associates.
[9] Direct Testimony of Casey J. Coleman, at 52-54, and Direct testimony of Dr. J. Randall Woolridge, at 4.

agencies take the authorized ROE into consideration when assessing the overall credit risk of a company. As discussed in my direct testimony, Moody's recently downgraded the credit rating of ALLETE, Inc. based on their recent rate case decision, which included a below average authorized ROE of 9.25 percent, while FitchRatings recently downgraded CenterPoint Energy Houston Electric's Long-Term Issuer Default rating following the approval of an unfavorable rate case outcome in Texas.[10] Moreover, as will be discussed in more detail below, RRA recently downgraded the regulatory ranking of Utah based in part on the recent rate case decision for DEU, which RRA noted included a below average authorized ROE of 9.50 percent. Mr. Coleman's recommendation is equivalent to the authorized ROE for ALLETE, Inc. and below the recently authorized ROE for DEU, while Dr. Woolridge's recommendation of 9.00 percent is below both the recently authorized ROE for ALLETE, Inc. and DEU. Therefore, the recommendations of Dr. Woolridge and Mr. Coleman clearly do not reflect the principal of gradualism and would likely be view negatively by the credit rating agencies.

Q. What factors should be considered in evaluating the results of ROE models and establishing the authorized ROE?

A. The primary factors that should be considered are: (i) the importance of investors' actual return requirements and the critical role of judgment in selecting the appropriate ROE; (ii) the importance of providing a return that is comparable to returns on alternative investments with commensurate risk; (iii) the need for a return that supports

[10] Direct Testimony of Ann. E. Bulkley, at 70-71.

a utility's ability to attract needed capital at reasonable terms; and (iv) the effect of current and expected capital market conditions.

Q. What factors support RMP's requested ROE in this case?

A. Based on my updated analyses, I conclude that the Company's requested ROE of 9.80 percent is reasonable, if not conservative, given the updated range of results. A return at this level is:

1. Supported by the analyses contained in my direct testimony and updated in my rebuttal testimony;
2. Consistent with current and prospective financial market conditions;
3. Supported by the methodologies considered by the Commission as well as other regulatory jurisdictions;
4. Consistent with the range of ROE awards for integrated electric utilities in other state jurisdictions;
5. Considers the unique business and operating risks of RMP in Utah; and
6. Will support RMP's ability to attract capital to finance investments at reasonable rates, which will provide long-term benefits to ratepayers by limiting the long-term cost of capital.

IV. UPDATED ROE ANALYSES

Q. Have you updated your ROE analyses?

A. Yes. As shown in Exhibits RMP___(AEB-1R) through RMP___(AEB-5R), I have updated my ROE analyses using market data as of July 31, 2020. All of the methodologies in my updated analysis have been developed in a manner that is consistent with the approach taken in my direct testimony. I have continued to exclude

results below 7.0 percent because such returns do not provide a sufficient risk premium above the long-term debt cost to compensate equity investors for the risks associated with ownership. Figure 3 summarizes the results of my updated analyses.

As shown in Figure 3, and Exhibit RMP___(AEB-2R), the Constant Growth DCF model results range from 8.54 percent to 9.89 percent.[11] Dividend yields remain below historical average levels for the proxy group, suggesting that the results of the DCF model may still understate the investor-required return on equity. The CAPM results shown in RMP___(AEB-3R) range from 11.69 percent to 12.42 percent and the Empirical CAPM (ECAPM) results are 12.26 percent to 12.80 percent.[12] Increases in the CAPM and ECAPM model results are primarily due to significantly higher Beta coefficients reported by both Bloomberg and Value Line, as the correlation between utility returns and returns for the broader market has increased substantially. The higher Betas more than offset the decline in government bond yields. Exhibit RMP___(AEB-4R) demonstrates that the results from the Risk Premium analysis range from 9.26 percent to 9.96 percent, depending on the Treasury bond yield. Finally, the mean and

[11] Based on mean results of the 30-day average stock price scenario.
[12] Based on near-term projected Treasury bond yields, using average results for both Value Line and Bloomberg betas.

median results of the Expected Earnings approach are 10.70 percent and 10.73 percent respectively, as shown in Exhibit RMP___(AEB-5R).

Figure 3: Updated Analytical Results[13]

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.54%	9.00%	9.89%
90-Day Average	8.54%	8.98%	9.86%
180-Day Average	8.43%	8.76%	9.54%
Capital Asset Pricing Model			
	Current Risk-Free Rate (1.34%)	Q4 2020 – Q4 2021 Projected Risk-Free Rate (1.70%)	2022-2026 Projected Risk-Free Rate (3.00%)
Value Line Beta	12.37%	12.42%	12.58%
Bloomberg Beta	11.63%	11.69%	11.93%
Empirical Capital Asset Pricing Model			
Value Line Beta	12.76%	12.80%	12.92%
Bloomberg Beta	12.21%	12.26%	12.44%
Treasury Yield Plus Risk Premium			
	Current Risk-Free Rate (1.34%)	Q4 2020 – Q4 2021 Projected Risk-Free Rate (1.70%)	2022-2026 Projected Risk-Free Rate (3.00%)
Risk Premium Analysis	9.26%	9.41%	9.96%
Expected Earnings Analysis			
	Mean		Median
Expected Earnings Result	10.70%		10.73%

[13] The analytical results included in the table reflect the results of the Constant Growth analysis excluding the results for individual companies that did not meet the minimum threshold of 7 percent.

V. CAPITAL MARKET CONDITIONS AND THE IMPLICATIONS FOR THE COST OF EQUITY

Q. Mr. Coleman suggests that the low interest rate environment supports a reduction in the authorized ROE for RMP.[14] Do you agree?

A. No, I do not agree. Government bond yields are only one of many factors that equity investors consider in determining their return requirements. It is important to view current Treasury bond yields in the context of conditions in the economy and capital markets. It would not be reasonable for the Commission to consider only the decline in 30-year Treasury bond yields, without also considering the recent market conditions that have contributed to that decline. Further, there are reasons to believe that the recent declines in Treasury bond yields are not representative of the longer-term trend in government and corporate bond yields. Rather, those lower interest rates are directly attributable to the COVID-19 pandemic. The economic effects of the measures used to contain COVID-19 have caused the Federal Reserve to reduce the federal funds rates and take additional measures to support the U.S. economy and provide liquidity and stability in financial markets. These are short-term events that have little to do with the longer-term trend in bond yields or equity costs.

Q. What is your response to Mr. Coleman's assertion that for RMP's authorized ROE to increase from the last case either market conditions would have had to change significantly or RMP's risks would have needed to increase?[15]

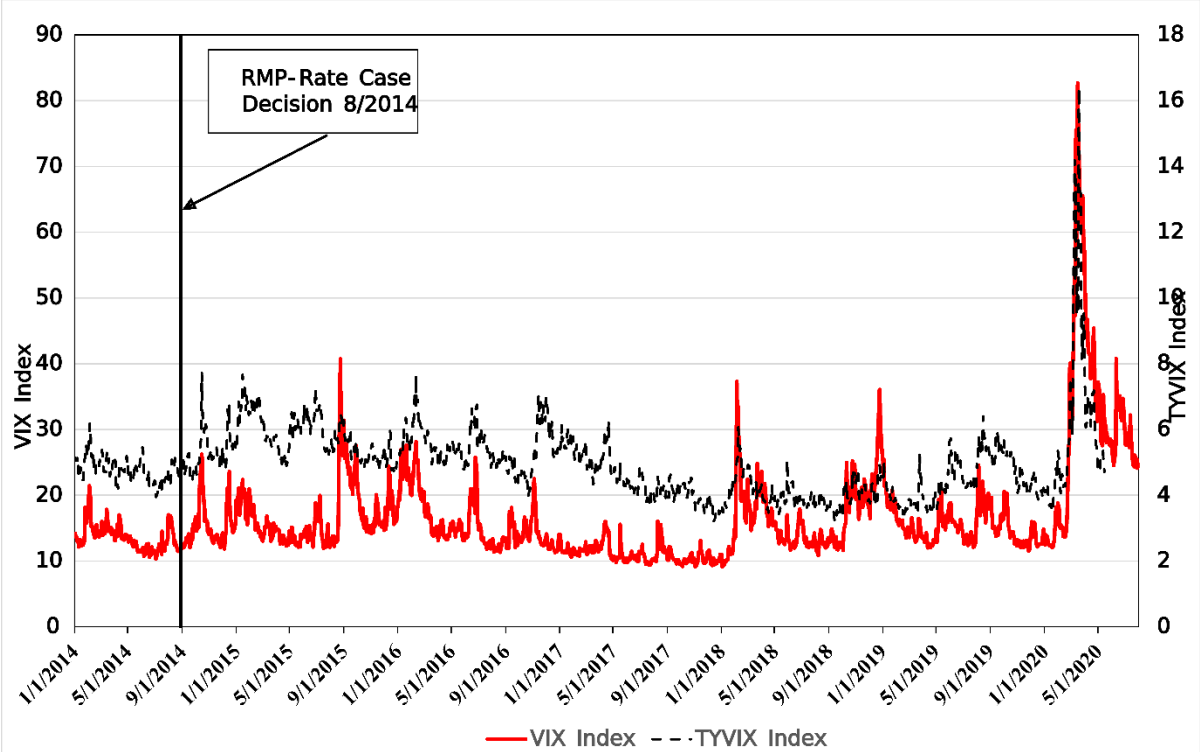
A. While the Company has decided to lower its ROE request to 9.80 percent, which is equivalent to the ROE authorized in the Company's last rate case, it is still important

[14] See, for example, Direct Testimony of Casey J. Coleman, at 8 and 64.
[15] Direct Testimony of Casey J. Coleman, at 11.

to consider the recent developments in capital markets and how current market conditions compare to those that existed when RMP's current ROE was authorized in 2014. As discussed in my direct testimony, capital market conditions have been extremely volatile in 2020.[16] This is due to the economic effects of the COVID-19 pandemic, as the measures used to contain the COVID-19 pandemic have forced the U.S. economy into a recession. As a result, volatility has increased to levels not seen since the Great Recession of 2008/09. For example, I have updated Figure 3 from my Direct Testimony, which contained two separate measures of volatility, the Chicago Board Options Exchange ("CBOE") Volatility Index ("VIX") and the U.S. Treasury Note Volatility Index ("TYVIX"). As shown in Figure 4, the VIX has remained well above its long-term average in the months following the filing of my direct testimony in May. Furthermore, the VIX as of July 31, 2020 is much greater than it was at the time of the Commission's decision in RMP's last rate case. In addition, as of the beginning of September 2020, the VIX once again increased above 30.00 providing further support for the fact that financial markets continue to face increased uncertainty. While Mr. Coleman has failed to consider market volatility, Dr. Woolridge has acknowledged the "weeks of chaos" and further recognized that "day-to-day volatility in financial markets has been at extremes," with the VIX increasing to levels not seen since the Great Recession of 2008/09.[17]

[16] Direct Testimony of Ann E. Bulkley, at 14-20.
[17] Direct Testimony of Dr. J. Randall Woolridge, at 13.

Figure 4: CBOE VIX and TYVIX – January 2003 – July 2020[18]



Q. Has market volatility declined since the filing of your direct testimony?

A. Yes, however, as shown in Figure 4, while the VIX has declined since the filing of my direct testimony, this measure of volatility remains above levels in January and the first half of February prior to COVID-19 and well above the historical median of 16.12 since 2003. It is important to view the declines in the VIX in the context of the unprecedented response by the Federal Reserve and Congress. As discussed in more detail below, the Federal Reserve's corporate bond buying programs are providing liquidity to bond markets and therefore reducing some of the uncertainty that was driving the volatility seen in March. However, there is still much uncertainty regarding the near-term effect

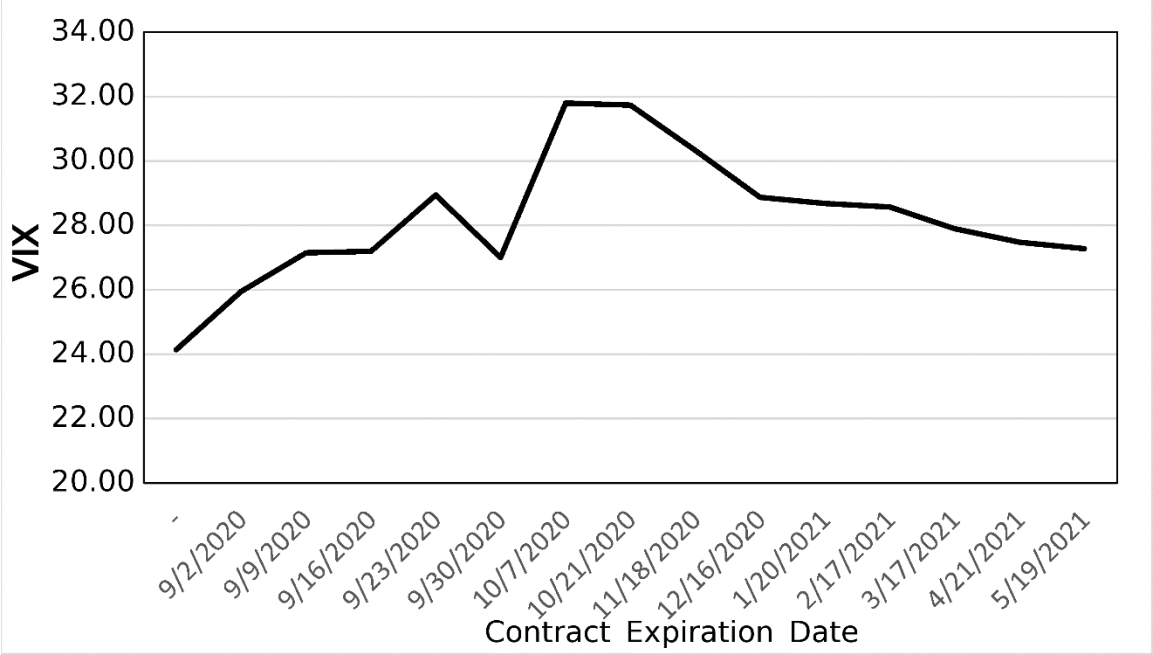
[18] Source: Bloomberg Professional.

of COVID-19 on the economy and the financial markets, which is why the VIX is still above its long-term historical level.

Q. What are investors' expectations regarding the VIX over the near-term?

A. To determine the expectations of investors for the VIX, I reviewed the VIX futures published by the CBOE. The VIX futures reflect investors' views regarding the value of the VIX for different expiration dates in the future. As shown in Figure 5, investors expect the VIX to remain at levels that exceed 25.00 at least through May of 2021. Therefore, investors expect increased volatility and uncertainty to continue to persist over the near-term as the economy recovers from the economic effects of the COVID-19 pandemic.

Figure 5: CBOE VIX Futures as of August 28, 2020



Q. What steps have the Federal Reserve and the U.S. Congress taken to stabilize financial markets and support the economy?

A. As discussed in my direct testimony, the Federal Reserve, in response to the economic effects of COVID-19, decreased the Federal Funds rate twice in March 2020, resulting in a target range of 0.00 percent to 0.25 percent and also announced plans to increase its holdings of both Treasury and mortgaged-back securities.[19] In addition to the policies discussed in my direct testimony, on March 23, 2020, the Federal Reserve began expansive programs to support credit to large employers; the Primary Market Corporate Credit Facility (PMCCF) to provide liquidity for new issuances of corporate bonds, and the Secondary Market Corporate Credit Facility (SMCCF) to provide liquidity for outstanding corporate debt issuances. Further, the Federal Reserve supported the flow of credit to consumers and businesses through the Term Asset-Backed Securities Loan Facility (TALF).[20]

In addition to the Federal Reserve's response, the U.S. Congress has also passed fiscal stimulus programs that both Mr. Coleman and Dr. Woolridge fail to mention in their testimony. On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security (CARES) Act was signed into law, which is a large fiscal stimulus package aimed at also mitigating the economic effects of the coronavirus. While these expansive monetary and fiscal programs have provided for greater price stability, as shown in Figure 4 and Figure 5 above, the VIX remains well above long-term historical levels and is expected to remain above long-term historical levels over the near-term.

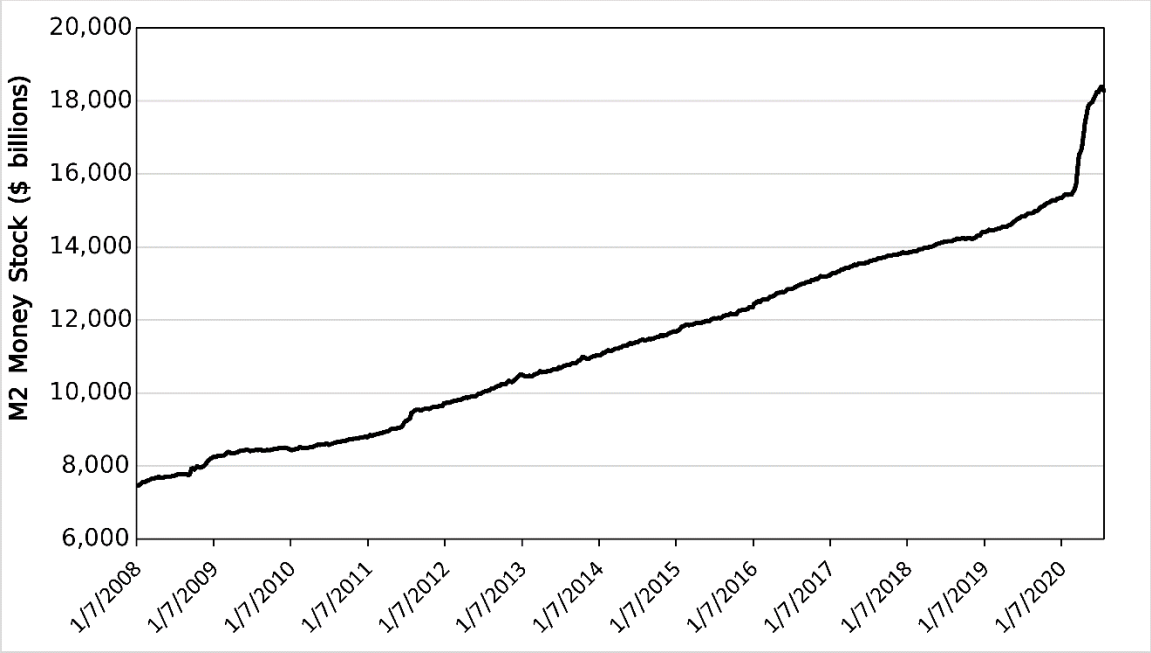
[19] Direct Testimony of Ann E. Bulkley, at 20-21.
[20] Federal Reserve Board Press Release, "Federal Reserve announces extensive new measures to support the economy", March 23, 2020.

Q. How do the Federal Reserve's recently announced programs affect the economy and financial markets?

A. These programs allow the Federal Reserve to purchase government bonds and corporate bonds from banks. The banks then receive cash from the Federal Reserve, which results in an expansion of the money supply. This increase in the money supply keeps interest rates low and increases the ability of banks to lend to consumers and businesses. Continued access to capital is particularly important in current market conditions because it allows companies to offset the negative effect of COVID-19 on business operations. As shown in Figure 6 below, the programs enacted by the Federal Reserve have resulted in an unprecedented expansion of the money supply as measured by M2[21] in recent months, and that expansion has been much greater than the increase seen following the Federal Reserve's response to the Great Recession of 2008/2009. This response from the Federal Reserve again demonstrates the level of intervention that has been necessary to attempt to stabilize the markets over this period, suggesting greater market risk at this time than in 2014 when RMP's currently-authorized ROE was approved, counter to Mr. Coleman's conclusion.

[21] M2 is defined by the Federal Reserve as follows: M2 includes a broader set of financial assets held principally by households. M2 consists of M1 plus: (1) savings deposits (which include money market deposit accounts, or MMDAs); (2) small-denomination time deposits (time deposits in amounts of less than $100,000); and (3) balances in retail money market mutual funds (MMMFs).

Figure 6: M2 Money Stock – January 2008 – July 2020[22]



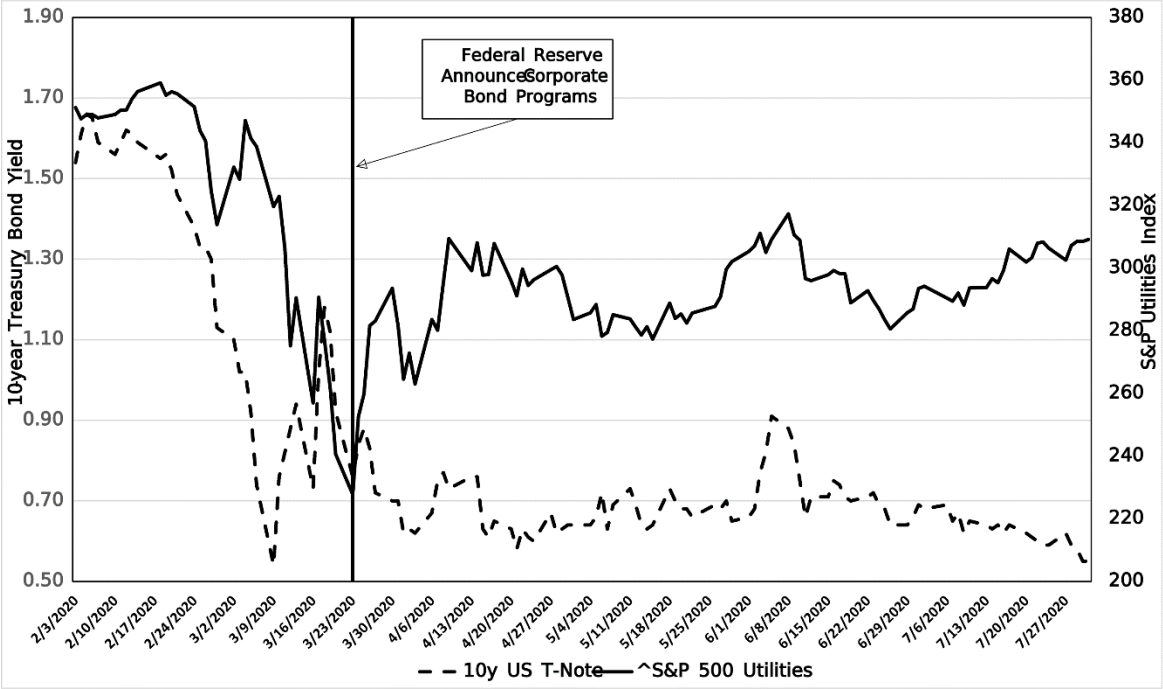
Q. Have Mr. Coleman and Dr. Woolridge considered how the market has responded to the unprecedented intervention by the Federal Reserve?

A. No. As discussed above, the Federal Reserve's expansive programs greatly increased the money supply, which resulted in lower borrowing costs for corporate firms and thus continued access to the capital needed to offset the economic effects of COVID-19. As a result, interest rates have remained low, and stability has been restored in the corporate bond market. For investors, this led to allocating more funds to equities. As shown in Figure 7, while the yield on the 10-year Treasury Bond has remained relatively stable in the range of 0.58 percent to 0.91 percent between March 23, 2020 and July 31, 2020, the S&P Utilities Index increased dramatically in the days immediately following the Federal Reserve's announcement on March 23, 2020.

[22] Board of Governors of the Federal Reserve System (US), M2 Money Stock [M2], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/M2, August 10, 2020.

Therefore, the policies of the Federal Reserve, while resulting in stability in the bond markets, have resulted in inflated equity prices, as investors search for returns given the current low interest rate environment. Thus, I do not agree with Mr. Coleman and Dr. Woolridge that current share prices represent a reasonable indicator of the share prices that will exist over the near-term.

Figure 7: 10-year U.S. Treasury Yield and S&P Utilities Index



Q. Have rating agencies commented on the recent decline in bond yields and the anticipated effect on the authorized ROEs for utilities?

A. Yes. In April 2020, Moody's noted that it expects regulators to be hesitant to reduce authorized ROEs in response to the COVID-19 pandemic-related decline in the yield on 30-year Treasury Bonds. Specifically, Moody's commented:

> As a result of the economic fallout from the coronavirus outbreak, the rate on the 30-year T-bill has declined significantly, as shown in Exhibit 2. Assuming utilities continue to earn the average 670 bps spread over the 30-year T-bill, this would suggest that there will be a great deal of pressure on authorized returns. **However,**

> **we think regulators will be hesitant to significantly reduce allowed returns given the uncertain market environment and the likely delays in adjudicating rate cases because of social distancing mandates and other issues associated with the coronavirus** (see "Regulated Electric, Gas and Water Utilities – US: Coronavirus outbreak delays rate cases, but regulatory support remains intact"). This may lead to the widest spread between the authorized ROE and the 30-year T-bill in at least the past two decades. Utilities with a formula driven approach to setting ROEs may be hurt far more quickly as their ROE's are adjusted automatically. We expect some of these utilities to appeal to regulators to either suspend or alter this formula based approach, at least temporarily.
>
> In contrast to the gradual, long-term decline in the 30-year T-bill illustrated in Exhibit 1, the year-to-date decline in the yield has been more abrupt, influenced by the plunge in economic activity at the end of the first quarter. We expect US GDP to undergo a sharp 4.5% contraction in the first half of the year, before finishing full-year 2020 down 2.0% and recovering in 2021 with 2.3% growth (see "Global Macro Outlook 2020-21 [March 25, 2020 Update]: The coronavirus will cause unprecedented shock to the global economy"). Given the continued uncertainty over efforts to contain the coronavirus outbreak, there is significant downside risk to our macroeconomic forecast. But if there were to be a material snapback in growth, we would expect interest rates to follow suit.[23]

Q. Are the views outlined by Moody's consistent with Mr. Coleman's cite to the recent settlement filed in the rate case for PacifiCorp in Washington?

A. Yes. As noted by Mr. Coleman, the parties in the case agreed to an ROE of 9.50 percent, which is equivalent to the ROE that was authorized by the Washington Utilities and Transportation Commission ("WUTC") in September 2016 in PacifiCorp's last rate case.[24] Therefore, despite the arguments put forth by both Mr. Coleman and Dr. Woolridge that capital costs are declining, the parties in the rate case for PacifiCorp in

[23] Moody's Investors Service, "Regulated Electric and Gas Utilities – US: Continued decline in ROEs to heighten pressure on financial metrics," April 17, 2020, at 3 (emphasis added).
[24] Direct Testimony of Casey J. Coleman, at 11.

Washington did not reduce the authorized ROE. Rather, consistent with the report from Moody's discussed above, as part of an overall settlement that covered many issues, the parties agreed to maintain the authorized ROE awarded in PacifiCorp's last rate case in Washington. While it is common to try to compare one particular element of a rate case outcome to a current case, such a comparison is not often reasonable when reviewing specific elements of a settlement. This is because settlements represent compromise between all of the parties on all issues. Therefore, it is difficult to conclude that any one element of the settlement was acceptable to all or any individual party. Rather, it is more likely that taken together the entirety of the terms resulted in an outcome that could be agreed to by all. However, while this was a settlement, the effect was to hold the ROE consistent with the previously authorized ROE. In the current case, the Company has decided to reduce the proposed ROE to 9.80 percent, which is equivalent to the ROE approved in the last rate case for RMP. In contrast, Mr. Coleman's proposal would reduce the Company's ROE in this jurisdiction by 55 basis points. Moreover, given the uncertain market environment noted by Moody's above, it is very likely that Moody's and other credit rating agencies would view the recommended ROEs of Mr. Coleman and Dr. Woolridge as credit negative.

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

A. The Commission has found it important to consider how market conditions have changed since a company's last rate case in the determination of the ROE range.[25] The risks in the current market environment were not present in the data in RMP's last rate

[25] Report and Order, Docket No. 19-057-02, Dominion Energy Utah, February 25, 2020, at 6.

case. Given the uncertainty and volatility that has characterized capital markets in 2020, it is reasonable that equity investors would now require a higher return on equity to compensate them for the additional risk associated with owning common stock under these market conditions. Therefore, relying on current market data would likely suggest that the cost of equity has increased since the Commission approved the settlement in RMP's last rate proceeding. As a result, the Company's updated recommendation of 9.80 percent, which is equivalent to the authorized ROE in RMP's last rate case, is likely a conservative estimate of the ROE in the current market environment. Furthermore, based on these data, Mr. Coleman's and Dr. Wooldridge recommendations to reduce RMP's ROE to reflect current market conditions, are unsupported.

Q. Dr. Woolridge comments on the high market-to-book ratios in the utilities sector.[26] What is your response?

A. As discussed in my direct testimony, I agree with Dr. Woolridge that the valuations of public utilities have increased well above historical average levels in recent years, as demonstrated by their elevated Price-to-Earnings (P/E) ratios.[27] Dr. Woolridge contends that these high valuations, which are reflected in his data on market-to-book ratios, are an indication that authorized returns for utilities are higher than what is required by investors. However, he fails to recognize how these high valuations affect the results of the DCF model.

The DCF model generally produces reasonable and reliable estimates of the cost of equity for companies in stable, mature industries, such as regulated utilities; however,

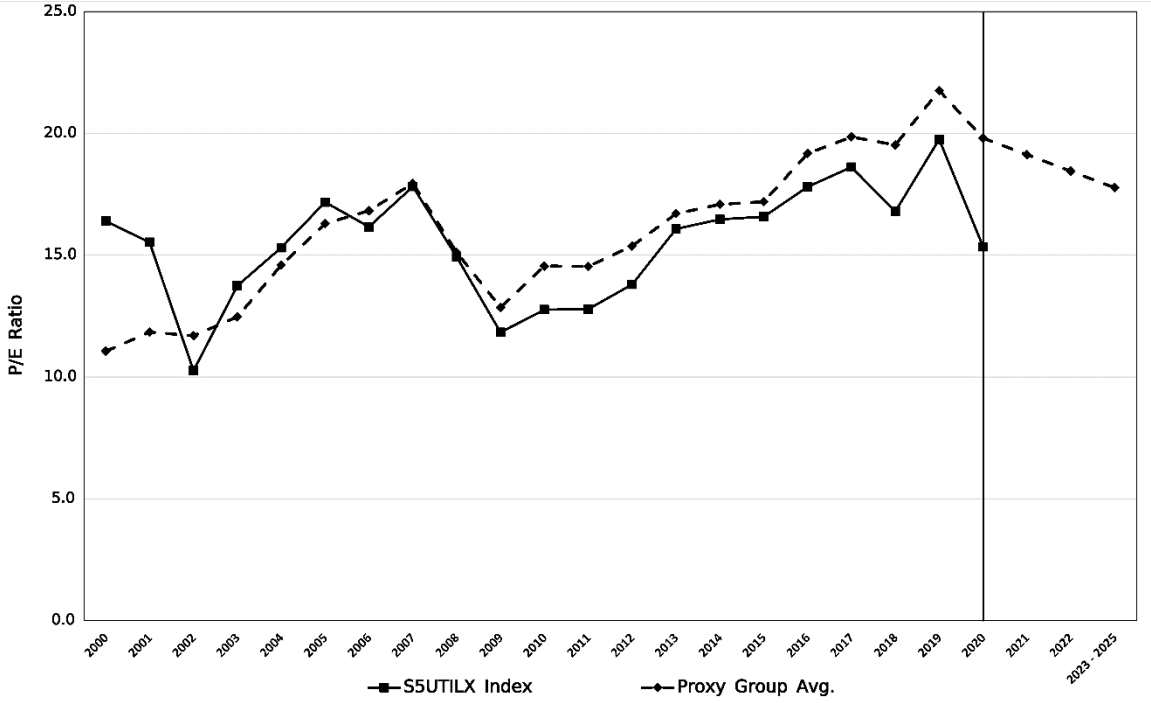
[26] Direct Testimony of Dr. J. Randall Woolridge, at 10-11 and Exhibit JRW-4.
[27] Direct Testimony of Ann E. Bulkley, at 25-26.

the results of the DCF model are being distorted by the high valuations and low dividend yields of utilities. Even though utility share prices have declined in recent weeks, the P/E ratios remain higher than historical average levels over the past decade, while dividend yields remain lower than historical average levels. Equity analysts have commented on the unusually high valuations of utility shares compared to historical levels.

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

A. As discussed in my direct testimony, the valuations of public utilities are well above historical average levels, as demonstrated by their elevated Price-to-Earnings ("P/E") ratios. I updated Figure 8 in my direct testimony with more recent market data through July 31, 2020. As shown in Figure 8, while the share prices of utilities declined in 2020, as investors rotated from utilities to Treasury Bonds due to the economic effects of COVID-19, the P/E ratios for my proxy group companies in 2020 are still well above historical average levels over the past decade. However, according to Value Line, those valuations are projected to decline from the current average P/E ratio of 19.81 in 2020 to 17.77 in 2023-2025.

Figure 8: Average P/E Ratios for Proxy Group [28]



Q. What have equity analysts said about the valuations of utility stocks since you filed your direct testimony?

A. Several equity analysts have recognized that utility stock valuations remain very high relative to historical levels even after the decline in share prices that occurred as a result of the economic effects of COVID-19. For example, Barron's recently noted:

> Charles Fishman, a utility analyst at Morningstar, points out that "utility valuations in February were at record highs," and that "commercial and industrial electricity demand reductions and delay in investment due to the pandemic" have weighed on these stocks as well.
>
> In May, power demand in the U.S. was down 8% year over year, according to Morgan Stanley. That follows a 5% drop in April.
>
> But even after lackluster performance recently, utility shares still aren't cheap. The stocks in the Utilities Select Sector SPDR ETF trade at about 19 times their current fiscal year profit estimates,

[28] Source: Bloomberg Professional. Includes 2020 data through July 31, 2020.

> according to FactSet. That's above their five-year average of a little below 18 times.[29]

This implies that even after the economic effects of COVID-19 are considered, the ROE calculated using historical market data in the DCF model is still understating the forward-looking cost of equity.

Q. Do either Mr. Coleman or Dr. Woolridge recognize the significance of the current, high valuations in the utilities sector?

A. No, they do not. Mr. Coleman and Dr. Woolridge both place primary weight on the results of the DCF model, which is estimated using current stock prices. Their reliance on current share prices assumes that markets are efficient. But that is not always the case. In fact, in a recent interview with Barron's, Professor Aswath Damodaran noted the following regarding the efficient market assumption:

> I'm not an academic. I'm a pragmatist. I don't believe that markets are efficient, but I also don't believe that much of active investing, at least as practiced now, has a prayer at finding and exploiting these inefficiencies for profit. But I do think that markets always convey messages. And if you ignore those messages, or you think you're bigger than the market, the market's going to take you down several notches. So I think that is my overriding message—get away from static to dynamic, from backward-looking to forward-looking. And that scares people.[30]

Mr. Coleman and Dr. Woolridge both fail to take into consideration that the current, high valuations in the utilities sector result in dividend yields well below the historical average for electric utilities. Because the dividend yield is an input into DCF models,

[29] Strauss, Lawrence C. "Utility Stocks Aren't Acting Like The Havens They're Supposed Be. Here's Why." Utility Stocks Aren't Acting Like The Havens They're Supposed Be - Barron's, 12 June 2020, www.barrons.com/articles/utility-stocks-arent-acting-like-the-havens-theyre-supposed-be-51591979393.

[30] Root, Al. "Buying Tesla at $180 and Other Investing Nuggets From NYU Professor Aswath Damodaran." Barron's, 25 June 2020, www.barrons.com/articles/how-to-value-stocks-according-to-nyu-professor-aswath-damodaran-51593082800.

these current conditions affect the reliability of DCF models. Nonetheless, Mr. Coleman and Dr. Woolridge argue that their DCF models produce reliable results.

Q. Utilities traditionally have been a safe-haven for investors during periods of market volatility. Has this been true during the recent period of volatility?

A. No, it has not. Contrary to the testimony of Dr. Woolridge, who expresses concern with the recent increase in Value Line Beta coefficients for electric utilities, [31] these stocks have not been a safe-haven for investors during the COVID-19 pandemic. To this point, Charles Schwab recently rated the Utilities sector as "Underperform," noting that:

> The Utilities sector has tended to perform better when growth and trade concerns resurface, and to underperform when those concerns fade. That's partly because of the sector's traditional defensive nature—people need water, gas and electric services during all phases of the business cycle—and these are domestic goods and services, so it has very little international exposure.
>
> However, amid the drop in stocks in February and March, the historically low-equity-beta Utilities sector simply didn't play its traditional relative safe-haven role. The sharp drop in interest rates would normally be expected to provide relative support to this sector, which relies on high levels of debt and tends to pay relatively high dividends—often an attraction for investors when yields on fixed income investments are low. However, there were unique circumstances that outweighed these historical relationships.
>
> For one thing, because some investors had already been reaching for yield before the crisis began, the high-dividend-paying Utilities sector had been bid up to record-high valuation levels. Even underperformance year-to-date hasn't fully reversed those relatively high valuations, so we're not confident the sector will return to its defensive roots if markets sell off again.[32]

[31] Direct Testimony of Dr. J. Randall Woolridge, at 51-54.
[32] Charles Schwab, Utilities Sector Rating: Underperform, August 13, 2020.

Q. How has the utilities sector performed in 2020 relative to the S&P 500?

A. The utilities sector has been one of the worst performing market sectors in 2020, having declined by 14.44 percent from the mid-February peak as compared to a 3.70 percent decline for the S&P 500.[33] The only market sectors that have underperformed utilities in 2020 are industrials (down 15.94 percent), financials (down 23.42 percent) and energy (down 54.02 percent). The other six market sectors are either down slightly from their peak or are at or near record highs.

Dr. Woolridge also agrees that utility stocks lost their identity as safe-haven investments in March and April of 2020.[34] This change in the risk of utilities is partly because demand for electricity decreased as non-essential businesses in many parts of the country were forced to close for a period in March through May, and have re-open slowly in June and July. While electricity demand is typically inelastic, the load data demonstrates that utilities have been affected by COVID-19. In August 2020, the U.S. Energy Information Administration forecast that overall electricity sales would decrease by 3.6 percent in 2020 compared to 2019. Commercial sales are projected to decline by 7.4 percent this year due to COVID-19 mitigation efforts, electricity sales to the industrial sector are expected to fall by 5.8 percent, while residential electricity sales are projected to increase by 2.0 percent.[35] The underperformance of the utilities sector is an indication that it has become more difficult for utilities to attract capital in the current economic environment. While their dividend yields remain attractive to income-oriented investors, there is heightened risk that lower electricity demand will

[33] Data as of July 31, 2020.
[34] Direct Testimony of Dr. J. Randall Woolridge, at 15.
[35] U.S. Energy Information Administration: Short-Term Energy Outlook, August 11, 2020, at 4.

cause electric utilities without revenue decoupling mechanisms to be unable to earn their authorized return for several quarters until demand returns to pre-COVID-19 levels.

Q. What are your conclusions regarding the recent valuations of utilities and the effect on the cost of equity for RMP in this proceeding?

A. While the share prices of utilities have declined in response to the economic effects of the COVID-19 pandemic, current utility valuations are still well above the long-term average. The current high valuations result in low dividend yields for utilities, which means that DCF models using recent historical data likely underestimate investors' required returns. Alternatively, my CAPM analysis includes estimated returns based on near-term and longer-term projected interest rates, considers Beta coefficients that reflect the fact that analysts expect utilities to trade similar to the market over the near-term, and relies on a forward-looking estimate of the market return. Therefore, it is important to consider the results of each of the models to reflect investors' expectations of market conditions over the period that the rates established in this proceeding will be in effect.

Q. Have either Mr. Coleman or Dr. Woolridge considered the effects of the TCJA when developing their recommended ROE?

A. No, they have not. Because Mr. Coleman and Dr. Woolridge did not consider the TCJA, it appears each witness believes that any effect of the TCJA is already taken into consideration in the share prices that are used in the DCF model. As discussed in my direct testimony, it is reasonable to expect that investors have reviewed the reports published by the credit rating agencies such as Moody's, Standard and Poor's ("S&P")

and FitchRatings ("Fitch") and are therefore considering the effects of the TCJA.[36] However, utilities are still working with regulators to determine appropriate solutions to mitigate the effect of the TCJA on cash flows. In fact, in addition to the Commission, two other commissions, the Wyoming Public Service Commission (Wyoming PSC)[37] and the Oregon Public Utility Commission (Oregon PUC)[38] where RMP operates have recently acknowledged the negative effect of the TCJA on the cash flow of utilities. Moreover, as shown in figure 10 of my direct testimony, Moody's has continued to downgrade utilities in 2020 as a result of tax reform, which suggests that Moody's is continuing to evaluate the effect of the TCJA on the cash flows of individual utilities.

Q. What are your conclusions regarding the effect of the TCJA on RMP's capital structure and ROE?

A. The issue with respect to the TCJA is not whether this policy has been internalized in the DCF model. Rather, the issue is how to consider this policy when determining the appropriate ROE for the Company from within the range of ROE results that are produced using all of the ROE estimation models. The TCJA has been identified by the credit rating agencies as credit negative due to the increase to the financial risk of the utilities sector. This is an important factor to consider in setting the appropriate ROE and equity ratio for RMP.

[36] Direct Testimony of Ann E. Bulkley, at 32-33.
[37] *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).
[38] Report and Order, Docket No. 19-057-02, Dominion Energy Utah, February 25, 2020, at 6.

VI. RESPONSE TO DIVISION WITNESS MR. COLEMAN

Q. Please summarize Division Witness Mr. Coleman's ROE and capital structure recommendations.

A. Mr. Coleman develops a recommended ROE range for RMP of 7.24 percent to 9.17 percent.[39] The low-end of the range was set equal to the average of his Constant Growth DCF, CAPM and Risk Premium results while the high-end of the range was set equal to the results of his Constant Growth DCF model using projected earnings and dividend growth rates from Value Line. Ultimately, Mr. Coleman recommends a 9.25 percent ROE for RMP. His recommendation is above the high-end of his range of reasonableness, which Mr. Coleman indicates is to account for "policy considerations, the Division's own evaluation of current market risks and RMP's individual risk profile."[40] Mr. Coleman accepts the Company's proposed capital structure, composed of 53.67 percent common equity and 46.32 percent long-term debt, as reasonable.[41]

Q. Do you agree with Mr. Coleman's ROE recommendation?

A. No, I do not. Mr. Coleman calculates the model results for the Constant Growth DCF, CAPM and Risk Premium; however, he does not ultimately rely on the results of these models when selecting the ROE for RMP. According to Mr. Coleman, his ROE estimation models support an ROE range of 7.24 percent to 9.17 percent, but Mr. Coleman recommends an ROE of 9.25 percent. Mr. Coleman suggests that his recommendation is based on the principle of gradualism.[42] Mr. Coleman contends that an adjustment to RMP's authorized ROE of 9.80 percent from the Company's last rate

[39] Direct Testimony of Casey J. Coleman, at 67.
[40] *Ibid.*
[41] *Id.*, at 22.
[42] *Id.*, at 53.

case to the mid-point of his range of 7.24 percent to 9.17 percent would be considered a significant adjustment.[43] Therefore, it appears Mr. Coleman applies the principle of gradualism and adjusts RMP's authorized ROE from the Company's last rate proceeding of 9.80 percent by 55 basis points to arrive at his recommendation of 9.25 percent.

Q. How did Mr. Coleman calculate his adjustment to the Company's last ROE to establish his recommendation of 9.25 percent?

A. It is not clear how Mr. Coleman developed the specific reduction of 55 basis points. Mr. Coleman cites to the Commission's decision in Docket No. 19-057-02 for Dominion Energy Utah ("DEU") where he asserts the Commission "implicitly" invoked the principle of gradualism and adjusted DEU's authorized ROE by 35 basis points from 9.85 percent in Docket No. 13-057-05 (February 2014) to 9.50 percent (February 2020).[44] However, Mr. Coleman's adjustment is 20 basis points greater than the adjustment applied by the Commission in DEU's rate case. Moreover, as I discuss above, market conditions have changed substantially since the Commission issued its order in February 2020 for DEU. The effects of COVID-19 have resulted in unprecedented uncertainty and volatility in financial markets that would imply an increase, not a decrease, in the authorized ROE for RMP.

Q. What are the principal areas of disagreement between you and Mr. Coleman?

A. The principal areas where I disagree with Mr. Coleman are as follows:

1. Mr. Coleman's misapplication of the Commission's weighting factor from Docket No. 02-057-02 for DEU (formerly Questar Gas Company) for

[43] *Id.*, at 53-54.
[44] *Id.*, at 52.

projected earnings and dividend growth rates in the Constant Growth DCF model;

2. the reasonableness of the results produced by the Constant Growth DCF model under current market conditions;
3. certain inputs and assumptions used in the CAPM analysis, including the risk-free rate, the Beta coefficient, and the market risk premium;
4. the calculation of the Bond Yield Plus Risk Premium model;
5. the relevance of the Expected Earnings Analysis; and
6. whether the business risks of RMP relative to the proxy group companies support an ROE higher than the mean/median for the proxy group.

Each of these areas of disagreement is discussed in this section.

A. Constant Growth DCF Analysis

Q. Please summarize Mr. Coleman's Constant Growth DCF analysis.

A. Mr. Coleman develops a Constant Growth DCF analysis using the proxy group that I relied on in my direct testimony. To calculate the dividend yield, Mr. Coleman uses the average stock price for each company for the trading period of July 1, 2020 through July 31, 2020 and dividend per share data for each company reported by Value Line.[45] He then adjusts the dividend yield for future growth using a full year of projected dividend growth. For the growth rate, Mr. Coleman uses earnings growth rate projections reported by Value Line, Zacks Investment Research ("Zacks") and Yahoo! Finance ("Yahoo!") and dividend growth rate projections from Value Line. The growth rate estimate is then calculated by applying a 75 percent weight to the earnings growth

[45] Direct Testimony of Casey J. Coleman, at 39.

rate projections and a 25 percent weight to the dividend growth rate projections.[46] Mr. Coleman calculates two versions of the Constant Growth DCF model. The first version relies on only Value Line as the source for the earnings growth and dividend growth rate projections and produces a mean result of 9.17 percent while the second version relies on earnings growth rate projections from Yahoo!, Zacks and Value Line and dividend growth rate projections from Value Line and produces a mean result of 8.91 percent.[47]

Q. Do you agree with the proxy group that Mr. Coleman relies on for his Constant Growth DCF analysis?

A. While Mr. Coleman indicates that he has relied on the same proxy group that I relied on to develop my direct testimony, Mr. Coleman includes CenterPoint Energy, Inc. and FirstEnergy Corporation in his proxy group which were not included in the proxy group that I relied on in my direct testimony. CenterPoint Energy, Inc. was excluded because the company announced a dividend cut in April 2020, while FirstEnergy Corporation was excluded because the company did not have a positive earnings growth rate from more than one source. As a result, I continue to believe it is appropriate to exclude both companies from the proxy group used to estimate the ROE for RMP.

Q. Are there other assumptions in Mr. Coleman's Constant Growth DCF analysis that you disagree with?

A. Yes. First, the source of the data used in Mr. Coleman's analysis is not clear. Mr. Coleman states that he has relied on the annualized dividend for 2020, earnings growth rate projections and dividend growth rate projections from Value Line as of July 16,

[46] *Ibid*.
[47] *Id.*, at 40.

2020.[48] However, the Value Line data provided in DPU Exhibit 2.03 DIR is not consistent with the data reported for each company in the most recent Value Line reports for the West, East, and Central electric utility groups that were released on April 24, 2020, May 15, 2020, and June 12, 2020, respectively. For example, Mr. Coleman has relied on an earnings growth rate projection of 0.00 percent and a dividend growth rate of 0.00 percent for Evergy, Inc.; however, in the most recent Value Line report for Evergy, Inc. published on June 12, 2020, Value Line reports an earnings growth rate projection of 3.00 percent and a dividend growth rate projection of 5.50 percent.

Q. How is the DCF model typically specified?

A. The more conventional approach to specifying the Constant Growth DCF model would be to rely on the data for each company in the most recently published Value Line report consistent with the time period used to calculate the pricing data in Mr. Coleman's Constant Growth DCF model. In this case, Mr. Coleman relied on the 30-day average price for the period of July 1, 2020 through July 31, 2020; therefore, Mr. Coleman should have relied on the Value Line reports published for the East, Central and West electric utility groups as of May 15, 2020, June 12, 2020 and July 24, 2020, respectively.

Q. Are there other issues with the approach Mr. Coleman used to specify the Constant Growth DCF model?

A. Yes. As shown in DPU Exhibit 2.03 DIR, Mr. Coleman calculates the expected dividend yield by multiplying the current dividend yield by Value Line's projected dividend growth rate. This growth rate is inconsistent with the estimate of growth that

[48] *Id.*, at 39.

Mr. Coleman uses in the Constant Growth DCF model. For the Constant Growth DCF model, Mr. Coleman indicates that he has applied a weighting of 0.75 to the projected earnings growth rate and a 0.25 weighting to the dividend projected growth rate to calculate the growth rate. Since Mr. Coleman is calculating a Constant Growth DCF model, it would be conventional to apply a consistent growth rate to the dividend yield as is used for growth over time, in Mr. Coleman's analysis that would be the weighted growth rate projection.

Q. Have you adjusted Mr. Coleman's Constant Growth DCF analysis?

A. Yes. As shown in Exhibit RMP___ (AEB-6R), I adjusted Mr. Coleman's Constant Growth DCF analysis to: 1) exclude CenterPoint Energy, Inc. and FirstEnergy Corporation; 2) rely on the Value Line reports published for the East, Central and West electric utility groups as of May 15, 2020, June 12, 2020 and July 24, 2020, respectively; and 3) rely on the weighted growth rate (i.e., 0.75 x earnings growth + 0.25 x dividend growth) to calculate the expected dividend yield. I applied the adjustments to Mr. Coleman's Constant Growth DCF analysis, which relied on the earnings growth rates from Yahoo!, Zacks and Value Line, as it is more appropriate to rely on earnings growth rates from multiple analysts. This results in an increase in Mr. Coleman's Constant Growth DCF results from 8.91 percent to 8.97 percent.

Q. What is your response to Mr. Coleman's contention that the growth rate you relied on in your Constant Growth DCF model is inconsistent with the Commission's order in Docket No. 02-057-02?

A. Mr. Coleman states that in Docket No. 02-057-02 for DEU, the Commission determined that the growth rate in the Constant Growth DCF model should be

calculated by applying a 0.75 weighting factor to the earnings growth rate projections and a 0.25 weighting factor to the dividend growth rate projections.[49] However, Mr. Coleman misrepresents the Commission's decision in Docket No. 02-057-02. Specifically, the Commission determined:

> We resolve the dispute over the relative role of dividend growth forecasts and earnings growth forecasts as the basis for the DCF growth rate "g". We will use three earnings growth forecasts – the Company's IBES forecast, the Value Line forecast, and the Division's Zacks' forecast – averaging the three observations for each proxy company in the seven-company sample. We will also employ the Value Line dividend growth forecast. From these, we derive a weighted average (three-fourths earnings growth, one-fourth dividend growth) growth rate. When applied to each proxy company, the mean DCF result is 10.9 percent. This value, we conclude, will be the low end of the range of reasonable returns. The high end of the range is similarly derived, but 100 percent weight is accorded to earnings growth forecasts. When this growth rate is used, the mean of sample results is 12.2 percent. This is the value we will use as the high end of the range.[50]

Therefore, the Commission developed two weighting scenarios for the growth rate in the Constant Growth DCF model to determine the range of reasonable returns in the case for DEU.[51] The first scenario applied a 0.75 weighting to earnings growth and a 0.25 weighting to dividend growth, which set the low end of the range, and the second scenario applied a 100 percent weighting to the earnings growth rate scenario, which set the high end of the range. In his testimony in this proceeding, Mr. Coleman has only calculated the "low-end scenario" from the Commission's decision in Docket No. 02-057-02.

[49] *Id.*, at 15.
[50] Report and Order, Docket No. 02-057-02, Questar Gas Company, December 30, 2002, at 36.
[51] *Ibid.*

Q. What was the Commission's concern in Docket No. 02-057-02 with relying only on earnings growth projections in the DCF model?

A. At the time, the Commission was concerned that analysts had a history of overstating the earnings growth rate projections for companies.[52] Therefore, while the Commission considered DEU's argument that investors rely less on dividend growth rates, the Commission believed it was still prudent to accord dividend growth weight in the calculation of the growth rate for the Constant Growth DCF model.

Q. Why do you believe that earnings growth rates are the appropriate growth rates in the DCF model?

A. Earnings are the fundamental driver of a company's ability to pay dividends; therefore, earnings growth is the appropriate measure of a company's long-term growth. As noted by Brigham and Houston:

> Growth in dividends occurs primarily as a result of growth in earnings per share (EPS). Earnings growth, in turn, results from a number of factors, including (1) inflation, (2) the amount of earnings the company retains and invests, and (3) the rate of return the company earns on its equity (ROE).[53]

In contrast, changes in a company's dividend payments are based on management decisions related to cash management and other factors. For example, a company may decide to retain certain earnings rather than include those earnings in a dividend issuance. Therefore, dividend growth rates are less likely than earnings growth rates to reflect investor perceptions of a company's growth prospects.

[52] *Id.*, at 33.
[53] Eugene F. Brigham and Joel F. Houston, Fundamentals of Financial Management, at 317 (Concise Fourth Edition, Thomson South-Western, 2004).

Furthermore, investment analysts report predominant reliance on EPS growth projections. In a survey completed by 297 members of the Association for Investment Management and Research, the majority of respondents ranked earnings as the most important variable in valuing a security (more important than cash flow, dividends, or book value).[54]

Academic research also supports the use of EPS growth estimates. A 2002 study in the *Journal of Accounting Research*, examined "the valuation performance of a comprehensive list of value drivers" and found that "forward earnings explain stock prices remarkably well" and were generally superior to other value drivers analyzed.[55] A 2012 study from the journal *Contemporary Accounting Research* found that the sell-side analysts with the most accurate stock price targets were those whom the researchers found to have more accurate earnings forecasts.[56]

Q. Has the Commission's concern regarding earnings growth rates been addressed since Commission's order was issued in December 2002?

A. Yes. The 2003 Global Analysts Research Settlement (the "Global Settlement") served to significantly reduce the bias referred to by the Commission in its order in Docket No 02-057-02. The Global Settlement required financial institutions to insulate investment banking from analysis, prohibited analysts from participating in "road shows," and required the settling financial institutions to fund independent third-party research. In addition, analysts covering the common stock of the proxy companies certify that their

[54] Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", Financial Analysts Journal (July/August 1999).
[55] Liu, Jing, et al., "Equity Valuation Using Multiples," Journal of Accounting Research, Vol. 40 No. 1, March 2002.
[56] Gleason, C.A., et al., "Valuation Model Use and the Price Target Performance of Sell-Side Equity Analysts," *Contemporary Accounting Research*.

analyses and recommendations are not related, either directly or indirectly, to their compensation.

A 2010 article in *Financial Analysts Journal* found that analyst forecast bias declined significantly or disappeared entirely since the Global Settlement:

> Introduced in 2002, the Global Settlement and related regulations had an even bigger impact than Reg FD on analyst behavior. After the Global Settlement, the mean forecast bias declined significantly, whereas the median forecast bias essentially disappeared. Although disentangling the impact of the Global Settlement from that or related rules and regulations aimed at mitigating analysts' conflicts of interest is impossible, forecast bias clearly declined around the time the Global Settlement was announced. These results suggest that the recent efforts of regulators have helped neutralize analysts' conflicts of interest.[57]

Q. Do you have any other observations regarding the Commission's order in Docket No. 02-057-02?

A. Yes. As discussed above, the Commission developed a range of reasonableness for the ROE based on applying a 100 percent weighting to earnings growth in one scenario and a 0.75 weighting to earnings growth and a 0.25 weighting to dividend growth in the second scenario. The Commission then selected an ROE for DEU that was within the determined range of reasonableness.[58] However, Mr. Coleman has not developed an ROE range for his Constant Growth DCF analysis. Mr. Coleman only calculates his DCF results using the mean growth rate for each of his proxy group companies, which is derived by averaging the three sources of earnings growth rate projections. This produces a very narrow range of results that Mr. Coleman considers to be reflective of investors' expectations. While I believe it is more appropriate to rely only on earnings

[57] Armen Hovakimian and Ekkachai Saenyasiri, *Conflicts of Interest and Analyst Behavior: Evidence from Recent Changes in Regulation*, Financial Analysts Journal, Volume 66, Number 4, July/August 2010, at 195.
[58] Report and Order, Docket No. 02-057-02, Questar Gas Company, December 30, 2002, at 36.

growth rates as opposed to dividend growth rates, it is still possible to calculate a range of results using only earnings growth rates. As shown in Exhibit RMP___(AEB-4) to my direct testimony, I consider the full range of results indicated by the mean as well as the mean high and mean low of the EPS growth rate projections published by Value Line, Zacks, and Yahoo! Finance. This analysis produces a broader range of what can be considered investors' expected returns on the proxy group companies and is more consistent with the Commission order in Docket 02-057-02.

Q. Have you adjusted Mr. Coleman's Constant Growth DCF analysis to produce a range of ROE results?

A. Yes. As shown in Exhibit RMP___(AEB-6R), I adjusted Mr. Coleman's Constant Growth DCF analysis to: 1) rely only on earnings growth rate projections; and 2) calculate a full range of results using the mean as well as the mean high and mean low of the EPS growth rate projections published by Value Line, Zacks, and Yahoo! Finance. This resulted in a mean ROE of 8.91 percent and a range of results from 7.99 percent to 9.81 percent.

Q. Mr. Coleman expresses concern with your elimination of DCF results below 7.00 percent. Please explain why it is appropriate to eliminate these results.

A. As discussed in my direct testimony, I eliminated DCF results below 7.0 percent as such low returns do not provide equity investors with adequate compensation for the risks associated with common stock ownership, and do not offer a return that is sufficiently above the long-term debt costs for regulated utilities, as indicated by the Moody's Baa-rated bond yield index. Furthermore, authorized returns below 7.0 percent have never been observed for a vertically integrated electric utility in at least

the last 40 years. Finally, in Opinion No. 569-A, the FERC also determined that it was appropriate to eliminate low outliers from the DCF results before developing the range of reasonableness.[59] The FERC also modified its high outlier screen that is equal to 200 percent of the median threshold for the proxy group.[60] In summary, I continue to believe that it is reasonable and appropriate to eliminate DCF results below 7.0 percent.

Q. Has the Commission considered a low-end threshold for ROE results?

A. Yes. In Docket No. 13-057-05 for DEU, the Commission concluded that:

> In light of the evidence discussed above, we find that Questar's request for continuation of its currently authorized 10.35 percent return on equity is not justified. While we decline to grant Questar's request to maintain a 10.35 percent return on equity, we also find the evidence of record shows a 9.25 or 9.45 return on equity is too low to support properly Questar's operations. In surrebuttal testimony, the Division's witness provides 2013 authorized returns on equity for natural gas distribution companies through December 27, 2013, resulting in a range from 9.08 percent to 10.25 percent, with a mean of 9.66 percent.75 When looking at authorized returns on equity for the last quarter of 2013, there appears to be an upward trend in authorized returns on equity with an average authorized return on equity of 9.81 percent.
>
> These data support a return on equity that is meaningfully higher than the proposals of the Office and the Division. Moreover, this conclusion is consistent with the range of model results presented by the various expert witnesses.[61]

Thus, the Commission determined that an ROE in the range of 9.25 percent to 9.45 percent would not provide a sufficient risk premium to compensate investors for the additional risk of an equity investment. Therefore, the low-end screen of 7.00 percent that I have applied to the individual results of my Constant Growth DCF analysis is generally consistent with the Commission's position.

[59] FERC Opinion No. 569-A, issued May 21, 2020, at para. 156-161.
[60] *Id.*, at para. 154-155.
[61] Report and Order, Docket No. 13-057-05, Questar Gas Company, February 21, 2014, at 33-34.

Q. How would Mr. Coleman's Constant Growth DCF results change if he had excluded individual ROE results less than 7.00 percent?

A. As shown in Exhibit RMP ___ (AEB-6R), I re-calculated Mr. Coleman's Constant Growth DCF result to exclude individual company results that were less than 7.00 percent. This results in a mean Constant Growth DCF result of 9.05 percent and a range of 8.56 percent to 9.97 percent.

Q. Please summarize the effects of the changes that you made to Mr. Coleman's Constant Growth DCF results.

A. As shown in Figure 9, by making reasonable changes to Mr. Coleman's Constant Growth DCF analysis that relied on earnings growth rate projections from Yahoo!, Zacks and Value Line, the mean ROE result increases from 8.91 percent to 9.05 percent. In addition, relying on the range of earnings growth rates produces a mean-high result of 9.97 percent. Therefore, Mr. Coleman's adjusted Constant Growth DCF model produces a mean to mean-high ROE range of 9.05 percent to 9.97 percent. While I have included the mean-low results, I do not believe the mean-low results provide a sufficient risk premium to compensate investors for the additional risk of an equity investment.

Figure 9: Summary of Adjustments to Mr. Coleman's Constant Growth DCF

	Mean	**Mean ROE Range**
As Filed	8.91%	N/A
Excl. FE & CNP, & Updated Value Line Data	8.97%	N/A
Excl. FE & CNP, Updated Value Line Data & Earnings Growth Rates Only	8.91%	7.99% - 9.81%
Excl. FE & CNP, Updated Value Line Data, Earnings Growth Rates Only & Excl. Individual Results < 7 percent	9.05%	8.56% - 9.97%

B. Effect of Market Conditions on the DCF

Q. Does Mr. Coleman rely primarily on the results of his Constant Growth DCF model in setting the recommended ROE for RMP?

A. Mr. Coleman contends that he has placed primary weight on the results of his Constant Growth DCF model to develop his recommended ROE for RMP.[62] However, Mr. Coleman recommends a 9.25 percent ROE, which is greater than the 8.91 percent and 9.17 percent ROE results from his Constant Grow DCF model. Therefore, while Mr. Coleman does not account for the effect of current market conditions on the inputs to the DCF model, it appears that Mr. Coleman has implicitly recognized that the results of the DCF model are too low to be considered reasonable by selecting a recommended ROE that is greater than the results produced by his Constant Growth DCF model.

Q. Why is it important to consider how current market conditions affect the results of the DCF model?

A. In general, investors use the DCF model to develop return estimates for a company as of a specific date factoring in all the information available to them at the time of the estimation. However, for a regulated utility like RMP, the cost of equity is being estimated for a future period when the utility's rates will be in effect. Therefore, investors' current valuations may be different than the valuations investors would calculate during the period that the Company's rates will be in effect. For this reason, it is important to review current and prospective capital market conditions and to determine whether current market conditions are expected to persist during the period that the Company's rates will be in effect. If prospective market conditions are expected

[62] Direct Testimony of Casey J. Coleman, at 65.

to be different than current market conditions, the ROE models based on current market data will not produce reasonable estimates of the cost of equity during the period that RMP's rates will be in effect.

As discussed in my direct testimony and in Section V of my Rebuttal Testimony, many analysts have cautioned investors regarding the current high valuations of utilities. In fact, as shown in Figure 8 of my rebuttal testimony, Value Line projects the P/E ratio for the utilities in my proxy group to decline over the near-term. If the valuations of utilities decline, then the dividend yields of those utilities will increase, resulting in increases in the ROE estimate produced by the DCF model. Given that we are estimating the cost of equity for the period that RMP's rates will be in effect, this is an important factor that must be considered when relying on the results produced by the ROE estimation models.

Q. Do current market conditions highlight the importance of calculating a range of DCF results?

A. Yes. Mr. Coleman's DCF analysis relies primarily on the mean result; however, given the effect of current market conditions, these results are likely underestimating the cost of equity during the period that RMP's rates will be in effect. Therefore, it is important to develop a range of DCF results so that the effect of market conditions can be considered. As discussed above, adjusting Mr. Coleman's Constant Growth DCF model to calculate mean-low, mean and mean-high results based on the range of earnings growth rates published by Yahoo!, Zacks and Value Line results in a range that then can be used to consider other factors such as capital market conditions. As shown in Figure 9, after making reasonable adjustments to Mr. Coleman's DCF model,

the mean result is 9.05 percent, and the range is 8.56 percent to 9.97 percent. Considering that the valuations of utilities are expected to decline over the near-term, it is reasonable to assume that the mean-low and mean results are likely understating the cost of equity for RMP during the period that rates will be in effect. Therefore, it is more reasonable to consider an ROE towards the high-end of the range of the DCF.

Q. Has the Commission considered current market conditions when determining the ROE in past decisions?

A. Yes. In a recent decision for DEU in Docket No. 19-057-02, the Commission noted the authorized ROE awarded to DEU in its last fully litigated rate case in February 2014 and then considered what changes had occurred in financial conditions since that time to determine if the Company's ROE should be reduced or increased.[63] Specifically, the Commission stated:

> In February 2014, we reduced DEU's authorized ROE by 50 basis points, from 10.35% to 9.85%. We begin our evaluation by considering the extent to which financial conditions have changed since that decision, and the impact those changed conditions should have on DEU's authorized ROE. Issues that can be viewed as "credit negative" for DEU, potentially leading to an increase in its authorized ROE, include the federal tax reform enacted in late 2017 and the Federal Reserve's cessation of injecting capital into the market.[64]

While the Commission concluded the ROE for DEU should be reduced, the Commission placed a great deal of importance on the review of market conditions, which Mr. Coleman has not considered in the current case for RMP. Moreover, since the Commission's decision in the case for DEU, volatility and uncertainty in the financial markets has reached levels not seen since the Great Recession of 08/09 as a

[63] Report and Order, Docket No. 19-057-02, Dominion Energy Utah, February 25, 2020, at 6.
[64] *Ibid*.

result of the effects of COVID-19. As discussed above, while the Federal Reserve and Congress have intervened at unprecedented levels, which has brought stability to the market, volatility still remains well above long-term levels and certainly higher than it was in 2019. This would imply an increase in the cost of equity since the time the Commission's decision was issued in the rate case for DEU.

Q. What are your conclusions regarding Mr. Coleman's Constant Growth DCF analysis?

A. Mr. Coleman's Constant Growth DCF analysis results in a narrow range of mean results that are unreasonably low. This is primarily the result of his failure to a) develop a range of DCF scenarios based on the range of earnings growth rates; and b) consider the effects of current market conditions on the results of the inputs used in the DCF model. As shown in Figure 9 (see also Exhibit RMP ___ (AEB-6R), making corrections and appropriate adjustments to Mr. Coleman's Constant Growth DCF analysis results in a mean to mean-high range of results of 9.05 percent to 9.97 percent. My conclusion is that this revised DCF analysis, along with proper consideration of market conditions, Company risk factors, and other ROE estimation methodologies provides a more appropriate representation of investors' return expectations for the Company.

C. Projected DCF Analysis

Q. Please discuss Mr. Coleman's criticism of your Projected DCF analysis.

A. Mr. Coleman asserts that my projected DCF analysis undermines the premise of the DCF model, which is that only one assumption must be made in the model.[65] Since I am relying on projected data for each of the inputs to the model, Mr. Coleman contends

[65] Direct Testimony of Casey J. Coleman, at 16.

that I have increased the likelihood the result will be inaccurate. Furthermore, Mr. Coleman concludes that projected growth rates are "not in the public interest and should not be included in the analysis for the ROE of RMP."[66]

Q. Do you agree with Mr. Coleman that your use of projections increases the likelihood the results of your Projected DCF analysis will be inaccurate?

A. No, I do not. The purpose of the Projected DCF analysis is to illustrate what would happen to dividend yields in the DCF model, using Value Line data, if the stock prices of the proxy group companies were to decline, as analysts predict. Value Line's outlook on valuations and share prices for utilities is consistent with other equity analysts and investment advisors' expectations of the overall market. As discussed in my direct testimony and Section V of my rebuttal testimony, the low interest rate environment following the Great Recession caused investors to shift out of government bonds and into dividend-paying stocks such as utilities. Thus, investors have driven up the share price of utilities, resulting in a corresponding reduction in the dividend yield.

Section V of my rebuttal testimony notes that investors continue to expect an increase in long-term interest rates over the intermediate to longer-term despite the recent decline in yields on long-term government bonds due in large part to the Federal Reserve's efforts to stimulate the economy and stabilize financial markets during the COVID-19 pandemic. An increase in long-term interest rates will cause utility investors to move back into long-term government bonds, as the yields on those bonds become more competitive with the dividend yields of utilities. A decrease in the stock price of utilities resulting from such a shift will increase the dividend yields of utilities.

[66] *Ibid.*

Thus, the forward-looking cost of equity using the DCF model will increase. The projected stock prices developed by Value Line reflect this relationship. Consistent with market expectations, Value Line projects that the valuations of the companies in my proxy group will decrease over the near-term.

Q. What is your response to Mr. Coleman's assertion that in the DCF model "only one assumption or calculation must be made, the appropriate dividend or earnings growth rate"?[67]

A. As discussed above, in the instant proceeding, the cost of equity is being estimated for the period that RMP's rates will be in effect. By relying on the dividend yield calculated using current share prices, Mr. Coleman is assuming that the market conditions that exist today will prevail over the near-term. Therefore, Mr. Coleman has violated his own logic regarding the DCF model that one assumption or calculation be made. Since we are trying to develop an estimate that reflects what investors' expectations are regarding the cost of equity over the near-term, forecast data is important because it incorporates current data as well as expectations regarding near-term market conditions. The Projected DCF model provides support for the expectation that utility valuations are expected to decline over the near-term. As a result, current estimates provided by the DCF model will likely understate the cost of equity during the period that rates will be in effect.

[67] *Ibid.*

Q. Mr. Coleman states that "projected growth rates are not in the public interest and should not be included in the analysis for the ROE of RMP."[68] Do you agree?

A. No, I do not. In fact, Mr. Coleman's statement is inconsistent with the estimates of growth that he has relied on in his DCF analysis. Mr. Coleman relies on projected earnings growth rates from Zacks, Yahoo! and Value Line and projected dividend growth rates from Value Line. Therefore, Mr. Coleman's contention would invalidate his own Constant Growth DCF analysis.

Q. Does Mr. Coleman rely on Value Line projections to calculate the results of his DCF analysis?

A. Yes. While Mr. Coleman criticizes my Projected DCF analysis that relies on three- to five-year projections of stock prices, Mr. Coleman himself relies on Value Line projections in developing his DCF analysis. Specifically, Mr. Coleman relies on Value Line's EPS and DPS growth rate projections over the same time-period for his Constant Growth DCF analysis. As such, Mr. Coleman relies on the very same Value Line data and projection period that he asserts increases the likelihood of inaccurate DCF results.

D. CAPM Analysis

Q. Please summarize Mr. Coleman's CAPM analysis.

A. Mr. Coleman calculates his CAPM using the normalized 20-year U.S. Treasury yield of 2.50 percent as reported by Duff & Phelps as his estimate of the risk-free rate.[69] His Beta coefficients are from Value Line, Zacks, Yahoo! Finance and Ned Davis Research. Mr. Coleman relies on the recommended market risk premium ("MRP") from Duff & Phelps of 6.00 percent and the average historical market risk premium as

[68] *Ibid.*
[69] Direct Testimony of Casey J. Coleman, at 41.

calculated by Dr. Damodaran of 5.43 percent.[70] Mr. Coleman's CAPM analysis produces cost of equity estimates ranging from 5.09 percent to 5.90 percent using the MRP from Duff and Phelps and 4.84 percent to 5.58 percent using the historical MRP from Dr. Damodaran.

Q. Does Mr. Coleman rely on the results of his CAPM analysis?

A. No. Mr. Coleman notes that his models produce a range of results from 7.24 percent to 9.17 percent. The high-end of the range is based on Mr. Coleman's Constant Growth DCF analysis, while the low-end of the range is set equal to the average of Mr. Coleman's DCF, Risk Premium and CAPM results. However, Mr. Coleman ultimately recommends an ROE of 9.25 percent, which is greater than the range indicated by his model results. Furthermore, in regard to the range of results of 5.06 percent to 5.90 percent from Mr. Coleman's CAPM, Mr. Coleman notes "[l]ooking at the lower data points calculated using this model makes me a bit uncomfortable using CAPM rates exclusively."[71] Therefore, it appears that Mr. Coleman agrees that the results of his CAPM analysis are unreasonable. I agree with Mr. Coleman that his CAPM analysis is not producing reliable results and should not be used to inform the cost of equity estimate for RMP in this proceeding. The results of Mr. Coleman's CAPM analysis are well below the authorized ROE for any U.S. electric utility in the past 40 years.[72] As a result, Mr. Coleman's CAPM analysis does not meet the comparable return requirement of *Hope* and *Bluefield*.

[70] *Id.*, at 42.
[71] Direct Testimony of Casey J. Coleman, at 64.
[72] Source: Regulatory Research Associates.

1. Risk-Free Rate

Q. Please summarize the risk-free rate relied on by Mr. Coleman in his CAPM analysis.

A. Mr. Coleman relies exclusively on the normalized 20-year U.S. Treasury yield of 2.50 percent as reported by Duff & Phelps.

Q. What concerns do you have about the risk-free rate relied on by Mr. Coleman in his CAPM analysis?

A. I do not specifically dispute Mr. Coleman's reliance on the normalized 20-year U.S. Treasury yield of 2.50 percent, as reported by Duff & Phelps. However, I am unsure of Mr. Coleman's reason for selecting a normalized interest rate that is greater than the current yields on long-term government bonds, especially in light of Mr. Coleman's concern with my use of projected interest rates. I relied primarily on interest rate forecasts to account for the fact that investors expect interest rates to increase from current levels over the near-term. Mr. Coleman's risk-free rate is also greater than the current yields on long-term government bonds, which would appear to imply that Mr. Coleman also expects interest rates to increase over the near-term. In fact, in his response to RMP Discovery Request No. 1.11, Mr. Coleman provides the definition of the normalized risk-free rate from Duff and Phelps which stated:

> [Duff and Phelps] introduced the concept of normalized risk-free rate to measure the risk-free [rate] that would prevail under normal market and monetary conditions. **To be clear, the normalized risk-free rate is not a long-term average of risk free rates. It is estimated based on current expected real rate of interest rates plus current expected inflation**.[73]

[73] Response to RMP Discovery Request No. 1.11. (emphasis added).

Based on the definition provided by Mr. Coleman, the normalized risk-free rate represents the expected real interest rate plus expected inflation. This would imply the normalized risk-free rate published by Duff and Phelps assumes long-term interest rates will increase.

Q. Does Mr. Coleman agree that the use of projected Treasury bond yields is appropriate in the CAPM?

A. No. Mr. Coleman argues that increases in interest rates in 2020 should not be expected given current market conditions.[74] In addition, Mr. Coleman believes that analysts have historically been inaccurate when projecting interest rates. To support his position, Mr. Coleman quotes articles from MarketWatch and the Wall Street Journal which note that economists have been incorrect in their projections of interest rates. Mr. Coleman concludes that if the Commission were to accept the use of projected interest rates, the resulting ROE would be "flawed and erroneous."[75]

Q. How do you respond to Mr. Coleman's suggestion that projections of interest rates have been inaccurate and should not be relied on to calculate the CAPM?

A. A recent paper published in February 2020 by the Federal Reserve Bank of San Francisco compared the forecasts from Blue Chip and the Federal Reserve (Greenbook) for various economic indicators. The result was that the forecasts from Blue Chip had very similar accuracy as those produced by the Federal Reserve. Specifically, the authors noted that:

> [M]arkets aggregate information, and there are very large, liquid markets in the U.S. that are closely tied to interest rate and inflation forecasts (such as nominal and real Treasury bonds and Treasury, interest rate, and inflation futures, options, and swaps),

[74] Direct Testimony of Casey J. Coleman, at 44.
[75] Direct Testimony of Casey J. Coleman, at 45.

> and these market prices are closely followed by private sector forecasters.[76]

Given that the Federal Reserve Bank is analyzing the private sector forecasts summarized by Blue Chip, it is clear that Blue Chip forecasts are highly regarded among economic and financial experts. In fact, the American Economic Association states that Blue Chip "may be the best known organization for consensus macro forecasts."[77] Finally, Secretary Mnuchin recently cited Blue Chip's macroeconomic forecasts in his statement before the House Committee on Financial Services on June 30, 2020.[78]

Q. Have you reviewed the articles cited by Mr. Coleman?

A. Yes, I have. Mr. Coleman cites an article from MarketWatch, which noted that 100 percent of economists in the spring of 2014 expected yields on long-term government bonds to rise in the second half of 2014, but instead yields decreased.[79] While economists may have been incorrect in the spring of 2014 about interest rate projections, the important factor to consider is whether investors relied on these projections to make investment decisions. According to MarketWatch, investors did rely on the projections. In fact, MarketWatch notes:

> Then again, the majority of MarketWatch readers weren't exactly expecting rates to fall either, judging by an informal survey taken at the time.[80]

[76] Bauer, Michael D. and Swanson, Eric T., "The Fed's Response to Economic News Explains the 'Fed Information Effect'", Federal Reserve Bank of San Francisco, Working Paper Series, February 2020, Working Paper 2020-06, at 6, footnote 3.
[77] American Economic Association, "Resources for Economists on the Internet", Blue Chip Economic Indicators, available here: https://www.aeaweb.org/rfe/showRes.php?rfe_id=1922&cat_id=12.
[78] U.S. Department of the Treasury, Statement of Secretary Steven T. Mnuchin Before the House Committee on Financial Services, June 30, 2020.
[79] Ben Eisen, "Yes, 100% of economists were dead wrong about yields" Market Watch, October 22, 2014.
[80] *Ibid.*

This is important because in the current proceeding we are trying to determine what investors expect the cost of capital will be for RMP over the near-term, or the period that rates will be in effect. By relying on interest rate projections as the estimate of the risk-free rate in the CAPM, the expectations of investors are effectively being considered.

The Wall Street Journal article cited by Mr. Coleman discussed why the recovery from the Great Recession of 2008-09 may have been slower than the recoveries following past recessions.[81] However, the Wall Street Journal article does not discuss either investors' expectations, the CAPM, or the appropriate risk-free rate to use in the CAPM. It is not clear why Mr. Coleman concluded that this article provides support for his argument against the use of interest rate projections in the CAPM.

Q. Does Mr. Coleman also rely on forecasted market data in his ROE analysis?

A. Yes. Mr. Coleman has no objection to the use of forecasted data in his DCF analysis, where he considers projected EPS growth rates in the Constant Growth DCF model. Furthermore, as noted above, Mr. Coleman relies on the normalized 20-year U.S. Treasury bond yield of 2.50 percent as reported by Duff & Phelps as his estimate of the risk-free rate. Therefore, Mr. Coleman's risk-free rate is higher than the current yields on long-term government bonds, which would imply that Mr. Coleman also believes that interest rates will increase. It is unclear why Mr. Coleman finds these inputs reasonable, and yet suggests that the use of projected Treasury bond yields, such as those available from Blue Chip Financial Forecasts, should not be considered.

[81] Ip, G. (December 14, 2019) Economists Got the Decade All Wrong. They're Trying to Figure Out Why. Wall Street Journal.

2. Beta

Q. Please summarize the Beta coefficients relied on by Mr. Coleman.

A. Mr. Coleman relies on four sources for his Beta coefficients: Value Line, Yahoo! Finance, Zacks, and Ned Davis Research. Value Line reports five-year adjusted Beta coefficients, while Yahoo! Finance, Zacks and Ned Davis Research all report raw Beta coefficients, which Mr. Coleman does not adjust to account for the tendency of Beta to revert to the broader market average of 1.0. As a result, the average Beta coefficient of 0.48 used by Mr. Coleman is well below the average Value Line Beta of approximately 0.57 for his proxy group.[82]

Q. What is your concern with the Beta coefficients that Mr. Coleman has relied on?

A. I have several concerns with the Beta coefficients that Mr. Coleman has relied on to develop his CAPM analysis. First, Mr. Coleman has relied on the Beta coefficients as reported by Value Line as of January 31, 2020, which do not include the effects on the financial markets of COVID-19. As discussed in Section V above, utilities have traditionally been considered a defensive sector; however, this has not been the case recently as investors have been concerned with the effects of COVID-19 on the utility sector. As a result, utilities have traded more like the overall market, which has resulted in a significant increase in the Beta coefficients for utility stocks. Therefore, Mr. Coleman's reliance on Value Line's Beta coefficients as of January 31, 2020 significantly understates the Beta coefficient for the proxy group.

Second, Mr. Coleman's Beta coefficient is significantly lower due to his reliance on the Beta coefficients reported by Zacks, Yahoo! Finance and Ned Davis

[82] DPU Exhibit 2.04 DIR.

Research. Yahoo! Finance, Zacks and Ned Davis Research calculate the Beta coefficient using monthly prices for the previous five years relative to the S&P 500 Index. This results in regression analyses that uses only 60 data points for Yahoo! Finance, Zacks and Ned Davis Research. The reduced number of data points can result in regression results that are not statistically significant.

Finally, the methodology relied on by Zacks, Yahoo! and Ned Davis Research is identical. Therefore, as will be discussed in more detail below, the Beta coefficients reported by Ned Davis Research, Zacks and Yahoo! Finance that Mr. Coleman has relied on in his CAPM are nearly identical. Effectively, Mr. Coleman has placed triple the weight on the methodology used by Ned Davis Research, Yahoo! Finance and Zacks. This is important because to arrive at his proxy group Beta Coefficient of 0.48, Mr. Coleman calculates the average of the adjusted Beta coefficient from Value Line and the raw Beta coefficients from Yahoo!, Zacks and Ned Davis Research. This has the effect of biasing the proxy group average Beta coefficient downwards.

Q. How do the current Vale Line Beta coefficients compare with the Value Line Beta coefficients that Mr. Coleman has relied on as of January 31, 2020?

A. As noted above, the current Beta coefficients reported by Value Line have increased substantially. The average Value Line Beta coefficient for the proxy group that Mr. Coleman relied on was 0.55, whereas as shown in Exhibit RMP___(AEB-7R), currently the average Beta coefficient for his proxy group from Value Line is 0.88.[83]

[83] Mr. Coleman indicates that he has relied on the same proxy group that I relied on to develop my direct testimony; however, Mr. Coleman includes CenterPoint Energy, Inc. and FirstEnergy Corporation in his proxy group which were not included in the proxy group that I relied on in my direct testimony. Therefore, I have excluded CenterPoint Energy, Inc. and FirstEnergy Corporation from the proxy group average Beta calculation shown in Exhibit RMP ___ (AEB-7R).

The increase is due to the economic effects of COVID-19. Investors understand that COVID-19 will affect the business operations of utilities and as such utilities have traded more like the broader market, which has resulted in an increase in the Beta coefficients. By relying on Beta coefficients from Value Line from the pre-COVID-19 period, Mr. Coleman has not considered recent changes in market conditions and as a result has significantly understated the Beta coefficient from Value Line.

Q. Have you tested the significance of Beta coefficients using 60 monthly data points similar to Yahoo!, Zacks and Ned Davis Research?

A. Yes. Using Bloomberg, I developed Beta coefficients using the methodology applied by Yahoo! Finance, Zacks and Ned Davis Research, calculating the Beta coefficient for each company in the proxy group using monthly returns for the past five years ending August 31, 2020 relative to the S&P 500 Index. As shown in Figure 10, the R^2 for the regression equations ranged from 0.018 to 0.331, which means that the S&P 500 Index explained at most 33 percent of the variation seen in a proxy group company's return. Additionally, 6 of the 22 Beta coefficients were not statistically significant at the 95 percent confidence level. It is inappropriate to use Beta coefficients, as Mr. Coleman has, from regression equations where the coefficients are not statistically significant at the 95 percent confidence level and the R^2 is extremely low.

Figure 10: Yahoo! Finance, Zacks and Ned Davis Research – Beta Coefficient Calculation Summary

Company	Ticker	Adjusted Beta	Raw Beta	Beta Coefficient Significance	Regression R^2
ALLETE, Inc.	ALE	0.528	0.292	0.059	0.060
Alliant Energy Corporation	LNT	0.561	0.342	0.012	0.104
Ameren Corporation	AEE	0.517	0.276	0.033	0.076
American Electric Power Company, Inc.	AEP	0.540	0.310	0.041	0.070
Avista Corporation	AVA	0.587	0.380	0.026	0.083
CMS Energy Corporation	CMS	0.427	0.141	0.308	0.018
Dominion Resources, Inc.	D	0.585	0.377	0.003	0.140
DTE Energy Company	DTE	0.742	0.613	0.000	0.298
Duke Energy Corporation	DUK	0.519	0.278	0.046	0.067
Entergy Corporation	ETR	0.672	0.509	0.002	0.156
Evergy, Inc.	EVRG	0.583	0.375	0.028	0.080
IDACORP, Inc.	IDA	0.588	0.382	0.007	0.119
NextEra Energy, Inc.	NEE	0.473	0.209	0.143	0.037
NorthWestern Corporation	NWE	0.517	0.276	0.078	0.053
OGE Energy Corporation	OGE	0.786	0.679	0.000	0.276
Otter Tail Corporation	OTTR	0.546	0.319	0.041	0.070
Pinnacle West Capital Corporation	PNW	0.515	0.272	0.090	0.049
PNM Resources, Inc.	PNM	0.708	0.562	0.002	0.160
Portland General Electric Company	POR	0.481	0.222	0.151	0.035
PPL Corporation	PPL	0.846	0.770	0.000	0.331
Southern Company	SO	0.596	0.394	0.010	0.108
Xcel Energy Inc.	XEL	0.516	0.274	0.042	0.069

Q. Do you have any other concerns with the Beta coefficients relied on by Mr. Coleman?

A. Yes. As discussed above, Yahoo! Finance, Zacks and Ned Davis Research calculate raw Beta coefficients using monthly returns for the past five years relative to the S&P 500 Index. The methodology is identical between the three sources. Therefore, as shown in Figure 11, the Beta coefficients reported by Ned Davis Research, Zacks and

Yahoo! Finance that Mr. Coleman has relied on in his CAPM are nearly identical. Since he has triple counted the methodology of Ned Davis Research, Zacks and Yahoo! in his mean calculation, Mr. Coleman's proxy group Beta coefficient is biased downwards towards the mean Beta coefficient for the proxy group from Yahoo!, Zacks and Ned Davis Research. As shown in DPU Exhibit 2.04 DIR, the mean for the proxy group is 0.48, while the mean Beta coefficients for the proxy group from Zacks, Yahoo! and Ned Davis Research are 0.45, 0.44 and 0.43, respectively. Thus, the approach applied by Mr. Coleman is inappropriate.

Figure 11: Comparison of Yahoo! Finance, Zacks and Ned Davis Research Raw Beta Coefficients

Company	Ticker	Yahoo! Finance	Zacks	Ned Davis Research
ALLETE, Inc.	ALE	0.32	0.34	0.35
Alliant Energy Corporation	LNT	0.36	0.42	0.38
Ameren Corporation	AEE	0.27	0.30	0.29
American Electric Power Company, Inc.	AEP	0.37	0.38	0.39
Avista Corporation	AVA	0.42	0.41	0.48
CMS Energy Corporation	CMS	NA	0.21	0.21
Dominion Resources, Inc.	D	0.43	0.40	0.45
DTE Energy Company	DTE	0.61	0.60	0.62
Duke Energy Corporation	DUK	0.32	0.32	0.35
Entergy Corporation	ETR	0.56	0.59	0.58
Evergy, Inc.	EVRG	0.48	0.49	0.51
IDACORP, Inc.	IDA	0.43	0.43	0.45
NextEra Energy, Inc.	NEE	0.22	0.26	0.24
NorthWestern Corporation	NWE	0.35	0.33	0.37
OGE Energy Corporation	OGE	0.71	0.76	0.73
Otter Tail Corporation	OTTR	0.33	0.31	NA
Pinnacle West Capital Corporation	PNW	0.32	0.38	0.35
PNM Resources, Inc.	PNM	0.55	0.58	NA
Portland General Electric Company	POR	0.32	0.31	0.34
PPL Corporation	PPL	0.76	0.73	0.79
Southern Company	SO	0.43	0.42	0.45
Xcel Energy Inc.	XEL	0.27	0.29	0.29

Q. Have you revised Mr. Coleman's Beta coefficient to reflect the changes you have outlined?

A. Yes. First, I adjusted Mr. Coleman's calculation of the proxy group average Beta coefficient to rely on the most recent Value Line reports for the electric utilities contained in Mr. Coleman's proxy group. Then, the correct approach for relying on the Beta coefficients reported by Yahoo!/Zacks/Ned Davis, would be to average the Beta coefficients from Yahoo!, Zacks, and Ned Davis Research so as to provide equal weight

to the methodologies used by Value Line and Yahoo!/Zacks/Ned Davis. Finally, to account for the fact that Betas trend towards 1.00 over time, it would be necessary to adjust the average raw Beta coefficients from Yahoo!, Zacks, and Ned Davis Research using the formula provided by Value Line. These adjusted Betas would then be averaged with the adjusted Beta coefficients from Value Line.

Q. What are the results of your recalculated Beta coefficients?

A. As shown in Exhibit RMP ___ (AEB-8R), this would have resulted in a mean adjusted proxy group Beta coefficient of 0.74.[84] This adjusted proxy group average Beta coefficient is well above the proxy group average of 0.48 relied on by Mr. Coleman.

Q. What Beta coefficient should be relied on in the CAPM?

A. I continue to support the use of the average Beta coefficients for the proxy group companies as reported by Value Line and Bloomberg. As discussed in my direct testimony, Value Line calculates the Beta coefficient for each company using five years of weekly returns relative to the New York Stock Exchange Composite Index while Bloomberg's Beta coefficients were calculated using ten years of weekly returns relative to the S&P 500 Index.[85] The number of additional data points as a result of using weekly, as opposed to monthly, returns results in a more robust estimate of the Beta coefficient. Moreover, as will be discussed below, Dr. Woolridge also relied on the Beta coefficients reported by Value Line. Therefore, I conclude that it is more appropriate to rely on the Beta coefficients reported by Value Line and Bloomberg as

[84] Mr. Coleman indicates that he has relied on the same proxy group that I relied on to develop my direct testimony; however, Mr. Coleman includes CenterPoint Energy, Inc. and FirstEnergy Corporation in his proxy group which were not included in the proxy group that I relied on in my direct testimony. Therefore, I have excluded CenterPoint Energy, Inc. and FirstEnergy Corporation from the proxy group average Beta calculation shown in Exhibit RMP ___ (AEB-8R).

[85] Direct Testimony of Ann. E. Bulkley, at 52.

opposed to including, as Mr. Coleman has, the Beta coefficients from Yahoo! Finance, Zacks and Ned Davis Research.

3. Market Risk Premium

Q. Please discuss the market risk premium used by Mr. Coleman.

A. Mr. Coleman relies on two different estimates of the market risk premium ("MRP") in his CAPM analysis. The first is the recommended equity risk premium from Duff & Phelps of 6.00 percent and the second is the average historical market risk premium as calculated by Dr. Damodaran of 5.43 percent.[86]

Q. What is your concern with Mr. Coleman's market risk premium estimates?

A. The equity risk premiums used by Mr. Coleman fail to reflect the inverse relationship between interest rates and the market risk premium. That is, as interest rates decrease, the market risk premium increases. Based on historical data from Duff & Phelps, the market risk premium from 1926-2019 is 7.15 percent.[87] The historical income-only return on government bonds used to calculate the historical MRP over the same period has been approximately 4.94 percent, while the current 30-day average risk-free rate on long-term government bonds is 1.34 percent. Because interest rates on long-term government bonds are well below the historical average of 4.94 percent, the inverse relationship between interest rates and the MRP implies that the MRP should be well above the long-term historical average of 7.15 percent. However, the MRPs used by Mr. Coleman of 6.00 percent and 5.43 percent suggest that the expected market risk

[86] Direct Testimony of Casey J. Coleman, at 40-41.

[87] The market risk premium from 1926-2019 is calculated as the average return on large company stocks from 1926-2019 minus the average income only return on long-term government bonds from 1926-2019 (i.e., 12.09 percent – 4.94 percent = 7.15 percent). Source: Duff &Phelps, Valuation Handbook: Guide to Cost of Capital, 2020, CRSP Deciles Size Study – Supplementary Data Exhibits.

premium would be 115 basis points and 172 basis points, respectively, lower than the historical average MRP of 7.15 percent.

Q. Do you have any other concerns with the MRPs that Mr. Coleman has relied on in his CAPM analysis?

A. Yes. The market return relied upon in Mr. Coleman's CAPM is not consistent with the results of his DCF analyses. As shown in DPU Exhibit 2.06 DIR, Mr. Coleman relied on the implied market return from Duff & Phelps of 8.50 percent, and Dr. Damodaran of 8.91 percent. These estimates of the overall return on the market are inconsistent with the results produced by Mr. Coleman's Constant Growth DCF analysis. As Mr. Coleman notes, the Constant Growth DCF results for his proxy group of electric utilities are 9.17 percent and 8.91 percent. Mr. Coleman has acknowledged that his proxy group is less risky than the market by relying on a Beta coefficient of 0.48 in his CAPM analysis. Therefore, the market returns that Mr. Coleman relies on in developing the MRP should be significantly higher than his Constant Growth DCF results for a group of electric utilities. However, the returns on the overall market, relied on by Mr. Coleman to develop his market risk premium are either equivalent to or less than his Constant Growth DCF results for a proxy group of electric utilities. This highlights an important inconsistency that the Commission should consider between the inputs used to calculate Mr. Coleman's CAPM analysis and his Constant Growth DCF analysis.

Q. What is Mr. Coleman's concern with the MRP you have used in your CAPM analysis?

A. Mr. Coleman contends that the methodology I have used to estimate the MRP has not been accepted by the Commission in any other rate case nor has it been published in a

journal or academic publication.[88] In addition, Mr. Coleman provides citations to financial literature which he claims support an MRP close to 5.00 percent. Because the MRPs that I rely on in my CAPM analysis are greater than the "general consensus of financial professionals," Mr. Coleman concludes that my MRPs are not reasonable.[89]

Q. What is your response to Mr. Coleman's concerns about your forward-looking MRP?

A. While Mr. Coleman indicates that the methodology that I use to calculate the MRP in my CAPM analysis has not been accepted by the Commission in any other rate case or published in any journal or academic publication, he has not acknowledged the information that I provided in response to DPU Data Request 2.1 which he notes he has reviewed in his response to RMP Discovery Request No 1.9. As discussed in DPU Data Request 2.1, while I developed the estimate of the market return, the process I used to estimate the market return relies on data published by S&P and a prominent cost of equity model, the Constant Growth DCF. As noted in DPU Data Request 2.1, the use of the Constant Growth DCF model to estimate the return for the market has been relied on in academic research and by several regulatory commissions. For example, Robert S. Harris and Felicia Marston, used the Constant Growth DCF model including analysts' earnings growth forecasts as the estimate of growth in the model to estimate the market return in their article "Changes in the Market Risk Premium and the Cost of Capital: Implication for Practice."[90] Similarly, in addition to the Maine Public Utilities

[88] Direct Testimony of Casey J. Coleman, at 43.
[89] Direct Testimony of Casey J. Coleman, at 46.
[90] Harris, R. and F. Marston, 2013, "Changes in the Market Risk Premium and the Cost of Capital: Implications for Practice," *Journal of Applied Finance* (No. 1).

Commission which I reference in my direct testimony,[91] the Federal Energy Regulatory Commission ("FERC"), and the Minnesota Public Utilities Commission ("Minnesota PUC") have also relied on the Constant Growth DCF model to estimate the market return. In Opinion No. 569-A, the FERC continued to support the use of the Constant Growth DCF model to calculate the market return for the CAPM noting:

> [w]e also continue to find that the CAPM should use a one-step DCF for its risk premium. This is because the rationale for using a two-step DCF methodology for a specific group of utilities does not apply when conducting a DCF study of the dividend-paying companies in the S&P 500, as the Commission found in Opinion Nos. 531-B and 569.172 A long-term component is unnecessary because of the regular updates to the S&P 500, which allows it to continue to grow at a short-term growth rate and because S&P 500 companies include stocks that are both new and mature, the latter of which have a moderating effect on the short-term growth rates.[92]

Additionally, in Docket No. G-004/GR-19-511 for Great Plains Natural Gas Company, the Department of Commerce in Minnesota ("Minnesota DOC") relied on a Constant Growth DCF analysis for the S&P 500 to estimate the market return for the CAPM. Specifically the Minnesota DOC relied on the dividend yield reported by S&P for the S&P 500 and the three-five year earnings growth estimate for the State Street Global Advisors S&P 500 exchange traded fund ("ETF") which resulted in a market return of 13.44 percent.[93] The Minnesota DOC has historically relied on the Constant Growth DCF model to estimate the market return for the CAPM, which has in turn been considered by the Minnesota PUC in prior proceedings.[94]

[91] Direct Testimony of Ann E. Bulkley, at 52-53.
[92] FERC Docket No. EL-14-12-004, Opinion No. 569-A (May 21, 2020), at para. 85.
[93] Docket No. G-004/GR-19-511, In the Matter of the Petition By Great Plains Natural Gas Co., a Division of Montana-Dakota Utilities Co., for Authority to Increase Natural Gas Rates in Minnesota (March 3, 2020), at Ex. DER-9, CMA-S-8.
[94] See Docket No. E017/GR-15-1033, Findings of Fact, Conclusions and Order, May 1, 2017, at 54-56; and Docket No. E015/GR-16-664, Findings of Fact, Conclusions and Order, March 12, 2018, at 60-61.

Q. How does your forward-looking market return estimate compare to recent historical returns for Large Company Stocks?

A. As provided in the response to DPU Data Request 2.1 and shown in Figure 12 below, my estimate of the market return of 14.05 percent is lower than the actual average market return for Large Company Stocks from 2009 to 2019 (i.e., the period for the Great Recession of 2008/09) of 15.27 percent as reported by Duff & Phelps. Furthermore, the market return estimates of 8.50 percent and 8.91 percent relied on by Mr. Coleman are well below the average return achieved by Large Company Stocks from 2009 to 2019.

Figure 12: Duff and Phelps – Total Return for Large Company Stocks – 2009-2019[95]

Year	Large Company Stock
2009	26.46%
2010	15.06%
2011	2.11%
2012	16.00%
2013	32.39%
2014	13.69%
2015	1.38%
2016	11.96%
2017	21.83%
2018	-4.38%
2019	31.49%
Average	**15.27%**

Q. What is your conclusion regarding Mr. Coleman's CAPM analysis?

A. The results of Mr. Coleman's CAPM analysis are substantially lower than recent authorized ROEs for electric utilities, primarily due to his reliance on raw Beta coefficients from Yahoo!, Zacks and Ned Davis Research, which places primary wight

[95] Source: Duff and Phelps, Cost of Capital Navigator.

on the results of a methodology to calculate Beta that does not produce statistically significant results and his reliance on the market risk premia from Duff & Phelps and Dr. Damodaran, which do not reflect the inverse relationship between the MRP and interest rates and therefore vastly understates the expected forward-looking MRP of investors. These assumptions significantly understate the ROE as estimated by the CAPM. As discussed above, the ROE that is being set in this case is intended to be forward-looking. Therefore, it is appropriate that the CAPM reflect forward-looking market conditions. As a result, I continue to support the inputs and assumptions that I relied on in my direct testimony to estimate the CAPM.

E. Risk Premium

Q. Please summarize Mr. Coleman's Risk Premium analysis.

A. In addition to his CAPM analysis, Mr. Coleman performs two additional Risk Premium analyses to estimate RMP's cost of equity. Mr. Coleman's first approach calculates the equity risk premium by taking the difference between the market return of 8.50 percent as reported by Duff & Phelps and the yields on Moody's Aaa-rated and Baa-rated corporate bonds. The resulting equity risk premia are then added to the interest rate on RMP's most recent long-term bond issuance of 3.30 percent. This produces risk premium results of 9.36 percent using the Moody's Aaa-rated corporate bond yield and 8.34 percent using the Moody's Baa-rate bond yield.[96]

Similarly, Mr. Coleman's second approach calculates the equity risk premium by taking the difference between the market return of 8.91 percent as calculated by Dr. Damodaran and the yields on the Moody's Aaa-rated and Baa-rated corporate bonds.

[96] Direct Testimony of Casey J. Coleman, at 47.

The resulting equity risk premia are then added to the interest rate on RMP's most recent long-term bond issuance of 3.30 percent. This produces risk premium results of 9.77 percent using the Moody's Aaa-rated corporate bond yield and 8.75 percent using the Moody's Baa-rated bond yield.[97] Mr. Coleman then calculates the mid-point of his analyses using the Moody's Aaa-rated and Baa-rated corporate bonds yields to approximate the result for an A-rated company like RMP. This resulted in an ROE of 9.06 percent.[98]

Q. What are your specific concerns with Mr. Coleman's Risk Premium analyses?

A. Mr. Coleman relies on the implied market return from Duff & Phelps of 8.50 percent and the implied market return from Dr. Damodaran of 8.91 percent. As shown in Figure 12 above, both market returns are well below the actual average market return for Large Company Stocks from 2009 to 2019. Furthermore, Mr. Coleman's risk premium result of 9.06 percent is greater than the market return estimates of 8.50 percent and 8.91 percent. However, Mr. Coleman has relied on Beta coefficients that are substantially less than 1.00 in his CAPM analysis. Therefore, Mr. Coleman's CAPM analysis implies that the market return should be greater than the return estimated for a utility such as RMP. Thus, in addition to the support provided by the results of Mr. Coleman's DCF analysis, Mr. Coleman's risk premium result provides further support for the fact that markets returns of 8.50 percent and 8.91 percent are unreasonably low and understate the true market return expected by investors. By relying on unreasonably low market returns, Mr. Coleman's understates the results of his risk premium analysis.

[97] Direct Testimony of Casey J. Coleman, at 48.
[98] Direct Testimony of Casey J. Coleman, at 48.

Furthermore, Mr. Coleman relies on the yields on the Moody's Aaa-rated and Baa-rated corporate bonds to approximate the bond rating of RMP. However, since the Company is a utility and has a credit rating from Moody's of A3, it would be more appropriate to rely on the Moody's A-rated utility bond yields to calculate the risk premium.

Finally, Mr. Coleman adds the estimated risk premia to the interest rate from RMP's most recent long-term debt issuance. However, as noted in Section V, long-term interest rates are expected to increase over the near-term. Therefore, a risk premium analysis based on current interest rates is likely to understate the cost of equity during the period that RMP's rate will be in effect.

Q. What is your conclusion regarding the risk premium analysis conducted by Mr. Coleman?

A. While I agree with Mr. Coleman that it is important to consider the risk premium analysis, I disagree with the inputs that Mr. Coleman has selected to develop his risk premium analysis. Mr. Coleman's use of current interest rates and the market return estimates from Duff & Phelps and Dr. Damodaran causes the results of Mr. Coleman's risk premium analysis to be understated. As with the DCF and CAPM models, the selection of inputs in the risk premium is important to ensure the model is producing reasonable results. In the case of the risk premium model, this involves careful consideration of the selection of the interest rate and risk premium. As discussed in my direct testimony, I developed a regression analysis that estimates a relationship between interest rates and the risk premia over time.[99] The regression results can then be used

[99] Direct Testimony of Ann E. Bulkley, at 56.

to estimate the risk premium given a specified interest rate. Therefore, projected interest rates can be relied on in the regression equation to develop an estimate of the projected risk premium. This results in a statistically significant estimate of the ROE during the time period that RMP's rates will be in effect. As a result, I believe it is more appropriate to rely on this time series analysis of the electric utility segment than Mr. Coleman's estimated ROE based on current interest rates and market returns that are less than the current ROEs being authorized for electric utilities.

F. Expected Earnings

Q. Please summarize Mr. Coleman's criticisms of your Expected Earnings analysis.

A. Mr. Coleman contends that his biggest concern with my Expected Earnings analysis is that the approach is not market based but is instead an accounting-based approach.[100] According to Mr. Coleman, investors cannot invest in a company's book value but must instead pay the market price of a company. Therefore, the expected return on book equity is not reflective of returns on other available investments since the book value of investments is not available to investors outside of the unlikely scenario where market and book value are equal.[101] Additionally, Mr. Coleman states that the simplicity of the approach results in the Expected Earnings model not being reflective of a utility's cost of equity. Given that the Expected Earnings analysis is not market based and does not reflect a utility's cost of equity, Mr. Coleman recommends that the Commission not rely on the approach to estimate the cost of equity for RMP.

[100] Direct Testimony of Casey J. Coleman, at 34.
[101] *Ibid.*

Q. Do you agree with Mr. Coleman's position on this issue?

A. No, I do not. The *Hope* and *Bluefield* standards establish that a utility should be granted the opportunity to earn a return that is commensurate with the return on other investments of similar risk. Therefore, it is reasonable to consider the returns that investors expect to earn on the common equity of the electric utility companies in the proxy group as a benchmark for a just and reasonable return because that is the expected earned return on equity that an investor will consider in determining whether to purchase shares in the company or to seek alternative investments with a better risk/reward profile. As Dr. Morin notes:

> The Comparable Earnings standard has a long and rich history in regulatory proceedings, and finds its origins in the fair return doctrine enunciated by the U.S. Supreme Court in the landmark Hope case. The governing principle for setting a fair return decreed in Hope is that the allowable return on equity should be commensurate with returns on investments in other firms having comparable risks, and that the allowed return should be sufficient to assure confidence in the financial integrity of the firm, in order to maintain creditworthiness and ability to attract capital on reasonable terms. Two distinct standards emerge from this basic premise: a standard of Capital Attraction and a standard of Comparable Earnings. The Capital Attraction standard focuses on investors' return requirements, and is applied through market value methods described in prior chapters, such as DCF, CAPM, or Risk Premium. The Comparable Earnings standard uses the return earned on book equity investment by enterprises of comparable risks as the measure of fair return.[102]

What Mr. Coleman fails to note in his critique of the Expected Earnings analysis is that the ROE that is established in this case will be applied to the net book value of the Company's rate base (subject to certain regulatory adjustments). In this regard, the Expected Earnings approach provides valuable insight into the opportunity cost of

[102] New Regulatory Finance, Roger A. Morin Ph.D., Public Utility Reports, 2006, at 381.

investing in RMP. If investors devote capital to the Company (which would offer a return of only 9.25 percent on book value if Mr. Coleman's recommendation were adopted), they forgo the opportunity for that same capital to earn a potentially greater return on book value through investment in the proxy companies. As a result, the Expected Earnings approach is informative because it provides a measure of the return on book value that is available to investors through other investments with comparable risk to RMP.

Q. Please comment on Mr. Coleman's references to Dr. Morin's statements in *New Regulatory Finance* as it pertains to the Expected Earnings analysis.

A. Mr. Coleman references Dr. Morin, who does discuss some of the weaknesses of the Expected Earnings analysis. However, in *New Regulatory Finance*, Dr. Morin discusses the strengths and weaknesses of each of the methodologies used to compute the cost of equity including the DCF and CAPM analyses. Additionally, Mr. Coleman fails to mention Dr. Morin's conclusion regarding the Expected Earnings analysis. Specifically, Dr. Morin stated:

> The Comparable Earnings approach is far more meaningful in the regulatory arena than in the sphere of competitive firms. Unlike industrial companies the earnings requirement of utilities is determined by applying a percentage rate of return to the book value of a utility's investment, and not on the market value of that investment. Therefore, it stands to reason that a different percentage rate of return than the market cost of capital be applied when the investment base is stated in book value terms rather than market value terms. In a competitive market, investment decisions are taken on the basis of market prices, market values, and market cost of capital. **If regulation's role was to duplicate the competitive result perfectly, then the market cost of capital would be applied to the current market value of rate base assets employed by utilities to provide service. But because the investment base for ratemaking purposes is expressed in book**

value terms, a rate of return on book value, as is the case with Comparable Earnings, is highly meaningful.[103]

Therefore, contrary to the position of Mr. Coleman, Dr. Morin believes that the Expected Earnings approach is highly meaningful in a regulatory setting similar to the one being used to set the cost of equity for RMP.

G. Business Risks

Q. What are Mr. Coleman's concerns with the business risks you considered in developing the ROE for RMP?

A. Mr. Coleman contends that my risk analysis does not demonstrate that the Company has higher business and regulatory risk than the companies in my proxy group. In particular, Mr. Coleman argues that RMP does not have greater risk than the proxy group due to its capital expenditures plan because the Company should be pursuing long-term projects since capital costs are low and the Company like 48 percent of the proxy group does not recover capital costs through a capital tracking mechanism.[104] Furthermore, Mr. Coleman states that I have not provided enough support to conclude that RMP has greater risk relative to the proxy group as a result of the regulatory environment in Utah.[105] Mr. Coleman also asserts that the additional business risks of a vertically integrated utility should be considered in the equity ratio and not the ROE.[106] In regards to the legislation enacted in Oregon, Wyoming and Washington related to RMP's coal-fired power plants, Mr. Coleman believes the appropriate proceeding to deal with these issues is the Company's IRP filing.[107] Moreover, the

[103] New Regulatory Finance, Roger A. Morin Ph.D., Public Utility Reports, 2006, at 394-395. (emphasis added).
[104] Direct Testimony of Casey J. Coleman, at 55-56.
[105] Direct Testimony of Casey J. Coleman, at 58.
[106] Direct Testimony of Casey J. Coleman, at 59.
[107] Direct Testimony of Casey J. Coleman, at 59-60.

Commission should not increase the ROE in Utah based on the decisions made in Oregon and Wyoming. Finally, as it pertains Utah House Bill 411, Mr. Coleman believes that it is too soon to know the effect this will have on RMP.[108]

Q. Do you agree with Mr. Coleman's conclusions regarding the business risks considered in your direct testimony?

A. No, I do not. As discussed in my direct testimony, RMP has higher business risk than the proxy group based on several factors that are important to investors. Specifically, unlike many electric utilities in the proxy group, RMP does not have a capital cost recovery mechanism. In fact, Mr. Coleman stated as it relates to the capital cost recovery mechanism that RMP is "not that much riskier" than the proxy group.[109] Therefore, Mr. Coleman acknowledges that not having a capital cost recovery mechanism does increase RMP's risk relative to the group.

In terms of regulatory risk, Mr. Coleman referenced RRA who noted that utilities in Utah benefit from a balanced regulatory approach.[110] However, Mr. Coleman fails to acknowledge that in March 2020, RRA downgraded Utah's regulatory ranking based in part on the Commission's decision for DEU in Docket No. 19-057-02, which RRA noted included a below average authorized ROE of 9.50 percent. Therefore, also considering that, as shown in Exhibit RMP___(AEB-10), RMP has fewer cost recovery mechanisms than the proxy group, is it reasonable to conclude that RMP has greater regulatory risk than the proxy group.

[108] Direct Testimony of Casey J. Coleman, at 60.
[109] Direct Testimony of Casey J. Coleman, at 56.
[110] Direct Testimony of Casey J. Coleman, at 57-58.

Finally, while I agree with Mr. Coleman that the effects on RMP of Utah House Bill 411 are not known at this time, it is the fact that the effects are unknown that increases the cost of equity for RMP. Utah House Bill 411, as well as the legislation enacted in Oregon, Washington and Wyoming, increases uncertainty for the Company over the near-term. Investors view increases in uncertainty as increasing a company's risk and thus its cost of equity. As such, I have taken this factor, as well as the Company's capital expenditure plan and regulatory risk, into consideration in selecting the recommended ROE for the Company from within the range of reasonable results.

Q. Has Mr. Coleman presented any evidence or conducted any analysis to compare the business risks of RMP to the companies in the proxy group?

A. No. Mr. Coleman notes that investors and credit rating agencies see RMP's affiliation with BHE as a positive, which Mr. Coleman contends results in the Company maintaining access to capital markets at lower capital costs than the costs achieved by other comparable investments.[111] Additionally, Mr. Coleman notes that BHE is not requiring RMP to pay dividends over the near-term so that the Company can use the retained earnings to fund capital investments while the companies in the proxy group need to continue to pay dividends. According to Mr. Coleman, the flexibility to pay dividends provides RMP with a benefit that the companies in the proxy group do not have. Finally, Mr. Coleman indicates that Utah had one of the better state economies in the U.S. prior to the COVID-19 pandemic; therefore, because RMP operates in Utah the Company's prospects for growth are greater than the regulated electric utilities in

[111] Direct Testimony of Casey J. Coleman, at 61-62.

the proxy group that operate in other jurisdictions.[112] Thus, Mr. Coleman concludes that RMP has less risk than the companies in the proxy group.

Q. What are you concerns with the business risks considered by Mr. Coleman?

A. Mr. Coleman notes that he considered the fact that RMP is a wholly-owned subsidiary of BHE, the Company's flexibility regarding paying dividends and the local economy to conclude that RMP has less risk compared to the proxy group. However, Mr. Coleman did not review these factors for the individual companies contained in the proxy group. For example, he has not specifically developed an analysis to determine how the economy in RMP's service territory in Utah compares to the economies of the service territories of the companies in the proxy group. Absent this comparison. There is no basis to conclude that RMP has less risk.

Furthermore, the stand-alone principle of ratemaking holds that regulated rates should be based on the risks and benefits of the regulated utility, not its investors, parent or affiliates.[113] Since the stand-alone principle requires that the RMP's authorized cost of capital be based on the business and financial risk of the Company individually, it is necessary to establish a group of companies that are both publicly traded and comparable to RMP in certain fundamental business and financial respects to serve as a "proxy" for determining the ROE. Mr. Coleman's consideration of the investor's views of BHE should not be considered in determining the ROE. The ROE for RMP should be based on the financial and business risk of RMP as a stand-alone entity. Mr. Coleman's conclusion that RMP has less risk than the proxy group as a result of the Company's affiliation with BHE is not appropriate.

[112] Direct Testimony of Casey J. Coleman, at 62-63.
[113] New Regulatory Finance, Roger A. Morin Ph.D., Public Utility Reports, 2006, at 215-216.

Q. Has the Commission considered business risk when determining the appropriate ROE?

A. Yes. In Docket No. 13-057-05 for DEU, the Commission considered the recent regulatory mechanisms approved by the Commission for DEU to determine DEU's relative risk to the proxy group.[114] This is similar to the regulatory risk analysis I performed in Exhibit RMP ___ (AEB-10). Specifically, the Commission noted:

> Based on the evidence presented, we do not believe Questar has a higher risk profile than comparable natural distribution companies and may, in some instances, have a lower risk profile. We further acknowledge the regulatory mechanisms approved by this Commission in recent years have positively affected Questar's risk profile. For example, the decoupling mechanism, approved on October 5, 2006, through the Conservation Enabling Tariff in Docket No. 05-057-T01, ensures Questar collects the authorized revenue per customer regardless of the weather, the economy, customer conservation, movement of customers between rate schedules, or other influences on consumer demand. The Commission also approved a Demand Side Management cost balancing account in that docket, which further reduced cost recovery risk and, ceteris paribus, stabilized earnings.
>
> Additionally, the infrastructure tracker pilot program approved on June 3, 2010, in Docket No. 09-057-16 allows Questar to begin recovery of investment associated with high-pressure feeder lines between rate cases, thus reducing regulatory lag and cost recovery risk, and stabilizing earnings. The Commission also approved deferred accounting for transmission and distribution pipeline integrity management costs in Docket Nos. 04-057-0374 and 09-057-16, respectively, which again reduced cost recovery risk. The reduction of Questar's risks resulting from these mechanisms is evidenced by the reports from the financial rating agencies described above. We view these reports as positive outcomes associated with a constructive regulatory framework and a well-managed utility.[115]

[114] Report and Order, Docket No. 13-057-05, Questar Gas Company, February 21, 2014, at 33.
[115] *Ibid.*

While the Commission determined that the regulatory mechanisms in that case reduced the risk of DEU, the important fact is that the Commission considered the effect the mechanisms have on the risk of a company. As shown in Exhibit RMP___(AEB-10), RMP has fewer cost recovery mechanisms when compared to the proxy group, which would indicate greater risk and thus an ROE toward the higher-end of the range of results.

VII. RESPONSE TO OCS WITNESS DR. WOOLRIDGE

Q. Please summarize Dr. Woolridge's testimony and recommendations.

A. Dr. Woolridge develops a range of results from 7.60 percent to 8.95 percent based on the results of the Constant Growth DCF and CAPM methods for both his and my proxy groups. He recommends an ROE for RMP of 9.00 percent, if the Commission approves his imputed capital structure with an equity ratio of 50.00 percent. Alternatively, Dr. Woolridge recommends an authorized ROE of 8.75 percent, if the Commission adopts the Company's proposed capital structure, which includes an equity component of 53.67 percent. His Constant Growth DCF results are based on a dividend yield of 3.60 percent and a growth rate of 5.00 percent for his Electric proxy group. Dr. Woolridge indicates that his DCF results consider historical earnings growth rates, historical and projected dividend and book value growth rates, and retention growth rates, as well as projected earnings growth rates from Value Line, Yahoo, and Zack's, with a primary weight on the projected earnings growth rates.[116] Dr. Woolridge also presents a CAPM analysis, which produces an ROE estimate of 7.60 percent for both Woolridge's Electric proxy group and my proxy group. Dr. Woolridge recommends an imputed

[116] Direct Testimony of Dr. J. Randall Woolridge, at 50.

capital structure comprised of 50.00 percent common equity, 49.99 percent long-term debt and 0.01 percent preferred equity, rather than RMP's proposed capital structure of consisting of 53.67 percent common equity, 46.32 percent long-term debt and 0.01 percent preferred equity.[117]

Q. Is Dr. Woolridge's 9.00 percent ROE recommendation fair and reasonable for RMP?

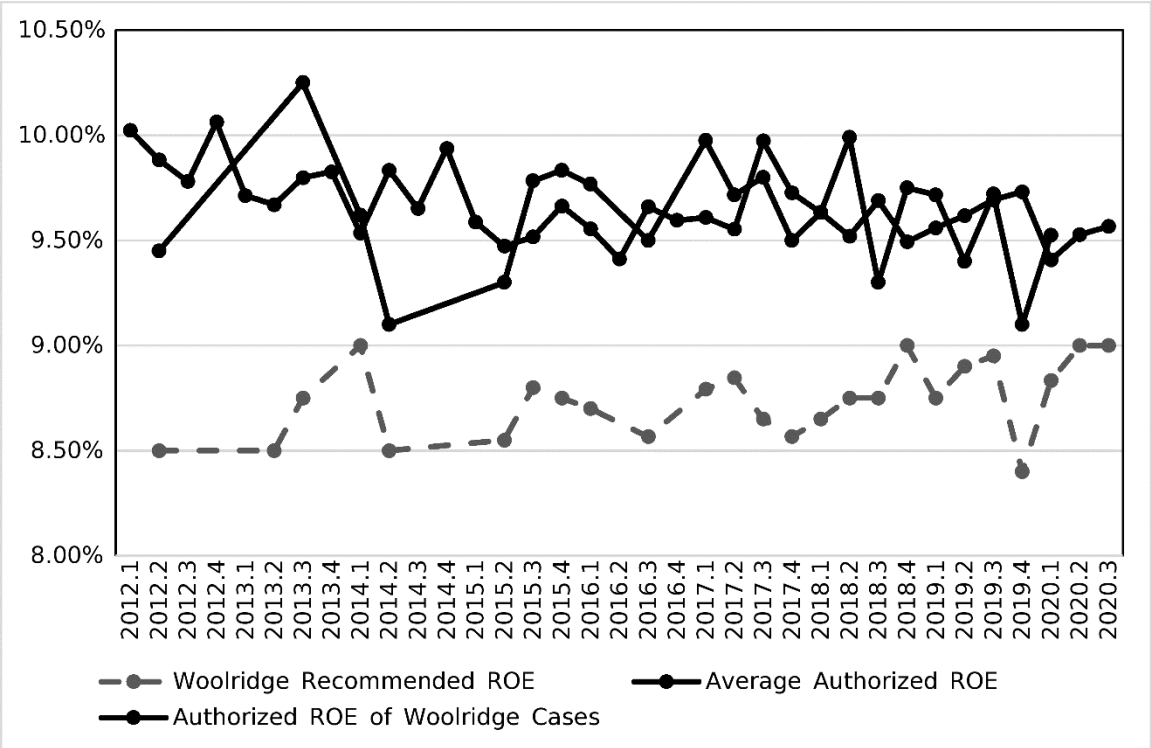
A. No. The rates set in this case, including the ROE and capital structure, will directly affect RMP's cash flows in the period during which rates are in effect. The Company's cash flows, in turn, have a direct bearing on its credit quality and investors' perception of the riskiness of the enterprise. While Dr. Woolridge acknowledges the uncertainty and volatility that have characterized capital markets since February 2020, he does not appropriately reflect these conditions in his assessment of the results of his ROE models or in the development of his final recommended ROE. Dr. Woolridge has provided no justification for why it would be appropriate to reduce RMP's authorized ROE by 80 basis points from the Company's current authorized ROE of 9.80 percent. As discussed in my response to the testimony of Mr. Coleman and Dr. Woolridge with respect to the concept of gradualism, credit rating agencies recently have reacted negatively to authorized ROEs that are significantly below the national average. Therefore, it is likely that adopting Dr. Woolridge's recommended ROE of 9.00 percent would result in a similar response from rating agencies and the market overall.

[117] *Id*., at 33.

Q. Do Dr. Woolridge's ROE recommendations typically meet the comparable return standard?

A. No. I have compiled Dr. Woolridge's recommendations in various cases from June 2012 through the second quarter of 2020. As shown in Figure 13, Dr. Woolridge's ROE recommendations have been significantly lower than the return that is actually authorized by the state regulatory commissions, as well as lower than the average authorized return for electric and natural gas utilities at the same approximate time as his recommendation was made. Since the second quarter of 2012, Dr. Woolridge's ROE recommendation has been as much as 138 basis points below the average authorized return in the same quarter.

Figure 13: Average Authorized ROEs vs. Dr. Woolridge's Recommendations 2012-2020



Q. What are the principal areas of disagreement between you and Dr. Woolridge?

A. As discussed in more detail below, there are several areas in which Dr. Woolridge and I disagree, including: 1) the composition of the proxy group; 2) the use of the mean DCF results without consideration of how current market conditions are affecting the DCF model; 3) the appropriate growth rates to be relied on in the Constant Growth DCF model; 4) the reasonableness of applying a 7.0 percent outlier screen to the results of the Constant Growth DCF model; 5) the inputs and assumptions in the CAPM analysis and the reasonableness of Dr. Woolridge's CAPM results; 6) the relevance of the Bond Yield Plus Risk Premium approach; 7) the applicability of the Expected Earnings analysis; and 8) the appropriate capital structure for RMP.

A. Composition of the Proxy Group

Q. Please explain your disagreement with Dr. Woolridge regarding the appropriate proxy group for RMP.

A. Dr. Woolridge and I have each developed a proxy group of electric utilities to estimate the cost of equity for RMP. However, we have used somewhat different screening criteria to develop our respective proxy groups. Dr. Woolridge's proxy group consists of 29 electric utility companies, while my proxy group consists of 22 companies. Although Dr. Woolridge notes that the proxy group that I have relied on is small, he also calculates the results of his DCF and CAPM analysis using my proxy group.

Q. As a preliminary matter, Dr. Woolridge claims that he has calculated the results of his DCF and CAPM analysis using your proxy group. Has he included all of the companies in your proxy group?

A. No. As shown on Exhibit JRW-2.1, Dr. Woolridge has included 20 of the 22 companies that are in my proxy group, as shown on Exhibit RMP___(AEB-3). In calculating the results for my proxy group, Dr. Woolridge has failed to include two companies that are in my proxy group: Dominion Resources, Inc.; and Duke Energy Corporation. As such the DCF and CAPM results presented by Dr. Woolridge for my proxy group are not representative of the complete set of companies that are in my proxy group.

Q. Do you agree with the methodology that Dr. Woolridge relied on to select his proxy group?

A. Not entirely. While many of Dr. Woolridge's screening criteria are similar to mine, there are several important differences that affect the composition of our respective proxy groups, including:

1) Dr. Woolridge uses a revenue screen, which can fluctuate from year to year and is not representative of a business segment's contribution to earnings.
2) Dr. Woolridge does not apply an owned generation screen to remove transmission and distribution (T&D) utilities that do not own regulated generation from the proxy group. This results in the inclusion of T&D utilities in the proxy group which, as Dr. Woolridge has previously noted, have lower business risk than integrated electric utilities such as RMP.[118]

[118] See Docket No. DE 19-057, Public Service Company of New Hampshire, d/b/a Eversource Energy, Direct Testimony of Dr. J Randall Woolridge, at 17.

Q. Why do you believe that the percentage of regulated net operating income is a more appropriate screening criterion than the percentage of regulated revenue?

A. In establishing my proxy group, I relied on the percentage of net operating income derived from regulated operations instead of the percentage of total revenue derived from regulated operations because net operating income is more representative of the contribution of that business segment to earnings and the corporation's overall financial position. Specifically, a significant portion of gas and electric utility company revenue is derived from the costs of purchased gas, purchased fuel, and purchased power, which, in most cases, are recoverable through tracking mechanisms and do not, therefore, contribute to earnings. Furthermore, this portion of total revenue can fluctuate considerably based on the cost of fuel and other inputs. Therefore, relying exclusively on a revenue screen does not provide a clear or necessarily consistent indicator of the contribution of the regulated utility operations to a company's earnings, which is what matters most to equity investors. Net operating income excludes the cost of the purchased commodity and therefore more closely represents the contribution of the business segment to earnings.

Q. Please provide an example of a company that has been excluded from Dr. Woolridge's proxy group because total revenue was used instead of operating income as a screening criterion.

A. DTE Energy Company ("DTE") would have been included in Dr. Woolridge's Electric proxy group if the percentage of total operating income derived from regulated electric operations were used as a screening criterion instead of the percentage of total revenue derived from regulated electric operations.

As discussed above, net operating income is the more appropriate screening criterion because it better approximates a business segment's contribution to earnings and the corporation's overall financial position. As shown in Exhibit JRW-2.1, DTE derives only 37 percent of its revenue from regulated electric utility operations. On that basis, DTE was excluded from Dr. Woolridge's Electric proxy group. However, DTE derives 93 percent of its operating income from regulated operations and 81 percent of its regulated operating income from regulated electric utility operations. Because DTE's regulated electric operations contribute a substantial percentage of the company's earnings, similar to RMP, it is appropriate to include DTE in the proxy group for RMP.

Q. Please discuss your second concern with the screening criteria used by Dr. Woolridge to select his proxy group.

A. Dr. Woolridge has inappropriately included in his electric proxy group three T&D only utilities which do not own regulated generation assets. RMP is a vertically integrated electric utility that owns substantial electric generation assets. The owned generation screen used to select my proxy group is intended to remove companies from the proxy group that do not own substantial amounts of regulated generation and may not be comparable to RMP on that basis. According to Moody's, generation ownership causes vertically integrated electric utilities to have higher business risk than electric T&D companies. Moody's notes:

> Generation utilities and vertically integrated utilities generally have a higher level of business risk because they are engaged in power generation, so we apply the Standard Grid. We view power generation as the highest-risk component of the electric utility business, as generation plants are typically the most expensive part of a utility's infrastructure (representing asset concentration risk) and are subject to the greatest risks in both construction and

operation, including the risk that incurred costs will either not be recovered in rates or recovered with material delays.[119]

Q. Which companies in Dr. Woolridge's proxy group do not own a material amount of regulated generation assets?

A. Three of the 29 companies in Dr. Woolridge's Electric proxy group are considered by investors as T&D utilities and do not own a material amount of regulated generation. These three companies are: AVANGRID, Inc.; Consolidated Edison, Inc.; and Eversource Energy. As shown in Exhibit RMP___(AEB-10R), the DCF result for Consolidated Edison is 6.78 percent using 30-day average stock prices.

Q. Do you agree with Dr. Woolridge that what he characterizes as "errors" in your DCF analysis are "magnified by the fact that she [Ms. Bulkley] has used a small proxy group?"[120]

A. No, I do not. First, I do not agree with Dr. Woolridge that there are "errors" in my DCF analysis. Further, comparability of the group is more important than the number of companies included in the proxy group. While my proxy group is slightly smaller than Dr. Woolridge's (i.e., 22 companies vs. 29 for Dr. Woolridge's group), my proxy group contains a sufficient number of companies to estimate the cost of equity. In addition, my proxy group is superior to Dr. Woolridge's group because it more closely reflects RMP's operational profile, which includes ownership of regulated generation assets, and screens on regulated net operating income rather than revenue.

[119] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 21.
[120] Direct Testimony of Dr. J. Randall Woolridge, at 8-9.

Q. What is your conclusion with respect to the proxy group used to estimate the cost of equity for RMP?

A. My primary conclusion is that the composition of the proxy group is not a significant driver in the differences between Dr. Woolridge's recommended ROE and mine. While I continue to believe that my screening criteria result in a more risk comparable proxy group to RMP, I have limited my response on this issue to focus more attention on what is causing the substantial differences in our respective ROE analyses and recommendations.

B. Constant Growth DCF Analysis

Q. Please summarize the results of Dr. Woolridge's Constant Growth DCF analysis.

A. Dr. Woolridge performs a Constant Growth DCF analysis using both his Electric proxy group and my proxy group, which produces ROE results of 8.70 percent and 8.95 percent, respectively. For Dr. Woolridge's Electric proxy group, his analysis is based on the mean dividend yield for the proxy companies of 3.60 percent and Dr. Woolridge's selected growth rate of 5.00 percent.[121] The analysis he performs using my proxy group is based on the mean dividend yield for the proxy companies of 3.60 percent and Dr. Woolridge's selected growth rate of 5.25 percent.[122] Dr. Woolridge does not provide an exhibit that develops the ROE estimates for each individual company in the proxy group.

[121] Direct Testimony of Dr. J. Randall Woolridge, Table 3, at 48.
[122] *Ibid*.

Q. What are the major differences in methodology and opinions that drive the differences in your respective DCF analyses?

A. The major methodological differences between the DCF analyses performed by Dr. Woolridge and me are: 1) the development of the growth rate; 2) the application of the DCF model to the proxy group; and 3) the weight placed on the DCF results in the final recommendation.

1. Development of the Growth Rate

Q. Please summarize Dr. Woolridge's criticism of the growth rate upon which you have relied.

A. Dr. Woolridge criticizes my DCF analysis for the exclusive use of "overly optimistic and upwardly biased EPS growth rate forecasts of Wall Street analysts and *Value Line*"[123] and devotes many pages to the summary and discussion of several alternative growth rates.

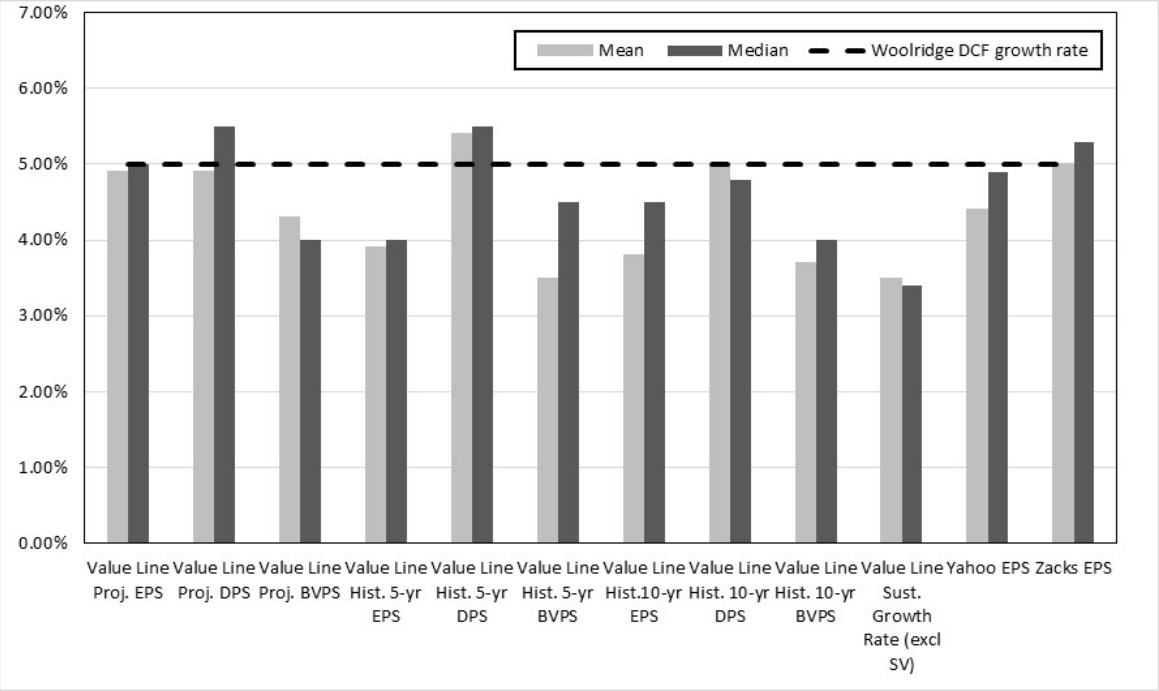
Q. Please summarize Dr. Woolridge's growth rate analysis.

A. Dr. Woolridge considers several growth rate assumptions including historical and projected growth in EPS, historical and projected dividends per share ("DPS") and book value per share ("BVPS"), and the internal growth rate. While Dr. Woolridge expresses many concerns with the use of EPS growth rates and suggests that the use of EPS growth rates in my DCF analysis is one of his primary concerns with the analysis presented in my direct testimony, he ultimately gives "primary weight to the projected EPS growth rate of Wall Street analysts."[124]

[123] *Id.,* at 11.
[124] *Id*., at 47.

Figure 14 depicts the 24 growth rates that Dr. Woolridge summarizes in his direct testimony for his Electric proxy group. As shown in Figure 14, 17 of the 24 growth rates that Dr. Woolridge reviewed are below the 5.00 percent growth rate that underlies the result of his DCF analysis for his Electric proxy group. In fact, Dr. Woolridge recognizes that "over the very long term, dividends and earnings will have to grow at a similar growth rate."[125]

Figure 14: Growth Rates Considered by Dr. Woolridge



Q. What is your response to Dr. Woolridge's assertion that you "exclusively used the overly optimistic and upwardly biased EPS growth rate forecasts of Wall Street analysts and Value Line"?[126]

A. I fail to understand Dr. Woolridge's definition of what he considers an "overly optimistic and upwardly biased EPS growth rate forecast." In Docket No. 49381 for

[125] *Id.*, at 42.
[126] *Id.*, at 66.

Southwestern Public Service Company before the Public Utility Commission of Texas, Dr. Woolridge provided this same criticism of my DCF analysis when the growth rate that I relied on was 5.04 percent. In fact, this is a routine criticism of the growth rates relied on by any ROE witness to whom Dr. Woolridge responds. Figure 15 below summarizes several recent cases where Dr. Woolridge has provided testimony, the growth rates that he has relied on in his DCF analysis, and the "overly optimistic and upwardly biased" growth rates of the Company witnesses.

Figure 15: Growth Rates relied on by Dr. Woolridge

Date	Jurisdiction	Docket No.	Woolridge Growth rate	Company witness growth rate
2019	New Hampshire	19-064	5.25%[127]	5.42%[128]
2019	New Hampshire	19-057	5.00%[129]	5.52%[130]
2020	Texas	49831	5.00%[131]	5.04%[132]
2020	Maryland	9630	5.00%[133]	5.52%[134]
2020	North Carolina	E-2 Sub 1219	5.00%[135]	5.76%[136]
2020	Utah	20-035-04	5.00%[137]	5.20%[138]

As shown in Figure 15, despite the criticism that the company witness in each of these cases has used overly optimistic EPS growth rates, Dr. Woolridge also has relied primarily on EPS growth rates in each case. Furthermore, the range of growth rates that

[127] New Hampshire Public Utilities Commission, Docket No. DE 19-064, page 1 of Attachment JRW-9.
[128] New Hampshire Public Utilities Commission, Docket No. DE 19-064, Attachment JC-4.
[129] New Hampshire Public Utilities Commission, Docket No. DE 19-057, Direct Testimony of Dr. J. Randall Woolridge, at 47.
[130] New Hampshire Public Utilities Commission, Docket No. DE-057, Attachment AEB-4.
[131] Public Utility Commission of Texas, Docket No. 49831, Exhibit JRW-7, page 1.
[132] Public Utility Commission of Texas, Docket No. 49831, Attachment AEB-RR-2, page 1.
[133] Public Service Commission of Maryland, Case No. 9630, Exhibit JRW-7, page 1.
[134] Public Service Commission of Maryland, Case No. 9630, Schedule RBH-1, page 1.
[135] North Carolina Utilities Commission, Docket E-2 Sub 1219, Exhibit JRW-7, page 1.
[136] North Carolina Utilities Commission, Docket E-2 Sub 1219, Exhibit RBH-1, page 1.
[137] Public Service Commission of Utah, Docket No. 20-035-04, Exhibit JRW-7, page 1.
[138] Public Service Commission of Utah, Docket No. 20-035-04, Exhibit RMP___(AEB-4), page 1.

Dr. Woolridge has relied on is similar to the range that has been relied on by the company witness. Considering this evidence, it appears that any growth rate relied on by a company witness that differs from what Dr. Woolridge has selected as a growth rate is characterized by Dr. Woolridge as the use of "overly optimistic and upwardly biased EPS growth rate forecasts."

Q. Why do you believe that EPS growth rates are the most appropriate growth rates to use in the DCF model?

A. As discussed in my direct testimony and in my response to Mr. Coleman, earnings are the fundamental determinant of a company's ability to pay dividends.[139] Further, both dividends and book value per share may be directly affected by short run management decisions. Despite his criticism of the use of EPS growth rates, it is Dr. Woolridge's view that "over the very long term, dividends and earnings will have to grow at a similar growth rate."[140]

In addition to the theoretical basis for the use of earnings growth rates, there is the practical consideration of the availability of market data. EPS growth rates are the only forward-looking growth rates available on a consensus basis. With the exception of his EPS growth rates, the source for all of Dr. Woolridge's growth rates is Value Line. Dr. Woolridge's reliance on Value Line's historical and forecasted DPS and BVPS growth rates, as well as Value Line's estimates of projected ROE and retention rates for his internal growth rate, unnecessarily introduces "sole source" bias into his calculations. By contrast, my Constant Growth DCF analysis uses earnings growth rates from

[139] Direct Testimony of Ann E. Bulkley, at 47.
[140] Direct Testimony of Dr. J. Randall Woolridge, at 42.

multiple sources, including Zack's and Thomson First Call, both of which provide consensus estimates from multiple analysts.

Q. Do you share Dr. Woolridge's concern that "long-term EPS growth rate forecasts of Wall Street securities analysts are overly optimistic and upwardly biased"?[141]

A. No, I do not. As discussed in my response to Mr. Coleman, the Global Settlement served to eliminate or significantly reduce the analyst bias referred to by Dr. Woolridge. Thus, it is unclear why investors would assume that the EPS growth rates for the proxy companies are susceptible to an ongoing upward bias.

Q. Have you reviewed the studies cited by Dr. Woolridge, which examine the potential bias in analysts' growth projections?

A. Yes. Dr. Woolridge references a number of articles that he asserts prove the potential bias in analysts' EPS projections.[142] However, only one of the studies that Dr. Woolridge cites analyzes the period after the Global Settlement on October 31, 2003. That April 2010 McKinsey and Company study notes:

> Exceptions to the long pattern of excessively optimistic forecasts are rare, as a progression of consensus earnings estimates for the S&P 500 shows (Exhibit 1). Only in years such as 2003 to 2006, when strong economic growth generated actual earnings that caught up with earlier predictions, do forecasts actually hit the mark. This pattern confirms our earlier findings that analysts typically lag behind events in revising their forecasts to reflect new economic conditions. When economic growth accelerates, the size of the forecast error declines; when economic growth slows, it increases. So as economic growth cycles up and down, the actual earnings S&P 500 companies report occasionally coincide with the analysts' forecasts, as they did, for example, in 1988, from 1994 to 1997, and from 2003 to 2006.[143]

[141] *Id.*, at 43.
[142] Direct Testimony of Dr. J. Randall Woolridge, at 43.
[143] Marc Goedhart, Rishi Raj, and Abhishek Saxena, "Equity analysts: Still too bullish" McKinsey and Company, April 2010.

The earnings reported by S&P 500 companies met and exceeded the growth rate projected by analysts between 2003 and 2006.[144] The period analyzed in the study extends through 2008, and analysts' projections did exceed actual earnings growth in 2007 and 2008. However, this time-period reflected the start of the Great Recession and does not indicate analyst bias, but rather shows that analysts were unable to predict the severity and magnitude of the financial crisis. Furthermore, the McKinsey study examines analysts' EPS forecasts for a given year at one, two and three years out. It does not review the 3 to 5-year EPS growth rates that I used in my Constant Growth DCF analysis, which are meant to represent average growth for a company over a longer period of time. In summary, Dr. Woolridge has provided no evidence that the EPS growth rates for the companies in my DCF analysis are the result of consistent and pervasive analyst bias.

Q. Do you agree with Dr. Woolridge that historical measures of growth are relevant to a forward-looking evaluation of the cost of equity?

A. While I agree that historical measures of growth are relevant, these historical growth rates are likely already incorporated into investors' forward-looking growth rates. Therefore, specific consideration of historical growth rates is likely to overweight history in the analysis. The Constant Growth DCF model is a forward-looking model that evaluates investors' required returns based on expected future cash flows. As such, the appropriate measure of growth in the DCF analysis is investors' expectations. Dr. Woolridge also observes that historical growth rates must be treated with caution because "[i]n some cases, past growth may not reflect future growth potential."[145] As

[144] *Ibid*.
[145] Direct Testimony of Dr. J. Randall Woolridge, at 40.

discussed previously, Dr. Woolridge relies primarily on long-term EPS growth rate estimates that are often not materially different from the estimates of company witnesses.

Q. Why do you disagree with Dr. Woolridge's calculation of the retention growth rate?

A. Dr. Woolridge's calculation of retention growth rates (also known as "internal growth rates" or "sustainable growth rates") considers only the product of earnings retention rates and earned returns on common equity, or what are commonly known as internally-generated funds. In the sustainable growth formula, this is commonly referred to as the product of "b x r", where "b" is the retention ratio, or the portion of net income not paid in dividends, and "r" is the expected ROE on the portion of net income that is retained within the company as a means for future growth.

Dr. Woolridge fails to consider that earnings growth also occurs as a result of new equity issuances, or what are commonly known as externally-generated funds. In the sustainable growth formula, this is shown as the product of "s" x "v", where "s" represents the growth in shares outstanding and "v" is that portion of the market-to-book (M/B) ratio that exceeds unity. This methodology is recognized as a common approach to calculating the sustainable growth rate.[146]

By only considering the funds from internally-generated sources, Dr. Woolridge's sustainable growth rate calculation understates the prospective growth rates for his proxy group companies. As shown in Exhibit RMP___(AEB-9R), had Dr. Woolridge included the "s" x "v" component in his computation, the mean sustainable growth rate

[146] *See* Roger Morin, New Regulatory Finance, at 306.

for his Electric proxy group would increase by approximately 78 basis points from 3.55 percent to 4.33 percent.

Q. Do you have other concerns with the reasonableness of Dr. Woolridge's sustainable growth rate calculation?

A. Yes. Since the "r" in the "b x r" approach refers to the projected ROE, Dr. Woolridge has effectively pre-supposed Value Line's ROE and payout ratio projections for his proxy group companies. By using this growth measure, Dr. Woolridge has assumed that Value Line's ROE projections are reasonable, even though he dismisses my Expected Earnings analysis, which is based on this same Value Line data.[147] Further, as shown on page 4 of Exhibit JRW-7, the mean and median ROE projections for the companies in Dr. Woolridge's Electric proxy group are 10.30 percent and 10.00 percent, respectively, which are significantly higher than his recommended ROE for RMP of 9.00 percent.

Q. As a practical matter, does Dr. Woolridge rely on these alternative growth rates?

A. No, he does not. Despite his criticism of my DCF methodology, Dr. Woolridge has also relied primarily on projected EPS growth rates. Therefore, Dr. Woolridge's criticism of my DCF analysis because it relies on EPS growth rates is invalidated by his own views and his ultimate reliance on EPS growth rates.

Q. Have you reviewed Dr. Woolridge's growth rate recommendations in other cases?

A. Yes. Figure 16 summarizes the dividend yields and growth rates that Dr. Woolridge has relied on in the development of his Constant Growth DCF models for 59 cases since June 2012. As shown in Figure 16, as the dividend yields for his proxy groups have

[147] Direct Testimony of Dr. J. Randall Woolridge, at 87-90.

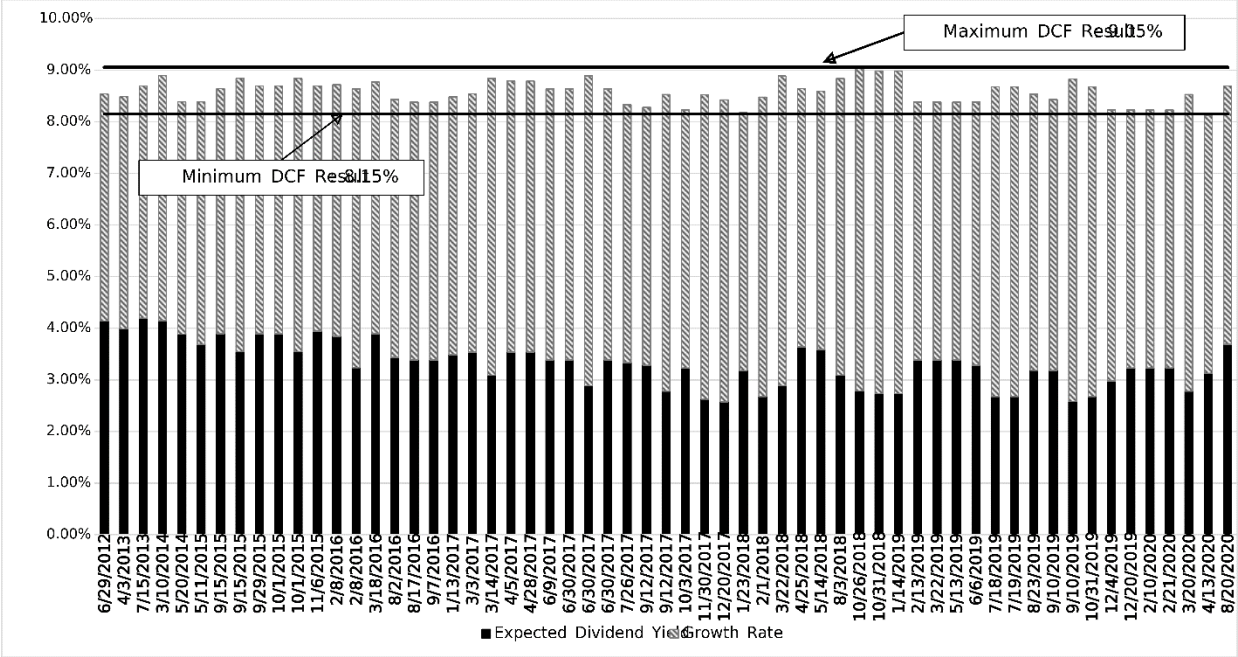
declined in response to capital market conditions, Dr. Woolridge simply selects a higher projected growth rate in the Constant Growth DCF model. Conversely, when the dividend yields for his proxy group increase, Dr. Woolridge selects a lower projected growth rate.

Q. Have you conducted any analysis on the dividend yield and growth rate assumptions relied on in Dr. Woolridge's DCF analyses over this time-period?

A. Yes, I calculated the correlation between these two assumptions over time in Dr. Woolridge's analysis. The correlation coefficient between the dividend yield used in Dr. Woolridge's DCF analysis and the growth rate using the 59 cases from the last 8 years is (0.89), which suggests a high degree of correlation between the dividend yield and the growth rate.[148] Furthermore, the correlation coefficient is negative, which implies that as the dividend yield increases (decreases), the growth rate decreases (increases). This supports my conclusion that Dr. Woolridge's selected growth rate in his DCF analysis appears to be related to whether the dividend yield for his proxy group has increased or decreased.

[148] A correlation coefficient with an absolute value of 0.8 or higher indicates a very strong relationship.

Figure 16: Woolridge Historical Dividend Yields and Growth Rates



Q. What do you conclude from this analysis?

A. Despite changes in interest rates and the price of utility stocks over this period, all of which should have an effect on the results of the ROE estimation models, as shown in Figure 16, by selecting the growth rate used in the DCF model, Dr. Woolridge has maintained DCF results in a tight range, never exceeding 9.05 percent over the last 8 years.

2. Application of the DCF model to the proxy group

Q. Why is it important to consider the ROE results for each proxy company?

A. As discussed in the *Hope* decision, developing a return that reflects investor expectations should be of primary importance, not the model or methodology employed to derive that result. As such, it is important to consider whether the return estimates for each individual company are reasonable.

Q. Does Dr. Woolridge develop ROE estimates for each individual company in his Electric proxy group?

A. No. Unlike the DCF analyses presented in my direct testimony, Dr. Woolridge's DCF analysis does not provide the result for each individual company. Doing so allows the opportunity to review the reasonableness of the DCF model results on a company-specific basis.

Q. How does the growth rate selected by Dr. Woolridge affect his DCF analysis?

A. As previously discussed, Dr. Woolridge simply chooses the growth rate that he relies on from within the projections he has summarized. Because he is selecting a value, rather than relying directly on the consensus estimates from industry analysts, Dr. Woolridge's DCF analysis is entirely subjective and judgment based.

It is also important to recognize that Dr. Woolridge's DCF analysis is not performed at the individual company level, but rather is one growth rate, that he has selected, and the average dividend yield for the proxy companies. As noted in both our direct testimonies, the Constant Growth form of the DCF model is as follows:

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

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

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

In this form of the DCF model, the dividend yield is also affected by the growth rate to develop the next year's cash flow. Therefore, Dr. Woolridge's method of selecting the growth rate imposes his judgment on both terms of the Constant Growth DCF model.

Q. How does your application of the Constant Growth DCF model differ from Dr. Woolridge's approach?

A. As discussed in my direct testimony, my Constant Growth DCF model relies on projected EPS growth rates reported by Value Line, as well EPS consensus estimates reported by Zacks and Yahoo! Finance. I then consider the mean growth rates, as well as the low and high reported growth rates, to develop individual DCF results for each proxy group member. In sum, my Constant Growth DCF analysis relies directly on the EPS growth estimates for each proxy company.

Q. Have you reviewed the ROE results for each of the companies in Dr. Woolridge's proxy group using the dividend yields and earnings growth rates assumed by Dr. Woolridge?

A. Yes. Exhibit RMP___(AEB-10R) provides the DCF result for each of the companies in Dr. Woolridge's Electric proxy group based on the dividend yields calculated by Dr. Woolridge and the earnings growth rates from Value Line, Yahoo and Zacks relied on by Dr. Woolridge. Applying my risk premium screen, which excludes individual proxy group results below 7.0 percent, the mean ROE estimates for Dr. Woolridge's Electric proxy group are 9.03 percent (30-day), 9.03 percent (90-day), and 8.90 percent (180-day).

3. Weighting of the DCF results in the final recommendation

Q. Please explain how Dr. Woolridge establishes his ROE recommendation.

A. Dr. Woolridge relies primarily on the results of the DCF model and also considers the authorized ROEs for electric utilities in other jurisdictions. On that basis, his ROE recommendation of 9.00 percent is slightly higher than the upper end of his DCF results of 8.95 percent.[149]

Q. Do you agree with Dr. Woolridge's primary reliance on the result of the DCF model?

A. No. As discussed in this section, Dr. Woolridge's DCF analysis is based entirely on his judgment. I have demonstrated, through a review of 59 cases where Dr. Woolridge has offered his ROE recommendation, that Dr. Woolridge's selection of the EPS growth rate in his DCF model is subjective and appears to be highly correlated with the then current dividend yield. Comparing his recommendation to authorized ROEs over time demonstrates that Dr. Woolridge's DCF results are well below the average authorized ROEs for electric and gas utilities, demonstrating that his judgment is not considering all the necessary risk factors for the subject companies.

C. Projected DCF Analysis

Q. Please discuss Dr. Woolridge's criticism of your Projected DCF analysis.

A. Dr. Woolridge claims there are two "errors" with my Projected DCF analysis.[150] The first error is that the projected DCF is a "totally" new approach, and the second error is that it involves a "mismatch" of data.[151] According to Dr. Woolridge, the analysis

[149] Direct Testimony of Dr. J. Randall Woolridge, at 4.
[150] *Id.*, at 75.
[151] *Ibid*.

incorrectly combines three-to-five year projected stock prices and dividends with projected earnings growth rates from 2019.

Q. Do you agree with Dr. Woolridge that your Projected DCF analysis relies on a "mismatch" of data?

A. No, I do not. Dr. Woolridge testifies that the use of the Constant Growth DCF model is appropriate for the utility industry because the industry is in the "maturity stage of the life cycle."[152] According to Dr. Woolridge, this means that the earnings growth rate, the dividend payout ratio and the ROE stabilize for the remainder of the company's life.[153] As shown in Exhibit RMP___(AEB-5) to my direct testimony, for my Projected DCF analysis, I have relied on projected stock prices and dividends for the period of 2023-2025; however, for the growth rate I have utilized the five-year projected earnings growth rates from my Constant Growth DCF analysis. Thus, the Projected DCF model assumes that the growth rate in the DCF analysis will remain stable over time. This assumption is consistent with the reason Dr. Woolridge cites for relying on the Constant Growth DCF model. Therefore, it is unclear why Dr. Woolridge is concerned with my use of the five-year projected earnings growth rates from 2019 in my Projected DCF analysis.

Q. Do you have any other observations regarding the Projected DCF model?

A. Yes. As discussed above and in my direct testimony, the valuations of utilities are currently at unsustainably high levels. If the valuations of electric utilities decline as expected, the dividend yields will increase, which will result in increased estimates of the cost of equity using the DCF model. The projected stock prices developed by Value

[152] *Id.*, at 35-36.
[153] *Ibid*.

Line reflect this relationship. Consistent with market expectations, Value Line projects that the stock prices of the companies in my proxy group will decrease over the near-term. The purpose of the Projected DCF analysis is to illustrate the effect that the decline in utility stock prices would have on the cost of equity during the period that RMP's rates will be in effect.

Q. Does Dr. Wooldridge rely on Value Line projections in his DCF analysis?

A. Yes. While Dr. Woolridge criticizes my reliance on three- to five-year projections of stock prices and dividends, and while he criticizes Value Line's EPS growth rates as overly optimistic, he also relies on Value Line projections in developing his Constant Growth DCF analysis. Specifically, Dr. Woolridge relies on Value Line's EPS, DPS, BVPS and retention growth rate projections over the same time-period as the growth rate estimate in his Constant Growth DCF analysis. As such, Dr. Woolridge relies on the very same Value Line projection period and data that he has concerns with when applied in my Projected DCF analysis.

D. CAPM Analysis

Q. Please summarize Dr. Woolridge's CAPM results and explain how he uses that analysis.

A. As shown in Table 4 of Dr. Woolridge's direct testimony, his CAPM results are 7.60 percent for both his Electric proxy group and mine. These results are based on a risk-free rate of 2.50 percent, a Beta coefficient of 0.85 for both his Electric proxy group and my proxy group, and an MRP of 6.00 percent. The results of Dr. Woolridge's CAPM analysis form the lower boundary of his range of results for RMP. Dr. Woolridge ultimately relies primarily on the results of his Constant Growth DCF model

in his establishing his ROE recommendation. The results of Dr. Woolridge's CAPM analysis are well below the authorized ROE for any U.S. electric utility in the past 40 years.[154]

Q. What are your areas of disagreement with Dr. Woolridge's CAPM analysis?

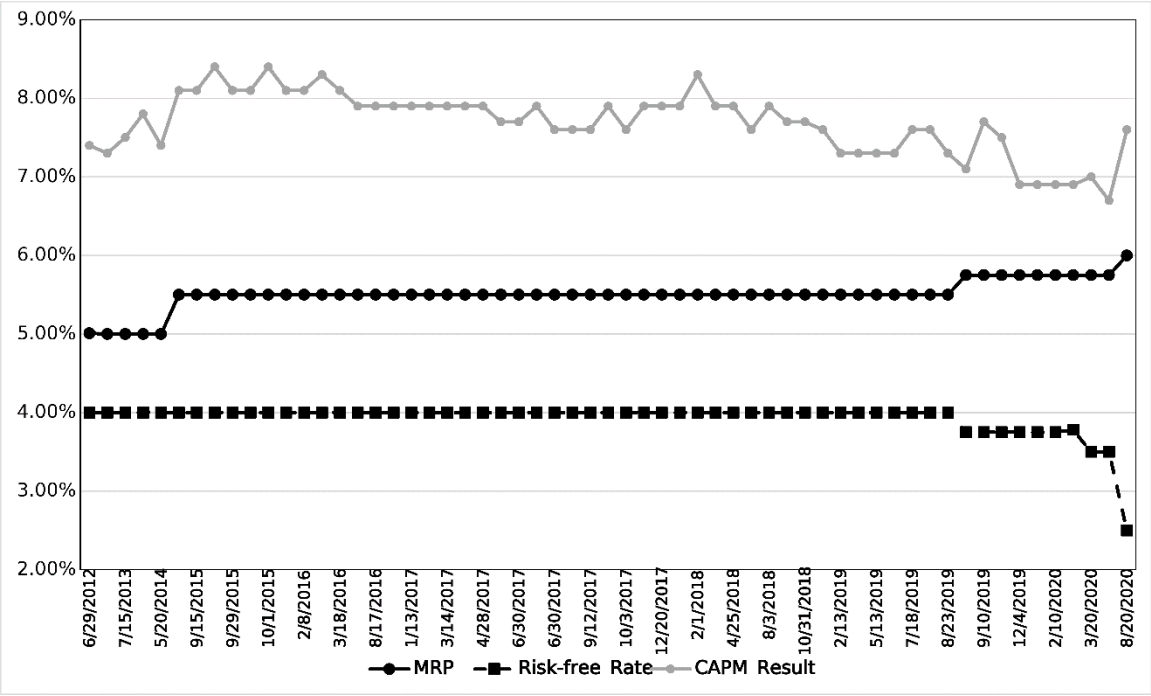
A. I have three areas of concern with the inputs and assumptions that Dr. Woolridge has relied on to derive his CAPM results. First, in spite of the fact that Dr. Woolridge discusses the low interest rate environment and his concern with the reliability of interest rate forecasts over the past decade,[155] he uses a "normalized" risk-free rate of 2.50 percent in his CAPM analysis.[156] Second, Dr. Woolridge relies on Value Line's Beta coefficients for the companies in his Electric proxy group and my proxy group. However, he questions the Value Line method for calculating the Beta coefficient, and in particular he expresses concern with the formula that Value Line uses to adjust the raw Beta. Finally, I take issue with Dr. Woolridge's use of an MRP of 6.00 percent because it is based primarily on the results of investor surveys and academic research rather than forward-looking market data and does not reflect the inverse relationship between interest rates and the equity risk premium.

As shown in Figure 17, two of the three inputs used in Dr. Woolridge's CAPM analysis have remained relatively constant since 2012, not recognizing any of the market fluctuations that have occurred over that period. Furthermore, it appears that Dr. Woolridge has not evaluated the results of his CAPM for reasonableness. Comparing the results in Figure 17 below to recently authorized ROEs shown in Figure

[154] Source: Regulatory Research Associates.
[155] Direct Testimony of Dr. J. Randall Woolridge, at 20.
[156] Direct Testimony of Dr. J. Randall Woolridge, at 50.

2, it is clear that the CAPM results, as specified by Dr. Woolridge, are unreasonably low compared to returns authorized by regulatory commissions over this time period.

Figure 17: Risk-free Rate and MRP relied on by Dr. Woolridge



Q. What concerns do you have with the risk-free rate relied on by Dr. Woolridge in his CAPM analysis?

A. The methodology that Dr. Woolridge uses to support his normalized risk-free rate is unclear at best and does not appear to reflect current or expected market conditions. First, it is unclear what Dr. Woolridge believes his normalized risk-free rate represents. Dr. Woolridge states that he has reviewed historical yields on the 30-year Treasury bond from 2013-2020, which range from 1.3 percent to 4.0 percent, referencing Exhibit JRW-8 for this analysis. Exhibit JRW-8.2 shows that the yield on the 30-year Treasury bond has been above 2.50 percent for the majority of the time-period that Dr. Woolridge reviewed. The rationale he provides for selecting 2.50 percent is as follows: "Given the recent range of yields, I have chosen to use a yield toward the middle of the

range as my risk-free interest rate."[157] This suggests that Dr. Woolridge recognizes and is reflecting potentially higher interest rates when he selects the risk-free rate from within his historical data set. However, he then directly contradicts this rationale in the following statements in his direct testimony:

Q. Does your 2.50 percent risk-free interest rate take into consideration forecasts of higher interest rates?

A. No, it does not. As I stated before, forecasts of higher interest rates have been notoriously wrong for a decade. My 2.50 percent risk-free interest rate takes into account the range of interest rates in the past and effectively synchronizes the risk-free rate with the market risk premium. The risk-free rate and the market risk premium are interrelated in that the market risk premium is developed in relation to the risk-free rate. As discussed below, my market risk premium is based on the results of many studies and surveys that have been published over time. Therefore, my risk-free interest rate of 2.50 percent is effectively a normalized risk-free rate of interest.[158]

In addition to being inconsistent with his prior statement on the basis for the 2.50 percent risk-free rate, it is concerning that Dr. Woolridge suggests that the MRP and the risk-free rate he has chosen are somehow synchronized. As discussed in more detail later in my rebuttal testimony, Dr. Woolridge selects his MRP from within a range that he develops from survey data.[159] He provides no explanation regarding how the selected "normalized" 2.50 percent risk-free rate is "synchronized" with the selected MRP. Furthermore, the estimation of the cost of equity is forward-looking;

[157] *Id.*, at 50.
[158] *Id.*, at 50.
[159] *Id.*, at 58-59.

therefore, synchronizing the risk-free rate to historical survey data is not reflective of the expected return over the rate period.

Q. What Beta coefficients are relied on by Dr. Woolridge?

A. Dr. Woolridge relies on the average Value Line estimate of Beta coefficients for the companies in his Electric proxy group and the companies in my proxy group. However, Dr. Woolridge questions the sharp increase in the Value Line Beta coefficients that has occurred since February 2020, and suggests that this increase is due in part to Value Line's methodology for calculating Beta.[160] In particular, Dr. Woolridge expresses concern with the adjustment formula that Value Line uses to adjust raw Beta coefficients for the tendency of Beta to revert to the market mean of 1.0 over time. [161]

Q. What is your response to Dr. Woolridge's concern with Value Line Beta coefficients?

A. Dr. Woolridge has consistently relied on Value Line as the source of his Beta coefficients in his CAPM analysis for many years which he admits in his resposne to RMP 1.3. Now, when those Beta coefficients have increased to reflect the higher correlation between utility stocks and the broader market since February 2020, Dr. Woolridge takes issue with the methodology used by Value Line to calculate the Beta coefficients. As discussed in Section V of my rebuttal testimony, utilities have traditionally been a "safe-haven" for investors, but that has not been true since the onset of the market's response to the COVID-19 pandemic. The Value Line Beta coefficients have appropriately increased to reflect the higher correlation between utility stocks and the broader market, as measured by the NYSE Composite Index. It is not reasonable

[160] *Id*., at 52-54.
[161] Id., at 52-54.

for Dr. Woolridge to suddenly call into question the methodology used by Value Line to estimate Beta coefficients when he has consistently relied on Value Line as the source of his Betas for many years when the relative risk of utility stocks was much lower than it is in today's market conditions.

Q. Why is it reasonable to also rely on Bloomberg's Beta coefficients?

A. In my view, it is reasonable to consider several measures of market conditions in estimating the ROE. Bloomberg is a respected source of financial information, and Beta coefficients from Bloomberg are widely used by investors. In addition, Bloomberg Beta coefficients can be calculated on any given day, which makes them quicker to reflect important changes in market conditions than those Betas published by Value Line. Both the Bloomberg and Value Line Beta coefficients have increased sharply since February 2020, which appropriately reflects the higher correlation between utility stocks and the broader market noted by Dr. Woolridge.[162]

Q. What MRP does Dr. Woolridge use in his CAPM analysis?

A. Dr. Woolridge estimates the MRP as being in the range of 4.00 percent to 6.00 percent. From within that range, he chooses an MRP of 6.00 percent.[163]

Q. What is the basis for Dr. Woolridge's MRP of 6.00 percent?

A. Dr. Woolridge presents a significant amount of information about the MRP; however, he does not explain how he weighs this information when he selects an MRP of 6.00 percent. Dr. Woolridge summarizes historical estimates of the MRP that range from 4.40 percent to 6.43 percent, but he is somewhat dismissive of historical data because ex-post returns are not the same as ex-ante expectations, MRPs can change over time,

[162] *Id.*, at 51-52.
[163] *Id.*, at 62.

and market conditions can change such that historical returns are poor estimates of future returns. [164]

Dr. Woolridge also presents the results of several surveys that have been published since January 2010. The median MRP reported in those surveys is 5.13 percent.[165] In particular, Dr. Woolridge highlights a March 2020 survey conducted by Professor Pablo Fernandez which found that the mean MRP for the U.S. was 5.6 percent,[166] and the MRP calculated by Professor Damodaran, which was 5.65 percent in July 2020 and has primarily been in the range of 5.0 percent to 6.0 percent since 2010.[167] Finally, Dr. Woolridge cites Duff & Phelps, which has recommended MRPs in the range of 5.0 percent to 6.0 percent over the past decade and recently raised its MRP for the U.S. to 6.0 percent.[168]

Q. Why do you disagree with Dr. Woolridge's MRP estimate of 6.00 percent?

A. Given the current low yields on Treasury bonds, and the inverse relationship between interest rates and the MRP that is shown in my Bond Yield Plus Risk Premium analysis, Dr. Woolridge's MRP estimate of 6.00 percent is understated. First, from a practical standpoint, the results of his CAPM analysis are significantly below any return that has been authorized by any U.S. regulatory jurisdiction in at least 40 years. The primary reason for the unreasonably low results from Dr. Woolridge's CAPM is due to his selection of the MRP. As noted in my response to Mr. Coleman's CAPM analysis, the historical market risk premium from Duff & Phelps of 7.15 percent is based on

[164] *Id.*, at 55-56.
[165] *Id.*, at 59.
[166] *Id., at 59-60.*
[167] *Id.*, at 60.
[168] *Id.*, at 61.

government bond yields that are significantly higher than current levels. Therefore, the historical MRP does not reflect the inverse relationship between interest rates and the equity risk premium. The MRP used by Dr. Woolridge of 6.00 percent suggests that the expected MRP is currently 115 basis points lower than the historical average MRP of 7.15 percent.

Q. What are your concerns with the surveys that Dr. Woolridge has relied upon to derive his MRP range of 4.00 percent to 6.00 percent?

A. In spite of Dr. Woolridge's concern with the ability of economists to accurately forecast interest rates, he relies on investor surveys from Pablo Fernandez and research from Dr. Damodaran to develop his estimate of the MRP. It is unclear why Dr. Woolridge believes the use of surveys is appropriate for purposes of deriving the MRP in his CAPM analysis, but not appropriate in an overall assessment of economic conditions and their effect on the models used to estimate the cost of equity.

Q. What MRP is suggested by the survey results summarized by Dr. Woolridge?

A. The March 2020 survey by Pablo Fernandez reports a mean MRP for the U.S. of 5.6 percent. However, it is important to note that Dr. Fernandez collected data from 2,156 respondent regarding the MRP for the U.S., which resulted in a wide range of estimated MRPs from 2.0 percent to 13.4 percent. Given the wide dispersion of responses, investors' required returns can vary substantially. Thus, taking the average of a sample of investors' required returns may not be a reasonable assumption when calculating the required return of the market. In fact, Dr. Fernandez cautioned against this approach:

> We can find out the REP [Required Equity Premium] and the EEP [Expected Equity Premium] of an investor by asking him, although for many investors the REP is not an explicit parameter but, rather, it is implicit in the price they are prepared to pay for

> the shares. However, it is not possible to determine the REP for the market as a whole, because it does not exist: even if we knew the REPs of all the investors in the market, it would be meaningless to talk of a REP for the market as a whole. There is a distribution of REPs and we can only say that some percentage of investors have REPs contained in a range. The average of that distribution cannot be interpreted as the REP of the market nor as the REP of a representative investor.[169]

Q. Do you have any concerns with the implied MRPs that Dr. Woolridge has cited to support his 6.00 percent MRP?

A. Yes. As discussed above, Dr. Woolridge cites to implied MRPs calculated by Professor Damodaran and Duff & Phelps as support for the 6.00 percent MRP. However, as shown in Figure 18, the implied market return for the sources cited by Dr. Woolridge range from 6.31 percent to 8.50 percent. These returns, while not only unreasonably low, are inconsistent with the results produced by Dr. Woolridge's DCF analysis. As Dr. Wooldridge notes, the Constant Growth DCF result for his Electric utility proxy group was 8.70 percent. Since Dr. Woolridge has acknowledged that his Electric proxy group is less risky than the market by relying on a Beta coefficient of 0.85 in his CAPM analysis, it would stand to reason that the market returns that Dr. Woolridge has relied on to select his MRP would be higher than his Constant Growth DCF results for a group of electric utilities. However, as shown in Figure 18, the market returns cited by Dr. Woolridge range from 219 basis points below his Constant Growth DCF result to 20 basis points below his Constant Growth DCF result. This highlights an important inconsistency that the Commission should consider between the inputs used to calculate Dr. Woolridge's CAPM analysis and his Constant Growth DCF analysis.

[169] Pablo Fernandez, Eduardo de Appellaniz, and Javier F. Acín, "Market Risk Premium and Risk-Free Rate used for 81 countries in 2020: a survey," IESE Business School, (March 2020), at 10.

Figure 18: Implied Market Returns cited by Dr. Woolridge

Source	Implied	Risk-Free Rate	Implied Market
Professor Damodaran[170]	5.65%	0.66%	6.31%
Duff & Phelps	6.00%	2.50%	8.50%

Q. What is Dr. Woolridge's concern with the MRPs you have used in your CAPM analysis?

A. Dr. Woolridge expresses concern that my forward-looking MRP is over-stated because it is developed using the expected return for the S&P 500 based on forecasted EPS growth rates. In particular, Dr. Woolridge testifies: that "a long-term EPS growth rate of 11.60 percent is inconsistent with both historic and projected economic and earnings growth in the U.S."[171]

Q. Does Dr. Woolridge agree that the MRP can be estimated based on expected returns for the S&P 500?

A. Yes. According to Dr. Woolridge: "The market risk premium is equal to the expected return on the stock market (e.g., the expected return on the S&P 500, $E(R_m)$ minus the risk-free rate of interest (R_f)."[172] This is consistent with the approach I have used to estimate the forward-looking MRP in my CAPM analysis.

Q. Do you agree with Dr. Woolridge that the forward-looking MRP in your CAPM analysis is "excessive" because it relies on EPS growth rates from Wall Street analysts for the S&P 500? [173]

A. No, I do not. Dr. Woolridge supports this assertion by arguing that the EPS growth rate for the S&P 500 of 11.60 percent is significantly higher than long-term EPS growth for

[170] Professor Aswath Damodaran's implied MRP and risk-free rate for July 2020 were included in Figure 18.
[171] Direct Testimony of Dr. J. Randall Woolridge, at 82.
[172] *Id.*, at 55.
[173] *Id.*, at 82-83.

the S&P 500 and more recent trends in GDP growth, as well as projections of GDP growth.[174] However, the forecasted growth rate used in my CAPM analysis is a market-based growth rate provided by S&P for the companies in the S&P 500 Index. In other words, 11.60 percent is not my estimate of the expected growth rate; it is based on forecasted earnings growth rates for the companies in the S&P 500 as reported by S&P. Dr. Woolridge supports the use of the Constant Growth DCF model to estimate the cost of equity for RMP and relies primarily on projected EPS growth rates. However, he dismisses the expected EPS growth rate for the S&P 500 as overstated, even though the model upon which he relies assumes that investors set stock prices based on expectations for future growth in dividends and share price. As discussed previously in my rebuttal testimony, recent academic research has found that analyst bias has been reduced or eliminated, if it ever existed, after the financial market reforms of the early 2000s.

Q. Is there support for the use of a forward-looking MRP in the CAPM analysis?

A. Yes. As noted in my response to Mr. Coleman, the Staff in both Maine and Minnesota have endorsed the use of a forward-looking MRP, and FERC has also relied on a forward-looking MRP in Opinion Nos. 569 and 569-A.

Q. What is your conclusion regarding the appropriate MRP in the context of current market data?

A. It is reasonable to expect that the uncertainty in current market conditions would result in a MRP that is higher than the historical average MRP. Dr. Woolridge's estimated MRP of 6.00 percent is substantially lower than: (1) the historical MRP using large

[174] *Id.*, at 82.

company stocks (7.15 percent); and (2) the forward-looking MRP in my CAPM analysis, which was derived using forecasted total returns for the S&P 500 less the risk-free rate (between 10.85 percent and 12.49 percent). Dr. Woolridge's MRP of 6.00 percent, when added to the 30-day average yield on the 30-year Treasury as of July 31, 2020 of 1.34 percent, suggests that market participants are expecting a total return for equities of 7.34 percent. By contrast, the long-term average total return for large company stocks since 1926, as reported by Duff & Phelps, has been 12.09 percent, or approximately 475 basis points higher than Dr. Woolridge's MRP estimate assumes. For these reasons, I continue to support the method I used to estimate the MRP.

Q. Please summarize Dr. Woolridge's concerns with the Empirical CAPM analysis.

A. Dr. Woolridge claims that the ECAPM has not been empirically or theoretically validated in refereed journals. In addition, Dr. Woolridge also states that he is not aware of any tests of the ECAPM that use adjusted Betas such as those used in my analysis, and that adjusting Betas addresses the empirical issues with the CAPM.[175]

Q. Do you agree with Dr. Woolridge that it is not appropriate to use adjusted Betas in the ECAPM?

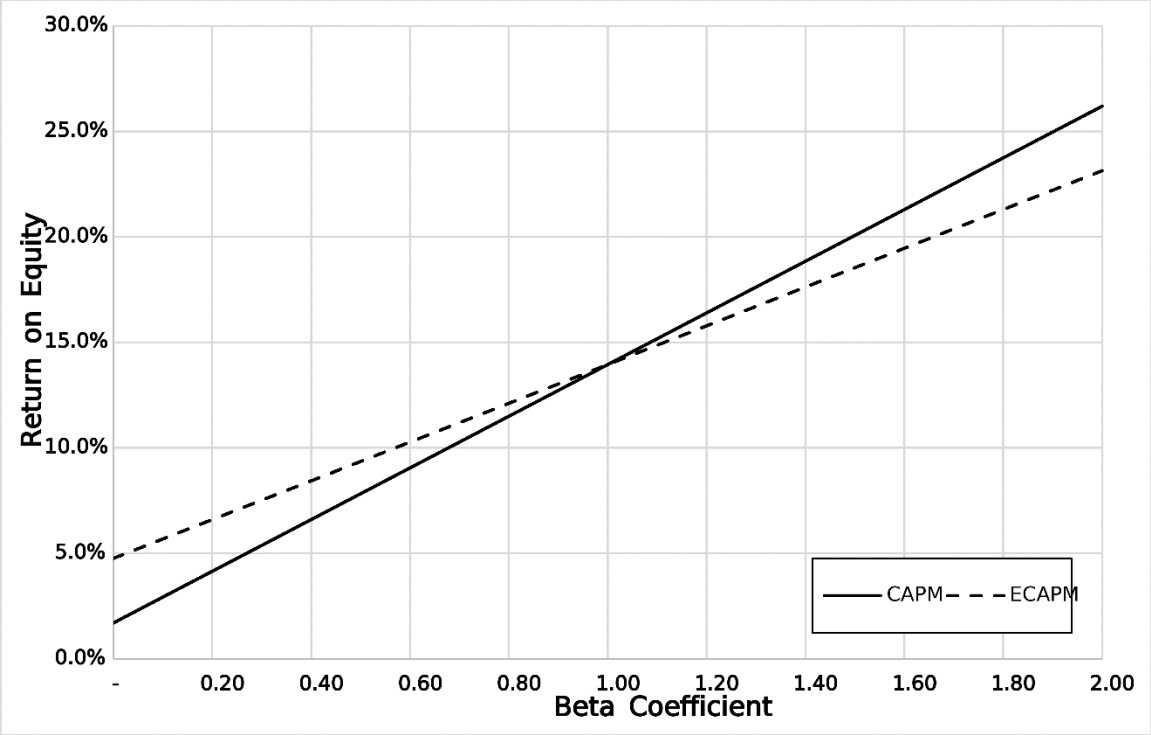
A. No, I do not. The purpose of adjusting Beta is to account for the tendency of Beta to trend back over time to the market Beta of 1.00. As noted by Dr. Woolridge, the Betas published by Value Line and Bloomberg include this adjustment, which was first proposed by Marshall E. Blume in 1975.[176] The use of adjusted Betas in the CAPM is important because if Beta trends towards 1.00, as Dr. Blume noted, then the adjusted

[175] Direct Testimony of Dr. Randall Woolridge, at 77-78.
[176] Blume, Marshall E. "Betas And Their Regression Tendencies." *The Journal of Finance*, vol. 30, no. 3, 1975, pp. 785–795.

Beta will be more reflective of the Beta that can be expected over the near-term. This is equally important in the specification of the CAPM in this case since we are estimating the cost of equity for RMP over the near-term or the period when RMP's rates will be in effect.

The purpose of the ECAPM is to account for the fact that the risk-return relationship is flatter than what is estimated by the CAPM, not for the tendency of Beta to trend back to 1.00. While Beta is not observable and must be estimated, the theory behind the ECAPM is that even if the true value of a stock's Beta were observable, the CAPM would understate the return for stocks with betas less than 1.00 and overstate the results for stocks with betas greater than 1.00. In Figure 19, I have calculated the risk-return relationship of the CAPM and ECAPM analyses included in my rebuttal testimony. In the example, I rely on the near-term projection of the 30-year Treasury Bond yield of 1.70 percent as the risk-free rate and the market return of 13.95 percent as shown in Exhibit___RMP (AEB-3R). I then estimate the returns using different Betas. As shown in Figure 19, the slope of the ECAPM is flatter than the CAPM, indicating that the CAPM is likely understating the return for companies with Betas less than 1.00 and overstating the return for companies with Betas greater than 1.00. In other words, the adjusted Beta provides a better approximation of the expected Beta over the near-term, while the ECAPM is adjusting for the fact that the actual risk-return relationship observed is flatter than is predicted by the CAPM. Therefore, contrary to Dr. Woolridge's assertion, the purpose of each adjustment is different and applying both adjustments in the ECAPM is not duplicative.

Figure 19: CAPM and ECAPM Return Estimates



Q. Are you aware of any academic studies that have used adjusted betas to estimate the ECAPM?

A. Yes. Robert Litzenberger, Krishna Ramaswamy, and Howard Sosin published an article titled "On the CAPM Approach to the Estimation of a Public Utility's Cost of Equity Capital," which studied the ability of the CAPM to estimate the returns for utilities.[177] The authors found that the CAPM tends to understate the return for stocks such as utilities, which have a Beta less than 1.0. To develop the analysis, Litzenberger, et al. utilized both adjusted and raw Beta. In both cases, the CAPM understated the return for utilities with Betas less than 1.0. Therefore, contrary to Dr. Woolridge's

[177] Litzenberger, Robert, et al. "On the CAPM Approach to the Estimation of A Public Utility's Cost of Equity Capital." The Journal of Finance, vol. 35, no. 2, 1980, pp. 369–383.

assertion, this study shows that the adjustment to Beta and the use of the ECAPM are not duplicative but rather account for two different factors in the CAPM.

Similarly, Stephane Chretien and Frank Coggins published a study in 2011 titled "Cost of Equity for Energy Utilities: Beyond the CAPM", where they studied the CAPM and its ability to estimate the risk premium for the utility industry in particular subgroups of utilities. The article considered the CAPM, the Fama-French three-factor model and a model similar to the ECAPM used in my direct testimony. In the article, the ECAPM relied on adjusted betas, which were adjusted using the same approach applied by Value Line. As Chretien and Coggins show, the ECAPM significantly outperformed the traditional CAPM at predicting the observed risk premium for the various utility subgroups.[178]

Finally, one of Dr. Woolridge's concern with the ECAPM analysis is addressed directly by Dr. Roger Morin in his 2006 text New Regulatory Finance as follows:

> Some have argued that the ECAPM is inconsistent with the use of adjusted betas, such as those supplied by Value Line and Bloomberg. This is because the reason for using the CAPM is to allow for the tendency of betas to regress toward the mean value of 1.00 over time, and since Value Line betas are already adjusted for such trend, an ECAPM analysis results in double-counting. This argument is erroneous. Fundamentally, the ECAPM is not an adjustment, increase or decrease, in beta. This is obvious from the fact that the expected return on high beta securities is actually lower than that produced by the CAPM estimate. The ECAPM is a formal recognition that the observed risk-return tradeoff is flatter than predicted by the CAPM based on myriad empirical evidence. The ECAPM and the use of adjusted betas comprised two separate features of asset pricing. Even if a company's beta is estimated accurately, the CAPM still understates the return for low-beta stocks. Even if the ECAPM is used, the return for low-beta securities is understated if the betas are understated. Referring back to Figure 6-1, the ECAPM (vertical axis) is a return

[178] Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." *Energy Studies Review*, Vol. 18, No. 2, 2011.

adjustment and not a beta (horizontal axis) adjustment. Both adjustments are necessary.[179]

Q. Are you aware of any state commissions that have accepted the use of the ECAPM?

A. Yes, I am. Both the New York Public Service Commission ("NYPSC") and the Montana Public Service Commission ("Montana PSC") have accepted the ECAPM analysis with the use of adjusted beta coefficients in establishing the authorized ROE for regulated utilities. In New York, the NYPSC gives equal weight to the CAPM and ECAPM (which it refers to as the "Zero Beta" CAPM) results, while in Montana, the Montana PSC has expressed preference for the ECAPM analysis.[180]

Further, with respect to the use of adjusted betas in the ECAPM, the Montana PSC noted:

> Hill asserts that the use of the ECAPM with the use of adjusted betas is inappropriate as both serve to lower the slope of the Capital Market Line. Test. Hill 65. However, the Commission is persuaded by Morin's representation that "[t]he ECAPM and the use of adjusted betas comprise two separate features of asset pricing. Even if a company's beta is estimated accurately, the CAPM still understates the return for low-beta stocks." See Morin, Roger A. "Chapter 6: Alternative Asset Pricing Models." New Regulatory Finance Vienna: Public Utilities Reports, Inc. 2006.191. The Commission agrees with Scheig that the issue should be remedied by adopting the ECAPM, including his x factor of 0.25, which is intended to approximate the α effect identified by the academic literature reviewed in Morin's textbook.[181]

[179] Morin, Roger A., New Regulatory Finance, Public Utilities Report, Inc. (2006), at 191.
[180] Docket No. D2017.9.80, Order No. 7575c, IN THE MATTER OF the Joint Application for Approval to Change and Establish Natural Gas Delivery Rates for Energy West Montana, Inc. and Cut Bank Gas Company (Sep. 26, 2018), at 46.
[181] Morin, Roger A., New Regulatory Finance, Public Utilities Report, Inc. (2006), at 42.

E. Bond Yield Plus Risk Premium Method

Q. Please summarize Dr. Woolridge's concerns with your Risk Premium analysis.

A. Dr. Woolridge has expressed several concerns with my Bond Yield Plus Risk Premium analysis, including: (1) that I have used historical authorized ROEs and Treasury yields and applied the resulting risk premium to projected Treasury yields; (2) that the analysis is a gauge of regulatory commission behavior, not investor behavior; and (3) that my analysis includes returns from settled as well as litigated rate cases.[182]

Q. Is Dr. Woolridge's concern about the use of projected Treasury yields valid?

A. No. As shown in Exhibit RMP___(AEB-7) to my direct testimony, my Risk Premium analysis determines the appropriate risk premium based on the relationship between historic authorized ROEs for electric utilities and bonds yields. I disagree with Dr. Woolridge that it is incorrect to apply the historical risk premium from this analysis to projected Treasury yields in order to estimate the ROE at specified interest rates. My Risk Premium analysis is supported by a regression equation that evaluates the relationship between bond yields and the equity risk premium over time. The regression equation has an R^2 of 0.81, meaning that the regression can be used to predict the equity risk premium at different levels of interest rates. In summary, my Bond Yield Plus Risk Premium analysis is designed to use the historical relationship between bond yields and the equity risk premium to predict how investors will react to changes in interest rates.

[182] Direct Testimony of Dr. J. Randall Woolridge, at 86-87.

Q. What is your response to Dr. Woolridge's concern that your Risk Premium analysis is a gauge of regulatory commission behavior rather than investor behavior?

A. While my Risk Premium analysis is based on authorized ROEs and the corresponding Treasury yields at the time the regulatory decisions were issued, I believe that investors are informed by allowed ROEs from hundreds of rate case decisions to frame their return expectations. As Dr. Woolridge observes, one of the fundamental principles in setting a just and reasonable return is that the return must be comparable to returns available to investors in companies with similar risk. In that regard, the authorized returns for other electric utilities are a relevant consideration for investors. My Risk Premium analysis simply shows what those returns are in relation to the risk-free rate, so that it is possible to use historical returns to estimate future returns at various Treasury bond yields.

Q. Do you share Dr. Woolridge's concern that your Risk Premium analysis includes settled rate case decisions?

A. No, I do not. In order to test Dr. Woolridge's premise that the returns authorized in settled rate decisions are different than litigated rate decisions, I modified my Risk Premium analysis for electric utilities in my direct testimony to include only litigated cases. Based on that analysis, as shown in Exhibit RMP___(AEB-11R), the resulting ROE estimate ranges from 9.31 percent to 10.06 percent, with an average of 9.59 percent, as compared with a range from 9.33 percent to 10.04 percent and an average of 9.60 percent for both litigated and settled cases. As such, there is no basis for Dr.

Woolridge's concern that the inclusion of settled rate case decisions affected my Risk Premium analysis.

Q. Have other regulators considered the results of the Bond Yield Plus Risk Premium analysis when determining the authorized ROE?

A. Yes. As discussed previously in my rebuttal testimony, on May 21, 2020, FERC issued Opinion No. 569-A in which FERC determined that it would place equal weighting on the results of the DCF, CAPM and Risk Premium methodologies for electric transmission companies.[183] In addition, state regulators have also considered the results of a Risk Premium analysis. For example, in recent Orders for Minnesota Power (Docket No. E-015/GR-16-664), Otter Tail Power Company (Docket No. E-017/GR-15-1033) and Minnesota Energy Resources Corporation (Docket No. G011/GR-17-563), the Minnesota Public Utilities Commission ("MPUC") relied on the results of the Risk Premium analysis in addition to the CAPM to check the reasonableness of the DCF model results.[184]

Q. What is your conclusion regarding the Risk Premium analysis?

A. I continue to support the use of the Risk Premium analysis to corroborate the reasonableness of my DCF and CAPM results.

[183] Federal Energy Regulatory Commission, Opinion No. 569-A, May 21, 2020, at para 2.
[184] Docket No. E-015/GR-16-664, Findings of Fact, Conclusions, and Order, at 61; Docket No. E-017/GR-15-1033, Findings of Fact, Conclusions, and Order, at 54; Docket No. G011/GR-17-563, Findings of Fact, Conclusions and Order, at 27.

F. Expected Earnings Analysis

Q. Please summarize Dr. Woolridge's position regarding the Expected Earnings analysis presented in your direct testimony.

A. According to Dr. Woolridge, there are a number of significant issues with the Expected Earnings approach, including 1) it does not measure the market cost of equity capital; 2) changes in ROE ratios do not track capital market conditions; 3) the approach is circular; 4) the proxy companies' projected ROEs reflect earnings on business activities that are not representative of RMP's rate-regulated utility operations; and 5) the Value Line data used to develop the Expected Earnings analysis is biased upward and reflects the views of only one analyst.[185]

Q. What is your response to Dr. Woolridge's concerns?

A. The Expected Earnings approach provides an expected return for like-risk companies, which is a core strength of the model and consistent with the basic tenets of *Hope,* which requires that "the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks." Arguably, in deciding between companies of like risk, an investor would consider both current market valuations and the value of the expected return on book value. Further, in developing his sustainable growth rates for the DCF model, Dr. Woolridge assumes the reasonableness of the projected returns on equity from Value Line, which are the same returns that he dismisses as unreliable and biased in the Expected Earnings analysis.

[185] Direct Testimony of Dr. J. Randall Woolridge, at 88-90.

G. Proposal to Impute Capital Structure

Q. Please summarize Dr. Woolridge's proposed adjustment to RMP's capital structure.

A. Dr. Woolridge's primary recommendation is to impute a capital structure consisting of 50.00 percent common equity, 49.99 percent long-term debt and 0.01 percent preferred equity, as compared to the capital structure proposed by RMP consisting of 53.67 percent common equity, 46.32 percent long-term debt and 0.01 percent preferred equity.[186] Alternatively, Dr. Woolridge argues that if the Commission adopts the Company's proposed capital structure, the authorized ROE should be reduced from 9.00 percent to 8.75 percent. As support for his recommendation, Dr. Woolridge states that the median equity ratio for his Electric proxy group was 44.0 percent and for my proxy group was 43.6 percent.[187] On that basis, he concludes that an imputed capital structure of 50.00 percent common equity, 49.99 percent long-term debt and 0.01 percent preferred equity is more appropriate for RMP.

Q. Do you have any concerns with the analysis of proxy company capital structures that Dr. Woolridge relies on?

A. Yes. As shown page 1 of Exhibit JRW-2, the data relied upon by Dr. Woolridge for his analysis of the proxy company capital structures is reported at the holding company level. As such, Dr. Woolridge's analysis includes corporate-level debt that is not part of the regulated or financial capital structure of the operating utilities. The relevant capital structure for comparison purposes is at the operating company level, not the holding company. The Commission in this case will be setting the capital structure for

[186] Direct Testimony of Dr. J. Randall Woolridge, at Exhibit JRW-3.
[187] *Id.*, at 26.

RMP, the operating company, which will be used to finance investments in rate base that provides electric service to customers.

Exhibit RMP___(AEB-11) provides the actual capital structures for the electric proxy companies at the operating level. As shown, the average equity ratio for the electric proxy group companies is 52.73 percent, which is only slightly lower than the equity ratio proposed by the Company.

Q. What effect does the TCJA have on the appropriate capital structure for RMP?

A. As discussed in my direct testimony, the TCJA places additional pressure on utility operating company cash flows and has been viewed negatively by credit rating agencies.[188] All three rating agencies have commented on the potential negative implications for utilities from the loss of bonus depreciation and the reduction in taxes collected, both of which affect utility cash flows. As also discussed in my direct testimony, in the first quarter of 2018, the credit rating agencies issued reports identifying this risk factor and suggesting mitigation approaches that included increasing the authorized ROE or the equity ratio of utility operating subsidiaries.[189] Moody's has since downgraded the credit rating of several utilities due to concerns about cash flow metrics. The heightened concern from rating agencies highlights the importance of considering the equity ratios of the utility operating subsidiaries as the appropriate benchmark to be used in determining the equity ratio for RMP in this proceeding.

[188] Direct Testimony of Ann E. Bulkley, at 29-31.
[189] *Id.*

Q. What are your conclusions with respect to the Company's proposed capital structure?

A. The Company's proposed capital structure is consistent with the range of equity ratios at the operating company level for the electric companies in my proxy group, and consistent with the credit rating agencies' guidance for addressing the risks related to the TCJA. For those reasons, I believe that the equity ratio proposed by RMP and agreed to by the Division over the rate period is reasonable.

VIII. RESPONSE TO WALMART WITNESS MR. CHRISS

Q. Please summarize the ROE testimony of Mr. Chriss.

A. Mr. Chriss does not conduct an ROE analysis and does not provide a specific ROE recommendation for RMP in this proceeding. Rather, Mr. Chriss urges the Commission to consider the effect on the Company's revenue requirement and customer rates of the proposed ROE. By way of evidence, Mr. Chriss provides data from Regulatory Research Associates on authorized returns for electric utilities in other jurisdictions from 2017-2020. Specifically, Mr. Chriss provides average returns in each year for all electric utilities and for integrated electric utility companies.[190] The comparable return data provided by Mr. Chriss is consistent with data I used to create Figure 2 in my rebuttal testimony. Mr. Chriss notes that my original ROE recommendation of 10.20 percent for RMP, which is within the range of results presented in my direct testimony, exceeds the national average authorized ROE for integrated electric utilities from 2017-2020 of 9.73 percent.

[190] Direct Testimony of Steve W. Chriss, at 7.

Q. What is your response to Mr. Chriss' testimony?

A. With respect to Mr. Chriss' observation that the recommended ROE for RMP is higher than returns authorized by this Commission and other regulatory jurisdictions across the nation, while I agree with Mr. Chriss that recently authorized ROEs are a useful benchmark that investors use to develop their return requirements, I also believe that current and expected economic and capital market conditions need to be considered to understand investors' required return on a forward-looking basis. As shown in Figure 8, the average P/E ratio for the companies in the proxy group has reached historically high levels, indicating that current valuations may not be sustainable. Value Line is projecting that the P/E ratios for the companies in the proxy group will decline from current levels over the period from 2023-2025. This projected decline in utility share prices results in a corresponding increase in the dividend yields of these utility companies and thus ROE estimates from models such as the DCF also increase. Therefore, it is reasonable to expect that ROE awards and investors' return requirements will increase from current levels. Further, if the Commission finds recently authorized ROEs to be a useful benchmark in this proceeding, the Company's updated ROE request of 9.80 percent is within the range of authorized ROEs shown in Figure 2 and near the national average ROE for integrated electric utilities since January 2018.

IV. CONCLUSIONS AND RECOMMENDATIONS

Q. Please summarize your conclusions and recommendations.

A. The range of reasonable ROE results for the proxy group companies remains between 9.75 percent and 10.25 percent. The Company has decided to reduce its requested ROE

from 10.20 percent to 9.80 percent. Based on my ROE analysis and the company-specific risks of RMP relative to the proxy group, the Company's requested ROE of 9.80 percent is reasonable, if not conservative. An authorized ROE at this level balances the interests of RMP's customers and shareholders, is comparable to the authorized returns for similarly-situated electric utilities, maintains the Company's financial integrity, and enables RMP to attract capital on reasonable terms and conditions.

Q. What factors support RMP's requested ROE in this case?

A. Based on my updated analyses, I conclude that the Company's requested ROE of 9.80 percent is reasonable, if not conservative, given the updated range of results. A return at this level is:

1) Supported by the analyses contained in my direct testimony and updated in my rebuttal testimony;
1) Consistent with current and prospective financial market conditions;
2) Supported by the methodologies considered by the Commission and other regulatory jurisdictions;
3) Consistent with the range of ROEs awards for integrated electric utilities in other state jurisdictions;
4) Considers the unique business and operating risks of RMP in Utah; and
5) Will support RMP's ability to attract capital to finance investments at reasonable rates, which will provide long-term benefits to ratepayers by limiting the long-term cost of capital.

Q. What is your recommendation with respect to the capital structure?

A. RMP's proposed capital structure of 53.67 percent common equity, 46.32 percent long-term debt and 0.01 percent preferred equity is reasonable relative to the operating utilities held by the proxy group companies and takes into consideration the effect of the TCJA on the cash flows of utilities. Therefore, I recommend the Commission adopt RMP's proposed capital structure.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

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

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Summary of Testimony

September 2020

SUMMARY OF ROE ANALYSES RESULTS[1]

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.54%	9.00%	9.89%
90-Day Average	8.54%	8.98%	9.86%
180-Day Average	8.43%	8.76%	9.54%
Constant Growth Average	8.50%	8.91%	9.76%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.37%	12.42%	12.58%
Bloomberg Beta	11.63%	11.69%	11.93%
ECAPM			
Value Line Beta	12.76%	12.80%	12.92%
Bloomberg Beta	12.21%	12.26%	12.44%
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	9.26%	9.41%	9.96%
Risk Premium Mean Result	9.54%		
Expected Earnings Analysis			
	Mean		Median
Expected Earnings Result	10.70%		10.73%

Notes:

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

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

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Constant Growth DCF Model

September 2020

30-DAY CONSTANT GROWTH DCF -- RMP PROXY GROUP

										All Proxy Group			With Exclusions		
		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	$2.47	$57.12	4.32%	4.46%	5.50%	7.00%	NA%	6.25%	9.94%	10.71%	11.48%	9.94%	10.71%	11.48%
Alliant Energy Corporation	LNT	$1.52	$49.95	3.04%	3.13%	6.50%	5.30%	5.50%	5.77%	8.42%	8.90%	9.64%	8.42%	8.90%	9.64%
Ameren Corporation	AEE	$1.98	$75.02	2.64%	2.72%	6.00%	5.85%	6.80%	6.22%	8.57%	8.94%	9.53%	8.57%	8.94%	9.53%
American Electric Power Company, Inc.	AEP	$2.80	$83.65	3.35%	3.44%	5.00%	5.82%	5.70%	5.51%	8.43%	8.95%	9.26%	8.43%	8.95%	9.26%
Avista Corporation	AVA	$1.62	$36.34	4.46%	4.55%	1.00%	6.00%	5.20%	4.07%	5.48%	8.62%	10.59%		8.62%	10.59%
CMS Energy Corporation	CMS	$1.63	$60.46	2.70%	2.79%	7.50%	7.08%	7.00%	7.19%	9.79%	9.99%	10.30%	9.79%	9.99%	10.30%
Dominion Resources, Inc.	D	$3.76	$79.01	4.76%	4.86%	7.00%	2.76%	3.00%	4.25%	7.58%	9.11%	11.93%	7.58%	9.11%	11.93%
DTE Energy Company	DTE	$4.05	$109.66	3.69%	3.80%	5.00%	6.03%	5.70%	5.58%	8.79%	9.37%	9.83%	8.79%	9.37%	9.83%
Duke Energy Corporation	DUK	$3.78	$81.80	4.62%	4.72%	5.00%	3.81%	4.30%	4.37%	8.52%	9.09%	9.74%	8.52%	9.09%	9.74%
Entergy Corporation	ETR	$3.72	$98.13	3.79%	3.88%	3.00%	5.95%	5.70%	4.88%	6.85%	8.77%	9.85%		8.77%	9.85%
Evergy, Inc.	EVRG	$2.02	$61.76	3.27%	3.34%	3.00%	4.10%	5.00%	4.03%	6.32%	7.37%	8.35%		7.37%	8.35%
IDACORP, Inc.	IDA	$2.68	$89.76	2.99%	3.03%	3.50%	2.60%	2.60%	2.90%	5.62%	5.93%	6.54%			
NextEra Energy, Inc.	NEE	$5.60	$259.84	2.16%	2.25%	10.00%	8.17%	8.00%	8.72%	10.24%	10.97%	12.26%	10.24%	10.97%	12.26%
NorthWestern Corporation	NWE	$2.40	$54.28	4.42%	4.49%	1.50%	3.71%	3.40%	2.87%	5.95%	7.36%	8.21%		7.36%	8.21%
OGE Energy Corporation	OGE	$1.55	$31.44	4.93%	5.01%	3.00%	2.40%	3.70%	3.03%	7.39%	8.04%	8.72%	7.39%	8.04%	8.72%
Otter Tail Corporation	OTTR	$1.48	$38.56	3.84%	3.96%	3.50%	9.00%	NA%	6.25%	7.41%	10.21%	13.01%	7.41%	10.21%	13.01%
Pinnacle West Capital Corporation	PNW	$3.13	$77.80	4.02%	4.11%	4.00%	4.36%	4.70%	4.35%	8.10%	8.46%	8.82%	8.10%	8.46%	8.82%
PNM Resources, Inc.	PNM	$1.23	$39.58	3.11%	3.20%	6.00%	5.60%	6.20%	5.93%	8.79%	9.13%	9.40%	8.79%	9.13%	9.40%
Portland General Electric Company	POR	$1.54	$42.62	3.61%	3.70%	4.00%	4.45%	5.30%	4.58%	7.69%	8.28%	9.01%	7.69%	8.28%	9.01%
PPL Corporation	PPL	$1.66	$25.74	6.45%	6.54%	2.50%	2.90%	NA%	2.70%	9.03%	9.24%	9.44%	9.03%	9.24%	9.44%
Southern Company	SO	$2.56	$53.57	4.78%	4.87%	3.00%	4.53%	4.00%	3.84%	7.85%	8.71%	9.42%	7.85%	8.71%	9.42%
Xcel Energy Inc.	XEL	$1.72	$65.24	2.64%	2.72%	6.00%	6.10%	6.10%	6.07%	8.72%	8.78%	8.82%	8.72%	8.78%	8.82%
MEAN				3.80%	3.89%	4.61%	5.16%	5.15%	4.97%	7.98%	8.86%	9.73%	8.54%	9.00%	9.89%

Notes

[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of July 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 -- RMP PROXY GROUP

											All Proxy Group			With Exclusions	
		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	$2.47	$57.32	4.31%	4.44%	5.50%	7.00%	NA%	6.25%	9.93%	10.69%	11.46%	9.93%	10.69%	11.46%
Alliant Energy Corporation	LNT	$1.52	$49.15	3.09%	3.18%	6.50%	5.30%	5.50%	5.77%	8.47%	8.95%	9.69%	8.47%	8.95%	9.69%
Ameren Corporation	AEE	$1.98	$73.61	2.69%	2.77%	6.00%	5.85%	6.80%	6.22%	8.62%	8.99%	9.58%	8.62%	8.99%	9.58%
American Electric Power Company, Inc.	AEP	$2.80	$82.40	3.40%	3.49%	5.00%	5.82%	5.70%	5.51%	8.48%	9.00%	9.32%	8.48%	9.00%	9.32%
Avista Corporation	AVA	$1.62	$38.99	4.15%	4.24%	1.00%	6.00%	5.20%	4.07%	5.18%	8.31%	10.28%		8.31%	10.28%
CMS Energy Corporation	CMS	$1.63	$58.78	2.77%	2.87%	7.50%	7.08%	7.00%	7.19%	9.87%	10.07%	10.38%	9.87%	10.07%	10.38%
Dominion Resources, Inc.	D	$3.76	$79.25	4.74%	4.85%	7.00%	2.76%	3.00%	4.25%	7.57%	9.10%	11.91%	7.57%	9.10%	11.91%
DTE Energy Company	DTE	$4.05	$105.29	3.85%	3.95%	5.00%	6.03%	5.70%	5.58%	8.94%	9.53%	9.99%	8.94%	9.53%	9.99%
Duke Energy Corporation	DUK	$3.78	$83.69	4.52%	4.62%	5.00%	3.81%	4.30%	4.37%	8.41%	8.99%	9.63%	8.41%	8.99%	9.63%
Entergy Corporation	ETR	$3.72	$97.64	3.81%	3.90%	3.00%	5.95%	5.70%	4.88%	6.87%	8.79%	9.87%		8.79%	9.87%
Evergy, Inc.	EVRG	$2.02	$59.91	3.37%	3.44%	3.00%	4.10%	5.00%	4.03%	6.42%	7.47%	8.46%		7.47%	8.46%
IDACORP, Inc.	IDA	$2.68	$90.33	2.97%	3.01%	3.50%	2.60%	2.60%	2.90%	5.61%	5.91%	6.52%			
NextEra Energy, Inc.	NEE	$5.60	$245.67	2.28%	2.38%	10.00%	8.17%	8.00%	8.72%	10.37%	11.10%	12.39%	10.37%	11.10%	12.39%
NorthWestern Corporation	NWE	$2.40	$57.13	4.20%	4.26%	1.50%	3.71%	3.40%	2.87%	5.73%	7.13%	7.99%		7.13%	7.99%
OGE Energy Corporation	OGE	$1.55	$31.15	4.98%	5.05%	3.00%	2.40%	3.70%	3.03%	7.44%	8.09%	8.77%	7.44%	8.09%	8.77%
Otter Tail Corporation	OTTR	$1.48	$41.32	3.58%	3.69%	3.50%	9.00%	NA%	6.25%	7.14%	9.94%	12.74%	7.14%	9.94%	12.74%
Pinnacle West Capital Corporation	PNW	$3.13	$76.62	4.08%	4.17%	4.00%	4.36%	4.70%	4.35%	8.17%	8.53%	8.88%	8.17%	8.53%	8.88%
PNM Resources, Inc.	PNM	$1.23	$39.89	3.08%	3.17%	6.00%	5.60%	6.20%	5.93%	8.77%	9.11%	9.38%	8.77%	9.11%	9.38%
Portland General Electric Company	POR	$1.54	$45.18	3.41%	3.49%	4.00%	4.45%	5.30%	4.58%	7.48%	8.07%	8.80%	7.48%	8.07%	8.80%
PPL Corporation	PPL	$1.66	$25.87	6.42%	6.50%	2.50%	2.90%	NA%	2.70%	9.00%	9.20%	9.41%	9.00%	9.20%	9.41%
Southern Company	SO	$2.56	$55.15	4.64%	4.73%	3.00%	4.53%	4.00%	3.84%	7.71%	8.57%	9.28%	7.71%	8.57%	9.28%
Xcel Energy Inc.	XEL	$1.72	$63.50	2.71%	2.79%	6.00%	6.10%	6.10%	6.07%	8.79%	8.86%	8.89%	8.79%	8.86%	8.89%
MEAN				3.78%	3.86%	4.61%	5.16%	5.15%	4.97%	7.95%	8.84%	9.71%	8.54%	8.98%	9.86%

Notes
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 90-day average as of July 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 -- RMP PROXY GROUP

											All Proxy Group			With Exclusions	
		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	$2.47	$67.72	3.65%	3.76%	5.50%	7.00%	NA%	6.25%	9.25%	10.01%	10.77%	9.25%	10.01%	10.77%
Alliant Energy Corporation	LNT	$1.52	$51.90	2.93%	3.01%	6.50%	5.30%	5.50%	5.77%	8.31%	8.78%	9.52%	8.31%	8.78%	9.52%
Ameren Corporation	AEE	$1.98	$75.89	2.61%	2.69%	6.00%	5.85%	6.80%	6.22%	8.54%	8.91%	9.50%	8.54%	8.91%	9.50%
American Electric Power Company, Inc.	AEP	$2.80	$88.42	3.17%	3.25%	5.00%	5.82%	5.70%	5.51%	8.25%	8.76%	9.08%	8.25%	8.76%	9.08%
Avista Corporation	AVA	$1.62	$43.64	3.71%	3.79%	1.00%	6.00%	5.20%	4.07%	4.73%	7.85%	9.82%		7.85%	9.82%
CMS Energy Corporation	CMS	$1.63	$61.13	2.67%	2.76%	7.50%	7.08%	7.00%	7.19%	9.76%	9.96%	10.27%	9.76%	9.96%	10.27%
Dominion Resources, Inc.	D	$3.76	$80.75	4.66%	4.76%	7.00%	2.76%	3.00%	4.25%	7.48%	9.01%	11.82%	7.48%	9.01%	11.82%
DTE Energy Company	DTE	$4.05	$114.11	3.55%	3.65%	5.00%	6.03%	5.70%	5.58%	8.64%	9.22%	9.69%	8.64%	9.22%	9.69%
Duke Energy Corporation	DUK	$3.78	$87.60	4.32%	4.41%	5.00%	3.81%	4.30%	4.37%	8.21%	8.78%	9.42%	8.21%	8.78%	9.42%
Entergy Corporation	ETR	$3.72	$108.59	3.43%	3.51%	3.00%	5.95%	5.70%	4.88%	6.48%	8.39%	9.48%		8.39%	9.48%
Evergy, Inc.	EVRG	$2.02	$62.71	3.22%	3.29%	3.00%	4.10%	5.00%	4.03%	6.27%	7.32%	8.30%		7.32%	8.30%
IDACORP, Inc.	IDA	$2.68	$97.50	2.75%	2.79%	3.50%	2.60%	2.60%	2.90%	5.38%	5.69%	6.30%			
NextEra Energy, Inc.	NEE	$5.60	$246.24	2.27%	2.37%	10.00%	8.17%	8.00%	8.72%	10.37%	11.10%	12.39%	10.37%	11.10%	12.39%
NorthWestern Corporation	NWE	$2.40	$64.53	3.72%	3.77%	1.50%	3.71%	3.40%	2.87%	5.25%	6.64%	7.50%			7.50%
OGE Energy Corporation	OGE	$1.55	$36.55	4.24%	4.31%	3.00%	2.40%	3.70%	3.03%	6.69%	7.34%	8.02%		7.34%	8.02%
Otter Tail Corporation	OTTR	$1.48	$45.81	3.23%	3.33%	3.50%	9.00%	NA%	6.25%	6.79%	9.58%	12.38%		9.58%	12.38%
Pinnacle West Capital Corporation	PNW	$3.13	$83.44	3.75%	3.83%	4.00%	4.36%	4.70%	4.35%	7.83%	8.19%	8.54%	7.83%	8.19%	8.54%
PNM Resources, Inc.	PNM	$1.23	$44.64	2.76%	2.84%	6.00%	5.60%	6.20%	5.93%	8.43%	8.77%	9.04%	8.43%	8.77%	9.04%
Portland General Electric Company	POR	$1.54	$50.74	3.03%	3.10%	4.00%	4.45%	5.30%	4.58%	7.10%	7.69%	8.42%	7.10%	7.69%	8.42%
PPL Corporation	PPL	$1.66	$29.69	5.59%	5.67%	2.50%	2.90%	NA%	2.70%	8.16%	8.37%	8.57%	8.16%	8.37%	8.57%
Southern Company	SO	$2.56	$59.32	4.32%	4.40%	3.00%	4.53%	4.00%	3.84%	7.38%	8.24%	8.94%	7.38%	8.24%	8.94%
Xcel Energy Inc.	XEL	$1.72	$63.95	2.69%	2.77%	6.00%	6.10%	6.10%	6.07%	8.77%	8.84%	8.87%	8.77%	8.84%	8.87%
MEAN				3.47%	3.55%	4.61%	5.16%	5.15%	4.97%	7.64%	8.52%	9.39%	8.43%	8.76%	9.54%

Notes
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 180-day average as of July 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-3R)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

CAPM

September 2020

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

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

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE
ALLETE, Inc.	ALE	1.34%	0.85	13.95%	12.60%	12.06%	12.53%
Alliant Energy Corporation	LNT	1.34%	0.80	13.95%	12.60%	11.43%	12.06%
Ameren Corporation	AEE	1.34%	0.80	13.95%	12.60%	11.43%	12.06%
American Electric Power Company, Inc.	AEP	1.34%	0.75	13.95%	12.60%	10.80%	11.58%
Avista Corporation	AVA	1.34%	0.95	13.95%	12.60%	13.32%	13.47%
CMS Energy Corporation	CMS	1.34%	0.80	13.95%	12.60%	11.43%	12.06%
Dominion Resources, Inc.	D	1.34%	0.80	13.95%	12.60%	11.43%	12.06%
DTE Energy Company	DTE	1.34%	0.90	13.95%	12.60%	12.69%	13.00%
Duke Energy Corporation	DUK	1.34%	0.85	13.95%	12.60%	12.06%	12.53%
Entergy Corporation	ETR	1.34%	0.95	13.95%	12.60%	13.32%	13.47%
Evergy, Inc.	EVRG	1.34%	1.05	13.95%	12.60%	14.58%	14.42%
IDACORP, Inc.	IDA	1.34%	0.80	13.95%	12.60%	11.43%	12.06%
NextEra Energy, Inc.	NEE	1.34%	0.85	13.95%	12.60%	12.06%	12.53%
NorthWestern Corporation	NWE	1.34%	0.90	13.95%	12.60%	12.69%	13.00%
OGE Energy Corporation	OGE	1.34%	1.05	13.95%	12.60%	14.58%	14.42%
Otter Tail Corporation	OTTR	1.34%	0.85	13.95%	12.60%	12.06%	12.53%
Pinnacle West Capital Corporation	PNW	1.34%	0.85	13.95%	12.60%	12.06%	12.53%
PNM Resources, Inc.	PNM	1.34%	0.90	13.95%	12.60%	12.69%	13.00%
Portland General Electric Company	POR	1.34%	0.85	13.95%	12.60%	12.06%	12.53%
PPL Corporation	PPL	1.34%	1.05	13.95%	12.60%	14.58%	14.42%
Southern Company	SO	1.34%	0.90	13.95%	12.60%	12.69%	13.00%
Xcel Energy Inc.	XEL	1.34%	0.75	13.95%	12.60%	10.80%	11.58%
Mean						12.37%	12.76%

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

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

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

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q4 2020 - Q4 2021)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE
ALLETE, Inc.	ALE	1.70%	0.85	13.95%	12.25%	12.11%	12.57%
Alliant Energy Corporation	LNT	1.70%	0.80	13.95%	12.25%	11.50%	12.11%
Ameren Corporation	AEE	1.70%	0.80	13.95%	12.25%	11.50%	12.11%
American Electric Power Company, Inc.	AEP	1.70%	0.75	13.95%	12.25%	10.88%	11.65%
Avista Corporation	AVA	1.70%	0.95	13.95%	12.25%	13.33%	13.49%
CMS Energy Corporation	CMS	1.70%	0.80	13.95%	12.25%	11.50%	12.11%
Dominion Resources, Inc.	D	1.70%	0.80	13.95%	12.25%	11.50%	12.11%
DTE Energy Company	DTE	1.70%	0.90	13.95%	12.25%	12.72%	13.03%
Duke Energy Corporation	DUK	1.70%	0.85	13.95%	12.25%	12.11%	12.57%
Entergy Corporation	ETR	1.70%	0.95	13.95%	12.25%	13.33%	13.49%
Evergy, Inc.	EVRG	1.70%	1.05	13.95%	12.25%	14.56%	14.41%
IDACORP, Inc.	IDA	1.70%	0.80	13.95%	12.25%	11.50%	12.11%
NextEra Energy, Inc.	NEE	1.70%	0.85	13.95%	12.25%	12.11%	12.57%
NorthWestern Corporation	NWE	1.70%	0.90	13.95%	12.25%	12.72%	13.03%
OGE Energy Corporation	OGE	1.70%	1.05	13.95%	12.25%	14.56%	14.41%
Otter Tail Corporation	OTTR	1.70%	0.85	13.95%	12.25%	12.11%	12.57%
Pinnacle West Capital Corporation	PNW	1.70%	0.85	13.95%	12.25%	12.11%	12.57%
PNM Resources, Inc.	PNM	1.70%	0.90	13.95%	12.25%	12.72%	13.03%
Portland General Electric Company	POR	1.70%	0.85	13.95%	12.25%	12.11%	12.57%
PPL Corporation	PPL	1.70%	1.05	13.95%	12.25%	14.56%	14.41%
Southern Company	SO	1.70%	0.90	13.95%	12.25%	12.72%	13.03%
Xcel Energy Inc.	XEL	1.70%	0.75	13.95%	12.25%	10.88%	11.65%
Mean						12.42%	12.80%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 8, August 1, 2020, at 2
[2] Source: Value Line
[3] Source: Exhibit RMP ___ (AEB-3R), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

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

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2022 - 2026)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE
ALLETE, Inc.	ALE	3.00%	0.85	13.95%	10.95%	12.30%	12.71%
Alliant Energy Corporation	LNT	3.00%	0.80	13.95%	10.95%	11.76%	12.30%
Ameren Corporation	AEE	3.00%	0.80	13.95%	10.95%	11.76%	12.30%
American Electric Power Company, Inc.	AEP	3.00%	0.75	13.95%	10.95%	11.21%	11.89%
Avista Corporation	AVA	3.00%	0.95	13.95%	10.95%	13.40%	13.54%
CMS Energy Corporation	CMS	3.00%	0.80	13.95%	10.95%	11.76%	12.30%
Dominion Resources, Inc.	D	3.00%	0.80	13.95%	10.95%	11.76%	12.30%
DTE Energy Company	DTE	3.00%	0.90	13.95%	10.95%	12.85%	13.13%
Duke Energy Corporation	DUK	3.00%	0.85	13.95%	10.95%	12.30%	12.71%
Entergy Corporation	ETR	3.00%	0.95	13.95%	10.95%	13.40%	13.54%
Evergy, Inc.	EVRG	3.00%	1.05	13.95%	10.95%	14.49%	14.36%
IDACORP, Inc.	IDA	3.00%	0.80	13.95%	10.95%	11.76%	12.30%
NextEra Energy, Inc.	NEE	3.00%	0.85	13.95%	10.95%	12.30%	12.71%
NorthWestern Corporation	NWE	3.00%	0.90	13.95%	10.95%	12.85%	13.13%
OGE Energy Corporation	OGE	3.00%	1.05	13.95%	10.95%	14.49%	14.36%
Otter Tail Corporation	OTTR	3.00%	0.85	13.95%	10.95%	12.30%	12.71%
Pinnacle West Capital Corporation	PNW	3.00%	0.85	13.95%	10.95%	12.30%	12.71%
PNM Resources, Inc.	PNM	3.00%	0.90	13.95%	10.95%	12.85%	13.13%
Portland General Electric Company	POR	3.00%	0.85	13.95%	10.95%	12.30%	12.71%
PPL Corporation	PPL	3.00%	1.05	13.95%	10.95%	14.49%	14.36%
Southern Company	SO	3.00%	0.90	13.95%	10.95%	12.85%	13.13%
Xcel Energy Inc.	XEL	3.00%	0.75	13.95%	10.95%	11.21%	11.89%
Mean						12.58%	12.92%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14
[2] Source: Value Line
[3] Source: Exhibit RMP ___ (AEB-3R), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

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

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE
ALLETE, Inc.	ALE	1.34%	0.83	13.95%	12.60%	11.83%	12.36%
Alliant Energy Corporation	LNT	1.34%	0.81	13.95%	12.60%	11.56%	12.15%
Ameren Corporation	AEE	1.34%	0.76	13.95%	12.60%	10.88%	11.65%
American Electric Power Company, Inc.	AEP	1.34%	0.77	13.95%	12.60%	11.02%	11.75%
Avista Corporation	AVA	1.34%	0.79	13.95%	12.60%	11.34%	11.99%
CMS Energy Corporation	CMS	1.34%	0.77	13.95%	12.60%	11.01%	11.74%
Dominion Resources, Inc.	D	1.34%	0.69	13.95%	12.60%	10.10%	11.06%
DTE Energy Company	DTE	1.34%	0.85	13.95%	12.60%	12.03%	12.51%
Duke Energy Corporation	DUK	1.34%	0.73	13.95%	12.60%	10.53%	11.38%
Entergy Corporation	ETR	1.34%	0.84	13.95%	12.60%	11.89%	12.40%
Evergy, Inc.	EVRG	1.34%	0.81	13.95%	12.60%	11.55%	12.15%
IDACORP, Inc.	IDA	1.34%	0.85	13.95%	12.60%	12.02%	12.51%
NextEra Energy, Inc.	NEE	1.34%	0.76	13.95%	12.60%	10.93%	11.69%
NorthWestern Corporation	NWE	1.34%	0.91	13.95%	12.60%	12.78%	13.07%
OGE Energy Corporation	OGE	1.34%	0.93	13.95%	12.60%	13.12%	13.33%
Otter Tail Corporation	OTTR	1.34%	0.87	13.95%	12.60%	12.32%	12.72%
Pinnacle West Capital Corporation	PNW	1.34%	0.84	13.95%	12.60%	11.88%	12.40%
PNM Resources, Inc.	PNM	1.34%	0.94	13.95%	12.60%	13.18%	13.38%
Portland General Electric Company	POR	1.34%	0.82	13.95%	12.60%	11.68%	12.24%
PPL Corporation	PPL	1.34%	0.92	13.95%	12.60%	12.95%	13.20%
Southern Company	SO	1.34%	0.74	13.95%	12.60%	10.62%	11.45%
Xcel Energy Inc.	XEL	1.34%	0.73	13.95%	12.60%	10.59%	11.43%
Mean						11.63%	12.21%

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

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

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

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q4 2020 - Q4 2021)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
ALLETE, Inc.	ALE	1.70%	0.83	13.95%	12.25%	11.89%	12.40%
Alliant Energy Corporation	LNT	1.70%	0.81	13.95%	12.25%	11.62%	12.20%
Ameren Corporation	AEE	1.70%	0.76	13.95%	12.25%	10.97%	11.72%
American Electric Power Company, Inc.	AEP	1.70%	0.77	13.95%	12.25%	11.10%	11.81%
Avista Corporation	AVA	1.70%	0.79	13.95%	12.25%	11.42%	12.05%
CMS Energy Corporation	CMS	1.70%	0.77	13.95%	12.25%	11.09%	11.80%
Dominion Resources, Inc.	D	1.70%	0.69	13.95%	12.25%	10.21%	11.14%
DTE Energy Company	DTE	1.70%	0.85	13.95%	12.25%	12.09%	12.55%
Duke Energy Corporation	DUK	1.70%	0.73	13.95%	12.25%	10.63%	11.46%
Entergy Corporation	ETR	1.70%	0.84	13.95%	12.25%	11.95%	12.45%
Evergy, Inc.	EVRG	1.70%	0.81	13.95%	12.25%	11.62%	12.20%
IDACORP, Inc.	IDA	1.70%	0.85	13.95%	12.25%	12.08%	12.55%
NextEra Energy, Inc.	NEE	1.70%	0.76	13.95%	12.25%	11.02%	11.75%
NorthWestern Corporation	NWE	1.70%	0.91	13.95%	12.25%	12.81%	13.10%
OGE Energy Corporation	OGE	1.70%	0.93	13.95%	12.25%	13.15%	13.35%
Otter Tail Corporation	OTTR	1.70%	0.87	13.95%	12.25%	12.36%	12.76%
Pinnacle West Capital Corporation	PNW	1.70%	0.84	13.95%	12.25%	11.94%	12.44%
PNM Resources, Inc.	PNM	1.70%	0.94	13.95%	12.25%	13.21%	13.39%
Portland General Electric Company	POR	1.70%	0.82	13.95%	12.25%	11.74%	12.29%
PPL Corporation	PPL	1.70%	0.92	13.95%	12.25%	12.97%	13.22%
Southern Company	SO	1.70%	0.74	13.95%	12.25%	10.72%	11.53%
Xcel Energy Inc.	XEL	1.70%	0.73	13.95%	12.25%	10.68%	11.50%
Mean						11.69%	12.26%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 8, August 1, 2020, at 2
[2] Source: Bloomberg Professional
[3] Source: Exhibit RMP ___ (AEB-3R), page 4
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

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

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

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2022 - 2026)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
ALLETE, Inc.	ALE	3.00%	0.83	13.95%	10.95%	12.10%	12.56%
Alliant Energy Corporation	LNT	3.00%	0.81	13.95%	10.95%	11.87%	12.39%
Ameren Corporation	AEE	3.00%	0.76	13.95%	10.95%	11.29%	11.95%
American Electric Power Company, Inc.	AEP	3.00%	0.77	13.95%	10.95%	11.40%	12.04%
Avista Corporation	AVA	3.00%	0.79	13.95%	10.95%	11.69%	12.25%
CMS Energy Corporation	CMS	3.00%	0.77	13.95%	10.95%	11.39%	12.03%
Dominion Resources, Inc.	D	3.00%	0.69	13.95%	10.95%	10.61%	11.44%
DTE Energy Company	DTE	3.00%	0.85	13.95%	10.95%	12.28%	12.70%
Duke Energy Corporation	DUK	3.00%	0.73	13.95%	10.95%	10.98%	11.72%
Entergy Corporation	ETR	3.00%	0.84	13.95%	10.95%	12.16%	12.61%
Evergy, Inc.	EVRG	3.00%	0.81	13.95%	10.95%	11.87%	12.39%
IDACORP, Inc.	IDA	3.00%	0.85	13.95%	10.95%	12.28%	12.69%
NextEra Energy, Inc.	NEE	3.00%	0.76	13.95%	10.95%	11.33%	11.98%
NorthWestern Corporation	NWE	3.00%	0.91	13.95%	10.95%	12.93%	13.19%
OGE Energy Corporation	OGE	3.00%	0.93	13.95%	10.95%	13.23%	13.41%
Otter Tail Corporation	OTTR	3.00%	0.87	13.95%	10.95%	12.53%	12.88%
Pinnacle West Capital Corporation	PNW	3.00%	0.84	13.95%	10.95%	12.15%	12.60%
PNM Resources, Inc.	PNM	3.00%	0.94	13.95%	10.95%	13.28%	13.45%
Portland General Electric Company	POR	3.00%	0.82	13.95%	10.95%	11.97%	12.47%
PPL Corporation	PPL	3.00%	0.92	13.95%	10.95%	13.08%	13.29%
Southern Company	SO	3.00%	0.74	13.95%	10.95%	11.06%	11.78%
Xcel Energy Inc.	XEL	3.00%	0.73	13.95%	10.95%	11.03%	11.76%
Mean						11.93%	12.44%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14
[2] Source: Bloomberg Professional
[3] Source: Exhibit RMP ___ (AEB-3R), 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	1.72%
[8] S&P's estimate of the S&P 500 Growth Rate	12.12%
[9] S&P 500 Estimated Required Market Return	13.95%

Notes:
[7] Source: S&P Dow Jones Indices, S&P 500 Earnings and Estimate Report, July 31, 2020
[8] Source: S&P Dow Jones Indices, S&P 500 Earnings and Estimate Report, July 31, 2020
[9] Equals ([7] x (1 + (0.5 x [8]))) + [8]

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

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Risk Premium Analysis

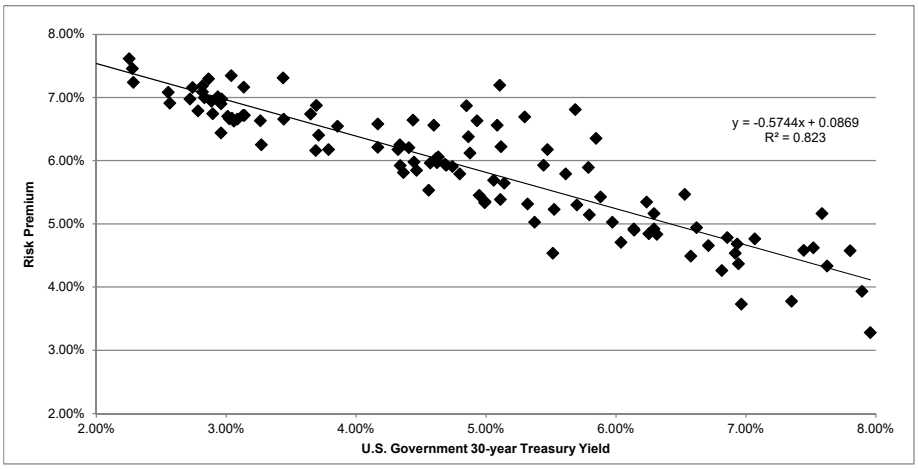
September 2020

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%
2020.2	9.58%	1.38%	8.20%
2020.3	9.40%	1.31%	8.09%
AVERAGE	10.69%	4.71%	5.98%
MEDIAN	10.63%	4.69%	6.12%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.90721
R Square	0.82304
Adjusted R Square	0.82147
Standard Error	0.00428
Observations	115

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.009622	0.009622	525.552738	0.000000
Residual	113	0.002069	0.000018		
Total	114	0.011691			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0869	0.00125	69.68	0.000000	0.084402	0.089342	0.084402	0.089342
U.S. Govt. 30-year Treasury	(0.5744)	0.02505	(22.92)	0.000000	(0.623998)	(0.524725)	(0.623998)	(0.524725)

	[7] U.S. Govt. 30-year Treasury	[8] Risk Premium	[9] ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	1.34%	7.92%	9.26%
Blue Chip Near-Term Projected Forecast (Q4 2020 - Q4 2021) [5]	1.70%	7.71%	9.41%
Blue Chip Long-Term Projected Forecast (2022-2026) [6]	3.00%	6.96%	9.96%
AVERAGE			9.54%

Notes:
[1] Source: Regulatory Research Associates, rate cases through July 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
[5] Source: Blue Chip Financial Forecasts, Vol. 39, No. 8, August 1, 2020, at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 39, No. 6, June 1, 2020, at 14
[7] See notes [4], [5] & [6]
[8] Equals 0.086872 + (-0.574362 x Column [7])
[9] Equals Column [7] + Column [8]

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

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Expected Earnings Analysis

September 2020

EXPECTED EARNINGS ANALYSIS

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
		Value Line ROE 2023-2025	Value Line Total Capital 2019	Value Line Common Equity Ratio 2019	Total Equity 2019	Value Line Total Capital 2023-2025	Value Line Common Equity Ratio 2023-2025	Total Equity 2023-2025	Compound Annual Growth Rate	Adjustment Factor	Adjusted Return on Common Equity
ALLETE, Inc.	ALE	8.00%	3,633	61.40%	2,231	4,750	59.00%	2,803	4.67%	1.023	8.18%
Alliant Energy Corporation	LNT	10.50%	10,226	48.50%	4,960	12,000	48.00%	5,760	3.04%	1.015	10.66%
Ameren Corporation	AEE	10.00%	17,116	47.10%	8,062	23,900	50.00%	11,950	8.19%	1.039	10.39%
American Electric Power Company, Inc.	AEP	10.50%	44,759	43.90%	19,649	56,700	47.00%	26,649	6.28%	1.030	10.82%
Avista Corporation	AVA	7.50%	3,835	50.60%	1,940	4,750	49.00%	2,328	3.71%	1.018	7.64%
CMS Energy Corporation	CMS	13.50%	17,082	29.40%	5,022	24,200	31.50%	7,623	8.70%	1.042	14.06%
Dominion Resources, Inc.	D	14.00%	65,818	45.00%	29,618	75,900	46.00%	34,914	3.34%	1.016	14.23%
DTE Energy Company	DTE	10.50%	27,607	42.30%	11,678	38,400	41.50%	15,936	6.42%	1.031	10.83%
Duke Energy Corporation	DUK	8.50%	101,807	44.10%	44,897	123,600	45.00%	55,620	4.38%	1.021	8.68%
Entergy Corporation	ETR	11.00%	27,557	37.10%	10,224	32,500	41.00%	13,325	5.44%	1.026	11.29%
Evergy, Inc.	EVRG	8.00%	17,337	49.40%	8,564	20,300	46.50%	9,440	1.96%	1.010	8.08%
IDACORP, Inc.	IDA	9.50%	4,201	58.70%	2,466	5,450	53.50%	2,916	3.41%	1.017	9.66%
NextEra Energy, Inc.	NEE	12.50%	74,548	49.60%	36,976	98,400	50.50%	49,692	6.09%	1.030	12.87%
NorthWestern Corporation	NWE	8.50%	4,290	47.50%	2,038	4,825	50.00%	2,413	3.43%	1.017	8.64%
OGE Energy Corporation	OGE	12.50%	7,335	56.40%	4,137	8,150	51.50%	4,197	0.29%	1.001	12.52%
Otter Tail Corporation	OTTR	11.00%	1,471	53.10%	781	1,850	53.00%	981	4.65%	1.023	11.25%
Pinnacle West Capital Corporation	PNW	10.00%	10,263	52.90%	5,429	14,525	46.50%	6,754	4.46%	1.022	10.22%
PNM Resources, Inc.	PNM	9.50%	4,208	39.90%	1,679	5,475	49.00%	2,683	9.83%	1.047	9.94%
Portland General Electric Company	POR	9.00%	5,323	48.70%	2,592	6,400	47.50%	3,040	3.24%	1.016	9.14%
PPL Corporation	PPL	12.50%	33,712	38.50%	12,979	39,200	42.50%	16,660	5.12%	1.025	12.81%
Southern Company	SO	12.50%	69,594	39.50%	27,490	84,300	39.50%	33,299	3.91%	1.019	12.74%
Xcel Energy Inc.	XEL	10.50%	30,646	43.20%	13,239	41,700	42.50%	17,723	6.01%	1.029	10.81%
Mean											10.70%
Median											10.73%

Notes:
[1] Source: Value Line
[2] Source: Value Line
[3] Source: Value Line
[4] Equals [2] x [3]
[5] Source: Value Line
[6] Source: Value Line
[7] Equals [5] x [6]
[8] Equals ([7] / [4]) ^ (1/5) - 1
[9] Equals 2 x (1 + [8]) / (2 + [8])
[10] Equals [1] x [9]

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

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

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Mr. Coleman's Constant Growth DCF

September 2020

MR. COLEMAN'S CONSTANT GROWTH DCF - FILED

Company		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Earnings Growth Rate	[9] Value Line Dividend Growth	[10] 75-25 Wtd. Growth	[11] Estimated Cost of Equity Wtd. Growth
ALLETE, Inc.	ALE	$2.46	$58.26	4.22%	4.43%	5.00%	7.00%	NA	6.00%	5.00%	5.75%	10.18%
Alliant Energy Corporation	LNT	$1.42	$50.82	2.79%	2.95%	6.50%	5.30%	5.54%	5.78%	5.50%	5.71%	8.66%
Ameren Corporation	AEE	$2.01	$76.94	2.61%	2.73%	6.50%	5.85%	6.75%	6.37%	4.50%	5.90%	8.63%
American Electric Power Company, Inc.	AEP	$2.84	$85.05	3.34%	3.52%	4.00%	5.82%	5.69%	5.17%	5.50%	5.25%	8.78%
Avista Corporation	AVA	$1.60	$36.74	4.35%	4.53%	3.50%	6.00%	5.22%	4.91%	4.00%	4.68%	9.21%
CenterPoint Energy, Inc.	CNP	$1.19	$19.40	6.13%	6.29%	10.50%	-6.54%	5.00%	2.99%	2.50%	2.87%	9.15%
CMS Energy Corporation	CMS	$1.63	$61.49	2.65%	2.84%	7.00%	7.08%	6.99%	7.02%	7.00%	7.02%	9.85%
Dominion Resources, Inc.	D	$3.76	$78.06	4.82%	5.06%	6.50%	2.74%	3.03%	4.09%	5.00%	4.32%	9.37%
DTE Energy Company	DTE	$4.05	$111.08	3.65%	3.90%	4.50%	6.03%	5.67%	5.40%	7.00%	5.80%	9.70%
Duke Energy Corporation	DUK	$3.82	$82.20	4.65%	4.76%	6.00%	3.81%	4.34%	4.72%	2.50%	4.16%	8.93%
Entergy Corporation	ETR	$3.74	$99.65	3.75%	3.88%	2.00%	5.95%	5.77%	4.57%	3.50%	4.31%	8.19%
Evergy, Inc.	EVRG	$2.05	$62.70	3.27%	3.27%	0.00%	4.10%	5.04%	3.05%	0.00%	2.29%	5.55%
FirstEnergy Corporation	FE	$1.60	$36.03	4.44%	4.60%	6.50%	-2.40%	NA	2.05%	3.50%	2.41%	7.01%
IDACORP, Inc.	IDA	$2.68	$91.05	2.94%	3.15%	3.50%	2.60%	2.63%	2.91%	7.00%	3.93%	7.08%
NextEra Energy, Inc.	NEE	$5.49	$266.69	2.06%	2.26%	10.50%	8.17%	7.97%	8.88%	10.00%	9.16%	11.42%
NorthWestern Corporation	NWE	$2.38	$54.51	4.37%	4.56%	3.00%	3.71%	3.39%	3.37%	4.50%	3.65%	8.21%
OGE Energy Corporation	OGE	$1.58	$31.85	4.96%	5.28%	6.50%	2.40%	3.69%	4.20%	6.50%	4.77%	10.06%
Otter Tail Corporation	OTTR	$1.46	$38.66	3.78%	3.93%	5.00%	9.00%	NA	7.00%	4.00%	6.25%	10.18%
Pinnacle West Capital Corporation	PNW	$3.13	$79.76	3.92%	4.16%	5.00%	4.36%	4.70%	4.69%	6.00%	5.02%	9.17%
PNM Resources, Inc.	PNM	$1.23	$40.16	3.06%	3.28%	7.00%	5.60%	4.87%	5.82%	7.00%	6.12%	9.39%
Portland General Electric Company	POR	$1.59	$42.84	3.71%	3.95%	4.50%	4.45%	5.27%	4.74%	6.50%	5.18%	9.13%
PPL Corporation	PPL	$1.66	$25.75	6.45%	6.58%	1.50%	2.90%	NA	2.20%	2.00%	2.15%	8.73%
Southern Company	SO	$2.54	$53.98	4.71%	4.85%	3.50%	4.55%	4.00%	4.02%	3.00%	3.76%	8.61%
Xcel Energy Inc.	XEL	$1.70	$65.91	2.58%	2.73%	5.50%	6.10%	5.93%	5.84%	6.00%	5.88%	8.62%
MEAN				3.88%	4.06%	5.17%	4.36%	5.07%	4.82%	4.92%	4.85%	8.91%

Notes
[1] Source: DPU Exhibit 2.03 DIR
[2] Source: DPU Exhibit 2.03 DIR
[3] Equals [1] / [2]
[4] Equals [3] x (1 + [9])
[5] Source: DPU Exhibit 2.03 DIR
[6] Source: DPU Exhibit 2.03 DIR
[7] Source: DPU Exhibit 2.03 DIR
[8] Equals Average ([5], [6], [7])
[9] Source: DPU Exhibit 2.03 DIR
[10] Equals (0.75 x [8]) + (0.25 x [9])
[11] Equals [4] + [10]

MR. COLEMAN'S CONSTANT GROWTH DCF - EXCL. FE & CNP, UPDATED VALUE LINE DATA, & ADJ. EXPECTED DIVIDEND

Company		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Earnings Growth Rate	[9] Value Line Dividend Growth	[10] 75-25 Wtd. Growth	[11] Estimated Cost of Equity Wtd. Growth
ALLETE, Inc.	ALE	$2.47	$58.26	4.24%	4.49%	5.50%	7.00%	NA	6.25%	4.50%	5.81%	10.30%
Alliant Energy Corporation	LNT	$1.52	$50.82	2.99%	3.16%	6.50%	5.30%	5.54%	5.78%	5.50%	5.71%	8.87%
Ameren Corporation	AEE	$2.01	$76.94	2.61%	2.77%	6.00%	5.85%	6.75%	6.20%	5.00%	5.90%	8.67%
American Electric Power Company, Inc.	AEP	$2.84	$85.05	3.34%	3.52%	5.00%	5.82%	5.69%	5.50%	5.50%	5.50%	9.03%
Avista Corporation	AVA	$1.62	$36.74	4.41%	4.59%	1.00%	6.00%	5.22%	4.07%	4.00%	4.06%	8.64%
CMS Energy Corporation	CMS	$1.63	$61.49	2.65%	2.84%	7.50%	7.08%	6.99%	7.19%	7.00%	7.14%	9.98%
Dominion Resources, Inc.	D	$3.76	$78.06	4.82%	5.02%	7.00%	2.74%	3.03%	4.26%	4.50%	4.32%	9.34%
DTE Energy Company	DTE	$4.12	$111.08	3.71%	3.92%	5.00%	6.03%	5.67%	5.57%	6.50%	5.80%	9.72%
Duke Energy Corporation	DUK	$3.82	$82.20	4.65%	4.82%	5.00%	3.81%	4.34%	4.38%	2.00%	3.79%	8.61%
Entergy Corporation	ETR	$3.74	$99.65	3.75%	3.93%	3.00%	5.95%	5.77%	4.91%	4.00%	4.68%	8.61%
Evergy, Inc.	EVRG	$2.05	$62.70	3.27%	3.41%	3.00%	4.10%	5.04%	4.05%	5.50%	4.41%	7.82%
IDACORP, Inc.	IDA	$2.73	$91.05	3.00%	3.11%	3.50%	2.60%	2.63%	2.91%	6.50%	3.81%	6.92%
NextEra Energy, Inc.	NEE	$5.60	$266.69	2.10%	2.29%	10.00%	8.17%	7.97%	8.71%	10.50%	9.16%	11.45%
NorthWestern Corporation	NWE	$2.40	$54.51	4.40%	4.54%	1.50%	3.71%	3.39%	2.87%	4.00%	3.15%	7.69%
OGE Energy Corporation	OGE	$1.60	$31.85	5.02%	5.21%	3.00%	2.40%	3.69%	3.03%	6.00%	3.77%	8.99%
Otter Tail Corporation	OTTR	$1.48	$38.66	3.83%	4.06%	3.50%	9.00%	NA	6.25%	5.00%	5.94%	9.99%
Pinnacle West Capital Corporation	PNW	$3.22	$79.76	4.04%	4.22%	4.00%	4.36%	4.70%	4.35%	5.50%	4.64%	8.86%
PNM Resources, Inc.	PNM	$1.24	$40.16	3.09%	3.26%	6.00%	5.60%	4.87%	5.49%	5.50%	5.49%	8.75%
Portland General Electric Company	POR	$1.54	$42.84	3.59%	3.77%	4.00%	4.45%	5.27%	4.57%	5.50%	4.81%	8.57%
PPL Corporation	PPL	$1.66	$25.75	6.45%	6.61%	2.50%	2.90%	NA	2.70%	2.00%	2.53%	9.14%
Southern Company	SO	$2.54	$53.98	4.71%	4.88%	3.00%	4.55%	4.00%	3.85%	3.00%	3.64%	8.51%
Xcel Energy Inc.	XEL	$1.72	$65.91	2.61%	2.77%	6.00%	6.10%	5.93%	6.01%	6.00%	6.01%	8.77%
MEAN				3.79%	3.96%	4.61%	5.16%	5.08%	4.95%	5.16%	5.00%	8.97%

Notes
[1] Source: Value Line dated May 15, 2020, June 12, 2020, and July 24, 2020
[2] Source: DPU Exhibit 2.03 DIR
[3] Equals [1] / [2]
[4] Equals [3] x (1 + [10])
[5] Source: Value Line dated May 15, 2020, June 12, 2020, and July 24, 2020
[6] Source: DPU Exhibit 2.03 DIR
[7] Source: DPU Exhibit 2.03 DIR
[8] Equals Average ([5], [6], [7])
[9] Source: Value Line dated May 15, 2020, June 12, 2020, and July 24, 2020
[10] Equals (0.75 x [8]) + (0.25 x [9])
[11] Equals [4] + [10]

MR. COLEMAN'S CONSTANT GROWTH DCF - EXCL. FE & CNP, UPDATED VALUE LINE DATA, ADJ. EXPECTED DIVIDEND, EARNINGS GROWTH RATES ONLY, & EXCL. INDIV. RESULTS < 7%

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	All Proxy Group [9]	[10]	[11]	With Exclusions [12]	[13]	[14]
Company		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Earnings Growth Rate	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
ALLETE, Inc.	ALE	$2.47	$58.26	4.24%	4.50%	5.50%	7.00%	NA	6.25%	9.97%	10.75%	11.54%	9.97%	10.75%	11.54%
Alliant Energy Corporation	LNT	$1.52	$50.82	2.99%	3.16%	6.50%	5.30%	5.54%	5.78%	8.45%	8.94%	9.69%	8.45%	8.94%	9.69%
Ameren Corporation	AEE	$2.01	$76.94	2.61%	2.77%	6.00%	5.85%	6.75%	6.20%	8.62%	8.97%	9.54%	8.62%	8.97%	9.54%
American Electric Power Company, Inc.	AEP	$2.84	$85.05	3.34%	3.52%	5.00%	5.82%	5.69%	5.50%	8.51%	9.03%	9.35%	8.51%	9.03%	9.35%
Avista Corporation	AVA	$1.62	$36.74	4.41%	4.59%	1.00%	6.00%	5.22%	4.07%	5.45%	8.66%	10.67%		8.66%	10.67%
CMS Energy Corporation	CMS	$1.63	$61.49	2.65%	2.84%	7.50%	7.08%	6.99%	7.19%	9.83%	10.03%	10.35%	9.83%	10.03%	10.35%
Dominion Resources, Inc.	D	$3.76	$78.06	4.82%	5.02%	7.00%	2.74%	3.03%	4.26%	7.69%	9.28%	12.15%	7.69%	9.28%	12.15%
DTE Energy Company	DTE	$4.12	$111.08	3.71%	3.92%	5.00%	6.03%	5.67%	5.57%	8.89%	9.48%	9.96%	8.89%	9.48%	9.96%
Duke Energy Corporation	DUK	$3.82	$82.20	4.65%	4.85%	5.00%	3.81%	4.34%	4.38%	8.63%	9.23%	9.88%	8.63%	9.23%	9.88%
Entergy Corporation	ETR	$3.74	$99.65	3.75%	3.94%	3.00%	5.95%	5.77%	4.91%	6.87%	8.84%	9.93%		8.84%	9.93%
Evergy, Inc.	EVRG	$2.05	$62.70	3.27%	3.40%	3.00%	4.10%	5.04%	4.05%	6.37%	7.45%	8.47%		7.45%	8.47%
IDACORP, Inc.	IDA	$2.73	$91.05	3.00%	3.09%	3.50%	2.60%	2.63%	2.91%	5.68%	6.00%	6.60%			
NextEra Energy, Inc.	NEE	$5.60	$266.69	2.10%	2.28%	10.00%	8.17%	7.97%	8.71%	10.24%	11.00%	12.31%	10.24%	11.00%	12.31%
NorthWestern Corporation	NWE	$2.40	$54.51	4.40%	4.53%	1.50%	3.71%	3.39%	2.87%	5.97%	7.40%	8.28%		7.40%	8.28%
OGE Energy Corporation	OGE	$1.60	$31.85	5.02%	5.18%	3.00%	2.40%	3.69%	3.03%	7.54%	8.21%	8.90%	7.54%	8.21%	8.90%
Otter Tail Corporation	OTTR	$1.48	$38.66	3.83%	4.07%	3.50%	9.00%	NA	6.25%	7.46%	10.32%	13.17%	7.46%	10.32%	13.17%
Pinnacle West Capital Corporation	PNW	$3.22	$79.76	4.04%	4.21%	4.00%	4.36%	4.70%	4.35%	8.20%	8.57%	8.93%	8.20%	8.57%	8.93%
PNM Resources, Inc.	PNM	$1.24	$40.16	3.09%	3.26%	6.00%	5.60%	4.87%	5.49%	8.11%	8.75%	9.27%	8.11%	8.75%	9.27%
Portland General Electric Company	POR	$1.54	$42.84	3.59%	3.76%	4.00%	4.45%	5.27%	4.57%	7.74%	8.33%	9.05%	7.74%	8.33%	9.05%
PPL Corporation	PPL	$1.66	$25.75	6.45%	6.62%	2.50%	2.90%	NA	2.70%	9.11%	9.32%	9.53%	9.11%	9.32%	9.53%
Southern Company	SO	$2.54	$53.98	4.71%	4.89%	3.00%	4.55%	4.00%	3.85%	7.85%	8.74%	9.47%	7.85%	8.74%	9.47%
Xcel Energy Inc.	XEL	$1.72	$65.91	2.61%	2.77%	6.00%	6.10%	5.93%	6.01%	8.69%	8.78%	8.87%	8.69%	8.78%	8.87%
MEAN				3.79%	3.96%	4.61%	5.16%	5.08%	4.95%	7.99%	8.91%	9.81%	8.56%	9.05%	9.97%

Notes
[1] Source: Value Line dated May 15, 2020, June 12, 2020, and July 24, 2020
[2] Source: DPU Exhibit 2.03 DIR
[3] Equals [1] / [2]
[4] Equals [3] x (1 + [8])
[5] Source: Value Line dated May 15, 2020, June 12, 2020, and July 24, 2020
[6] Source: DPU Exhibit 2.03 DIR
[7] Source: DPU Exhibit 2.03 DIR
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 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-7R)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

DPU Value Line Beta Coefficient Comparison

September 2020

VALUE LINE BETA COEFFICIENT COMPARISON

Proxy Group	Ticker	[1] Value Line as of Janaury 31, 2020	[2] Value Line as of July 31, 2020
ALLETE, Inc.	ALE	0.65	0.85
Alliant Energy Corporation	LNT	0.60	0.80
Ameren Corporation	AEE	0.55	0.80
American Electric Power Company, Inc	AEP	0.55	0.75
Avista Corporation	AVA	0.60	0.95
CMS Energy Corporation	CMS	0.50	0.80
Dominion Resources, Inc.	D	0.55	0.80
DTE Energy Company	DTE	0.55	0.90
Duke Energy Corporation	DUK	0.50	0.85
Entergy Corporation	ETR	0.60	0.95
Evergy, Inc.	EVRG	0.00	1.05
IDACORP, Inc.	IDA	0.55	0.80
NextEra Energy, Inc.	NEE	0.55	0.85
NorthWestern Corporation	NWE	0.60	0.90
OGE Energy Corporation	OGE	0.75	1.05
Otter Tail Corporation	OTTR	0.70	0.85
Pinnacle West Capital Corporation	PNW	0.50	0.85
PNM Resources, Inc.	PNM	0.60	0.90
Portland General Electric Company	POR	0.55	0.85
PPL Corporation	PPL	0.70	1.05
Southern Company	SO	0.50	0.90
Xcel Energy Inc.	XEL	0.50	0.75
Mean		0.55	0.88

Notes:
[1] Source: Value Line; dated November 15, 2020, December 13, 2020, and January 24, 2020.
[2] Source: Value Line; dated May 15, 2020, June 12, 2020 and July 24, 2020

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

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Mr. Coleman's Adjusted Beta Coefficient

September 2020

MR. COLEMAN ADJUSTED BETA COEFFICIENT

		[1]	[2]	[3]	[4]	[5]	[6]	
		Value Line as	Yahoo! Finance / Zacks / Ned Davis Research					
Proxy Group	Ticker	of July 31, 2020	Yahoo! Finance	Zacks	Ned Davis Research	Average	Adj Beta	Average Adj. Beta
ALLETE, Inc.	ALE	0.85	0.32	0.34	0.35	0.34	0.56	0.70
Alliant Energy Corporation	LNT	0.80	0.36	0.42	0.38	0.39	0.59	0.69
Ameren Corporation	AEE	0.80	0.27	0.30	0.29	0.29	0.52	0.66
American Electric Power Company, Inc.	AEP	0.75	0.37	0.38	0.39	0.38	0.58	0.67
Avista Corporation	AVA	0.95	0.42	0.41	0.48	0.44	0.62	0.79
CMS Energy Corporation	CMS	0.80	NA	0.21	0.21	0.21	0.47	0.64
Dominion Resources, Inc.	D	0.80	0.43	0.40	0.45	0.43	0.62	0.71
DTE Energy Company	DTE	0.90	0.61	0.60	0.62	0.61	0.74	0.82
Duke Energy Corporation	DUK	0.85	0.32	0.32	0.35	0.33	0.55	0.70
Entergy Corporation	ETR	0.95	0.56	0.59	0.58	0.58	0.72	0.83
Evergy, Inc.	EVRG	1.05	0.48	0.49	0.51	0.49	0.66	0.86
IDACORP, Inc.	IDA	0.80	0.43	0.43	0.45	0.44	0.62	0.71
NextEra Energy, Inc.	NEE	0.85	0.22	0.26	0.24	0.24	0.49	0.67
NorthWestern Corporation	NWE	0.90	0.35	0.33	0.37	0.35	0.56	0.73
OGE Energy Corporation	OGE	1.05	0.71	0.76	0.73	0.73	0.82	0.94
Otter Tail Corporation	OTTR	0.85	0.33	0.31	NA	0.32	0.54	0.70
Pinnacle West Capital Corporation	PNW	0.85	0.32	0.38	0.35	0.35	0.56	0.71
PNM Resources, Inc.	PNM	0.90	0.55	0.58	NA	0.57	0.71	0.80
Portland General Electric Company	POR	0.85	0.32	0.31	0.34	0.32	0.55	0.70
PPL Corporation	PPL	1.05	0.76	0.73	0.79	0.76	0.84	0.94
Southern Company	SO	0.90	0.43	0.42	0.45	0.43	0.62	0.76
Xcel Energy Inc.	XEL	0.75	0.27	0.29	0.29	0.28	0.52	0.63
Mean		0.88	0.42	0.42	0.43	0.42	0.61	0.74

Notes:
[1] Source: Value Line; dated May 15, 2020, June 12, 2020 and July 24, 2020
[2] Source: DPU Exhibit 2.04 DIR
[3] Source: DPU Exhibit 2.04 DIR
[4] Source: DPU Exhibit 2.04 DIR
[5] Equals Average ([2], [3], [4])
[6] Equals 0.67 x [5] + 0.33 x 1.00
[7] Equals Average ([1] , [6])

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

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Adjustments to Dr. Woolridge's Internal Growth Rate Measures

September 2020

ADJUSTMENTS TO WOOLRIDGE INTERNAL GROWTH RATE MEASURES
ELECTRIC PROXY GROUP

Value Line
Sustainable Growth

Company	Ticker	Return on Equity	Retention Rate	Internal Growth	Shares Out	Value Change	S x V	BR + SV
ALLETE, Inc. (NYSE-ALE)	ALE	8.00%	31.00%	2.48%	1.45%	33.23%	0.48%	2.96%
Alliant Energy Corporation (NYSE-LNT)	LNT	10.50%	33.00%	3.47%	2.66%	40.53%	1.08%	4.54%
Ameren Corporation (NYSE-AEE)	AEE	10.00%	45.00%	4.50%	3.60%	37.86%	1.36%	5.86%
American Electric Power Co. (NYSE-AEP)	AEP	10.50%	31.00%	3.26%	2.68%	47.37%	1.27%	4.52%
Avangrid (NYSE-AGR)	AGR	5.50%	28.00%	1.54%	0.00%	-10.53%	0.00%	1.54%
Avista Corporation (NYSE-AVA)	AVA	7.50%	22.00%	1.65%	2.77%	39.52%	1.10%	2.75%
CMS Energy Corporation (NYSE-CMS)	CMS	13.50%	38.00%	5.13%	2.62%	57.50%	1.50%	6.63%
Consolidated Edison, Inc. (NYSE-ED)	ED	8.00%	34.00%	2.72%	2.73%	32.16%	0.88%	3.60%
Edison International (NYSE-EIX)	EIX	11.00%	40.00%	4.40%	1.50%	41.88%	0.63%	5.03%
Entergy Corporation (NYSE-ETR)	ETR	11.00%	34.00%	3.74%	2.41%	47.71%	1.15%	4.89%
Evergy, Inc. (NYSE-EVRG)	EVRG	8.00%	25.00%	2.00%	0.05%	36.15%	0.02%	2.02%
Eversource Energy (NYSE-ES)	ES	9.50%	40.00%	3.80%	2.50%	40.91%	1.02%	4.82%
Exelon Corporation (NYSE-EXC)	EXC	9.00%	48.00%	4.32%	0.45%	23.33%	0.11%	4.43%
FirstEnergy Corporation (NYSE-FE)	FE	15.50%	40.00%	6.20%	3.21%	61.43%	1.97%	8.17%
Hawaiian Electric Industries (NYSE-HE)	HE	8.50%	32.00%	2.72%	1.30%	30.00%	0.39%	3.11%
IDACORP, Inc. (NYSE-IDA)	IDA	9.50%	36.00%	3.42%	-0.01%	42.00%	-0.01%	3.41%
MGE Energy, Inc. (NYSE-MGEE)	MGEE	9.50%	41.00%	3.90%	1.91%	55.86%	1.07%	4.96%
NextEra Energy, Inc. (NYSE-NEE)	NEE	12.50%	36.00%	4.50%	0.67%	63.76%	0.43%	4.93%
NorthWestern Corporation (NYSE-NWE)	NWE	8.50%	27.00%	2.30%	1.62%	39.00%	0.63%	2.93%
OGE Energy Corp. (NYSE-OGE)	OGE	12.50%	26.00%	3.25%	-0.02%	55.79%	-0.01%	3.24%
Otter Tail Corporation (NDQ-OTTR)	OTTR	11.00%	31.00%	3.41%	1.49%	55.71%	0.83%	4.24%
Pinnacle West Capital Corp. (NYSE-PNW)	PNW	10.00%	30.00%	3.00%	1.78%	45.48%	0.81%	3.81%
PNM Resources, Inc. (NYSE-PNM)	PNM	9.50%	46.00%	4.37%	4.50%	35.00%	1.57%	5.94%
Portland General Electric Company (NYSE-POR)	POR	9.00%	36.00%	3.24%	0.21%	35.71%	0.08%	3.32%
PPL Corporation (NYSE-PPL)	PPL	12.50%	33.00%	4.13%	0.62%	46.88%	0.29%	4.42%
Sempra Energy (NYSE-SRE)	SRE	10.50%	42.00%	4.41%	5.78%	46.21%	2.67%	7.08%
Southern Company (NYSE-SO)	SO	12.50%	25.00%	3.13%	1.34%	48.75%	0.65%	3.78%
WEC Energy Group (NYSE-WEC)	WEC	12.50%	32.00%	4.00%	0.01%	57.50%	0.01%	4.01%
Xcel Energy Inc. (NYSE-XEL)	XEL	10.50%	37.00%	3.89%	1.64%	46.25%	0.76%	4.64%
Mean		10.22%	34.45%	3.55%	1.77%	42.52%	0.78%	4.33%
Median		10.00%	34.00%	3.47%	1.62%	42.00%	0.76%	4.42%

Notes:
Data Source: *Value Line Investment Survey, dated May 15, 2020, June 12, 2020, and July 24, 2020.*

Rocky Mountain Power
Exhibit RMP ___(AEB-9R) 1 of 1
Docket No. 20-035-04
Witness: Ann E. Bulkley

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

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Dr. Woolridge's 30-Day Constant Growth DCF - Electric Proxy Group

September 2020

30-Day Constant Growth DCF - Woolridge Electric Proxy Group

Company	[1] Annualized Dividend	[2] Dividend Yield	[3] Expected Dividend Yield	[4] Value Line Earnings Growth	[5] Yahoo Earnings Growth	[6] Zacks Earnings Growth	[7] Average Growth Rate	[8] Mean ROE
ALLETE, Inc. (NYSE-ALE)	$ 2.47	4.34%	4.48%	5.50%	7.00%	N/A	6.25%	10.73%
Alliant Energy Corporation (NYSE-LNT)	$ 1.52	3.07%	3.16%	6.50%	5.30%	5.54%	5.78%	8.94%
Ameren Corporation (NYSE-AEE)	$ 1.98	2.67%	2.75%	6.00%	5.85%	6.75%	6.20%	8.95%
American Electric Power Co. (NYSE-AEP)	$ 2.80	3.36%	3.46%	5.00%	5.82%	5.69%	5.50%	8.96%
Avangrid (NYSE-AGR)	$ 1.76	3.98%	4.08%	6.00%	4.85%	5.54%	5.46%	9.55%
Avista Corporation (NYSE-AVA)	$ 1.62	4.46%	4.55%	1.00%	6.00%	5.22%	4.07%	8.62%
CMS Energy Corporation (NYSE-CMS)	$ 1.63	2.72%	2.82%	7.50%	7.08%	6.99%	7.19%	10.01%
Consolidated Edison, Inc. (NYSE-ED)	$ 3.06	4.18%	4.23%	3.00%	2.65%	2.00%	2.55%	6.78%
Edison International (NYSE-EIX)	$ 2.55	4.59%	4.64%	NA	1.30%	3.34%	2.32%	6.96%
Entergy Corporation (NYSE-ETR)	$ 3.72	3.82%	3.91%	3.00%	6.20%	5.73%	4.98%	8.89%
Evergy, Inc. (NYSE-EVRG)	$ 2.02	3.29%	3.36%	3.00%	4.10%	5.04%	4.05%	7.41%
Eversource Energy (NYSE-ES)	$ 2.27	2.66%	2.74%	6.50%	6.22%	6.17%	6.30%	9.04%
Exelon Corporation (NYSE-EXC)	$ 1.53	4.08%	4.11%	5.00%	-3.60%	4.00%	1.80%	5.91%
FirstEnergy Corporation (NYSE-FE)	$ 1.56	4.13%	4.19%	8.50%	-2.40%	NA	3.05%	7.24%
Hawaiian Electric Industries (NYSE-HE)	$ 1.32	3.63%	3.67%	1.50%	3.30%	1.67%	2.16%	5.83%
IDACORP, Inc. (NYSE-IDA)	$ 2.68	3.01%	3.05%	3.50%	2.60%	2.63%	2.91%	5.96%
MGE Energy, Inc. (NYSE-MGEE)	$ 1.48	2.30%	2.34%	4.00%	4.00%	4.31%	4.10%	6.45%
NextEra Energy, Inc. (NYSE-NEE)	$ 5.88	2.29%	2.39%	10.00%	8.17%	7.85%	8.67%	11.06%
NorthWestern Corporation (NYSE-NWE)	$ 2.40	4.42%	4.49%	1.50%	3.70%	3.39%	2.86%	7.35%
OGE Energy Corp. (NYSE-OGE)	$ 1.55	4.99%	5.07%	3.00%	2.40%	3.69%	3.03%	8.10%
Otter Tail Corporation (NDQ-OTTR)	$ 1.48	3.83%	3.95%	3.50%	9.00%	N/A	6.25%	10.20%
Pinnacle West Capital Corp. (NYSE-PNW)	$ 3.13	4.05%	4.14%	4.00%	4.36%	4.70%	4.35%	8.50%
PNM Resources, Inc. (NYSE-PNM)	$ 1.23	3.13%	3.23%	6.00%	5.60%	6.19%	5.93%	9.16%
Portland General Electric Company (NYSE-POR)	$ 1.54	3.62%	3.70%	4.00%	4.45%	5.27%	4.57%	8.27%
PPL Corporation (NYSE-PPL)	$ 1.66	6.44%	6.52%	2.50%	2.90%	N/A	2.70%	9.22%
SEMPRA Energy (NYSE-SRE)	$ 4.18	3.46%	3.58%	10.00%	5.35%	7.18%	7.51%	11.09%
Southern Company (NYSE-SO)	$ 2.56	4.77%	4.86%	3.00%	4.53%	4.00%	3.84%	8.70%
WEC Energy Group (NYSE-WEC)	$ 2.53	2.83%	2.92%	6.00%	5.96%	5.99%	5.98%	8.90%
Xcel Energy Inc. (NYSE-XEL)	$ 1.72	2.66%	2.74%	6.00%	6.10%	6.05%	6.05%	8.79%
Mean [9]:								9.03%

Notes:
[1] JRW-7.2
[2] JRW-7.2
[3] Equals [2] X (1 + .5 X [7])
[4] JRW-7.4
[5] JRW-7.5
[6] JRW-7.5
[7] Equals average of [4], [5], and [6]
[8] Equals [2] X (1 + .5 X [7]) + [7]
[9] Excludes companies with ROEs less than 7%.

90-Day Constant Growth DCF - Woolridge Electric Proxy Group

Company	[1] Annualized Dividend	[2] Dividend Yield	[3] Expected Dividend Yield	[4] Value Line Earnings Growth	[5] Yahoo Earnings Growth	[6] Zacks Earnings Growth	[7] Average Growth Rate	[8] Mean ROE
ALLETE, Inc. (NYSE-ALE)	$ 2.47	4.34%	4.48%	5.50%	7.00%	N/A	6.25%	10.73%
Alliant Energy Corporation (NYSE-LNT)	$ 1.52	3.13%	3.22%	6.50%	5.30%	5.54%	5.78%	9.00%
Ameren Corporation (NYSE-AEE)	$ 1.98	2.72%	2.81%	6.00%	5.85%	6.75%	6.20%	9.01%
American Electric Power Co. (NYSE-AEP)	$ 2.80	3.43%	3.52%	5.00%	5.82%	5.69%	5.50%	9.03%
Avangrid (NYSE-AGR)	$ 1.76	4.08%	4.19%	6.00%	4.85%	5.54%	5.46%	9.65%
Avista Corporation (NYSE-AVA)	$ 1.62	4.18%	4.27%	1.00%	6.00%	5.22%	4.07%	8.34%
CMS Energy Corporation (NYSE-CMS)	$ 1.63	2.80%	2.91%	7.50%	7.08%	6.99%	7.19%	10.10%
Consolidated Edison, Inc. (NYSE-ED)	$ 3.06	4.05%	4.10%	3.00%	2.65%	2.00%	2.55%	6.65%
Edison International (NYSE-EIX)	$ 2.55	4.55%	4.60%	NA	1.30%	3.34%	2.32%	6.92%
Entergy Corporation (NYSE-ETR)	$ 3.72	3.85%	3.95%	3.00%	6.20%	5.73%	4.98%	8.93%
Evergy, Inc. (NYSE-EVRG)	$ 2.02	3.42%	3.49%	3.00%	4.10%	5.04%	4.05%	7.53%
Eversource Energy (NYSE-ES)	$ 2.27	2.75%	2.83%	6.50%	6.22%	6.17%	6.30%	9.13%
Exelon Corporation (NYSE-EXC)	$ 1.53	4.14%	4.18%	5.00%	-3.60%	4.00%	1.80%	5.98%
FirstEnergy Corporation (NYSE-FE)	$ 1.56	3.91%	3.97%	8.50%	-2.40%	NA	3.05%	7.02%
Hawaiian Electric Industries (NYSE-HE)	$ 1.32	3.45%	3.49%	1.50%	3.30%	1.67%	2.16%	5.64%
IDACORP, Inc. (NYSE-IDA)	$ 2.68	2.99%	3.04%	3.50%	2.60%	2.63%	2.91%	5.95%
MGE Energy, Inc. (NYSE-MGEE)	$ 1.48	2.29%	2.33%	4.00%	4.00%	4.31%	4.10%	6.44%
NextEra Energy, Inc. (NYSE-NEE)	$ 5.88	2.43%	2.53%	10.00%	8.17%	7.85%	8.67%	11.21%
NorthWestern Corporation (NYSE-NWE)	$ 2.40	4.25%	4.31%	1.50%	3.70%	3.39%	2.86%	7.17%
OGE Energy Corp. (NYSE-OGE)	$ 1.55	5.08%	5.16%	3.00%	2.40%	3.69%	3.03%	8.19%
Otter Tail Corporation (NDQ-OTTR)	$ 1.48	3.60%	3.71%	3.50%	9.00%	N/A	6.25%	9.96%
Pinnacle West Capital Corp. (NYSE-PNW)	$ 3.13	4.13%	4.22%	4.00%	4.36%	4.70%	4.35%	8.57%
PNM Resources, Inc. (NYSE-PNM)	$ 1.23	3.12%	3.21%	6.00%	5.60%	6.19%	5.93%	9.14%
Portland General Electric Company (NYSE-POR)	$ 1.54	3.44%	3.52%	4.00%	4.45%	5.27%	4.57%	8.09%
PPL Corporation (NYSE-PPL)	$ 1.66	6.53%	6.61%	2.50%	2.90%	N/A	2.70%	9.31%
SEMPRA Energy (NYSE-SRE)	$ 4.18	3.46%	3.59%	10.00%	5.35%	7.18%	7.51%	11.10%
Southern Company (NYSE-SO)	$ 2.56	4.69%	4.78%	3.00%	4.53%	4.00%	3.84%	8.62%
WEC Energy Group (NYSE-WEC)	$ 2.53	2.83%	2.92%	6.00%	5.96%	5.99%	5.98%	8.90%
Xcel Energy Inc. (NYSE-XEL)	$ 1.72	2.74%	2.83%	6.00%	6.10%	6.05%	6.05%	8.88%
Mean [9]:								9.03%

Notes:

[1] JRW-7.2
[2] JRW-7.2
[3] Equals [2] X (1 + .5 X [7])
[4] JRW-7.4
[5] JRW-7.5
[6] JRW-7.5
[7] Equals average of [4], [5], and [6]
[8] Equals [2] X (1 + .5 X [7]) + [7]
[9] Excludes companies with ROEs less than 7%.

180-Day Constant Growth DCF - Woolridge Electric Proxy Group

Company	[1] Annualized Dividend	[2] Dividend Yield	[3] Expected Dividend Yield	[4] Value Line Earnings Growth	[5] Yahoo Earnings Growth	[6] Zacks Earnings Growth	[7] Average Growth Rate	[8] Mean ROE
ALLETE, Inc. (NYSE-ALE)	$ 2.47	3.67%	3.79%	5.50%	7.00%	N/A	6.25%	10.04%
Alliant Energy Corporation (NYSE-LNT)	$ 1.52	2.95%	3.04%	6.50%	5.30%	5.54%	5.78%	8.82%
Ameren Corporation (NYSE-AEE)	$ 1.98	2.64%	2.72%	6.00%	5.85%	6.75%	6.20%	8.92%
American Electric Power Co. (NYSE-AEP)	$ 2.80	3.19%	3.28%	5.00%	5.82%	5.69%	5.50%	8.78%
Avangrid (NYSE-AGR)	$ 1.76	3.79%	3.89%	6.00%	4.85%	5.54%	5.46%	9.35%
Avista Corporation (NYSE-AVA)	$ 1.62	3.74%	3.82%	1.00%	6.00%	5.22%	4.07%	7.89%
CMS Energy Corporation (NYSE-CMS)	$ 1.63	2.69%	2.79%	7.50%	7.08%	6.99%	7.19%	9.98%
Consolidated Edison, Inc. (NYSE-ED)	$ 3.06	3.76%	3.80%	3.00%	2.65%	2.00%	2.55%	6.35%
Edison International (NYSE-EIX)	$ 2.55	4.05%	4.10%	NA	1.30%	3.34%	2.32%	6.42%
Entergy Corporation (NYSE-ETR)	$ 3.72	3.45%	3.54%	3.00%	6.20%	5.73%	4.98%	8.52%
Evergy, Inc. (NYSE-EVRG)	$ 2.02	3.26%	3.32%	3.00%	4.10%	5.04%	4.05%	7.37%
Eversource Energy (NYSE-ES)	$ 2.27	2.70%	2.79%	6.50%	6.22%	6.17%	6.30%	9.08%
Exelon Corporation (NYSE-EXC)	$ 1.53	3.76%	3.79%	5.00%	-3.60%	4.00%	1.80%	5.59%
FirstEnergy Corporation (NYSE-FE)	$ 1.56	3.58%	3.64%	8.50%	-2.40%	NA	3.05%	6.69%
Hawaiian Electric Industries (NYSE-HE)	$ 1.32	3.15%	3.19%	1.50%	3.30%	1.67%	2.16%	5.34%
IDACORP, Inc. (NYSE-IDA)	$ 2.68	2.76%	2.81%	3.50%	2.60%	2.63%	2.91%	5.72%
MGE Energy, Inc. (NYSE-MGEE)	$ 1.48	2.10%	2.15%	4.00%	4.00%	4.31%	4.10%	6.25%
NextEra Energy, Inc. (NYSE-NEE)	$ 5.88	2.41%	2.52%	10.00%	8.17%	7.85%	8.67%	11.19%
NorthWestern Corporation (NYSE-NWE)	$ 2.40	3.76%	3.82%	1.50%	3.70%	3.39%	2.86%	6.68%
OGE Energy Corp. (NYSE-OGE)	$ 1.55	4.32%	4.38%	3.00%	2.40%	3.69%	3.03%	7.41%
Otter Tail Corporation (NDQ-OTTR)	$ 1.48	3.25%	3.35%	3.50%	9.00%	N/A	6.25%	9.60%
Pinnacle West Capital Corp. (NYSE-PNW)	$ 3.13	3.79%	3.87%	4.00%	4.36%	4.70%	4.35%	8.22%
PNM Resources, Inc. (NYSE-PNM)	$ 1.23	2.77%	2.85%	6.00%	5.60%	6.19%	5.93%	8.78%
Portland General Electric Company (NYSE-POR)	$ 1.54	3.07%	3.14%	4.00%	4.45%	5.27%	4.57%	7.71%
PPL Corporation (NYSE-PPL)	$ 1.66	5.68%	5.76%	2.50%	2.90%	N/A	2.70%	8.46%
SEMPRA Energy (NYSE-SRE)	$ 4.18	3.16%	3.27%	10.00%	5.35%	7.18%	7.51%	10.78%
Southern Company (NYSE-SO)	$ 2.56	4.36%	4.45%	3.00%	4.53%	4.00%	3.84%	8.29%
WEC Energy Group (NYSE-WEC)	$ 2.53	2.77%	2.85%	6.00%	5.96%	5.99%	5.98%	8.83%
Xcel Energy Inc. (NYSE-XEL)	$ 1.72	2.72%	2.80%	6.00%	6.10%	6.05%	6.05%	8.85%
Mean [9]:								8.90%

Notes:
[1] JRW-7.2
[2] JRW-7.2
[3] Equals [2] X (1 + .5 X [7])
[4] JRW-7.4
[5] JRW-7.5
[6] JRW-7.5
[7] Equals average of [4], [5], and [6]
[8] Equals [2] X (1 + .5 X [7]) + [7]
[9] Excludes companies with ROEs less than 7%.

Rocky Mountain Power
Exhibit RMP___(AEB-11R)
Docket No. 20-035-04
Witness: Ann E. Bulkley

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF UTAH

ROCKY MOUNTAIN POWER

Exhibit Accompanying Rebuttal Testimony of Ann E. Bulkley

Risk Premium Analysis - Excluding Settled Cases

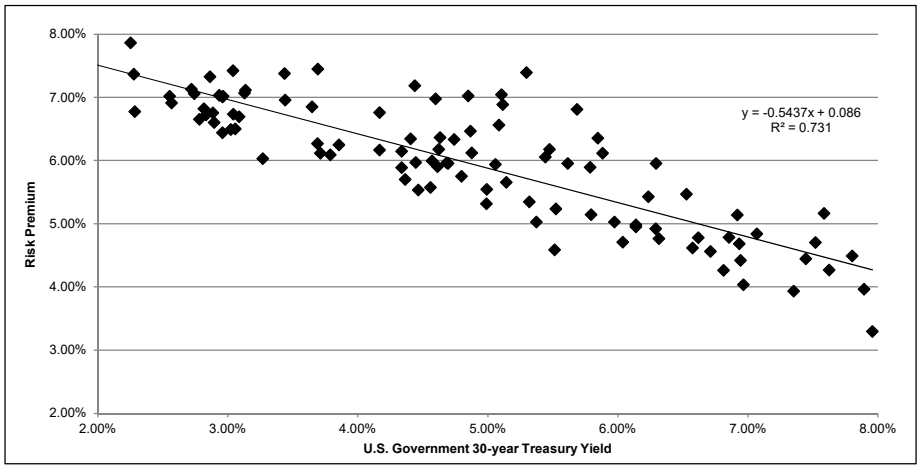
September 2020

Risk Premium -- Vertically Integrated Electric
(Excluding Settled Cases)

	[1]	[2]	[3]
	Average Authorized VI ELectric ROE	U.S. Govt. 30-year Treasury	Risk Premium
1992.1	12.29%	7.80%	4.49%
1992.2	11.86%	7.89%	3.96%
1992.3	11.89%	7.45%	4.45%
1992.4	12.23%	7.52%	4.71%
1993.1	11.91%	7.07%	4.84%
1993.2	11.64%	6.86%	4.79%
1993.3	11.08%	6.31%	4.77%
1993.4	11.09%	6.14%	4.95%
1994.1	11.19%	6.57%	4.62%
1994.2	11.29%	7.35%	3.93%
1994.3	12.75%	7.58%	5.17%
1994.4	11.25%	7.96%	3.30%
1995.1	11.90%	7.63%	4.27%
1995.2	11.36%	6.94%	4.42%
1995.3	11.28%	6.71%	4.56%
1995.4	11.67%	6.23%	5.43%
1996.1	12.25%	6.29%	5.96%
1996.2	12.06%	6.92%	5.14%
1996.3	11.00%	6.96%	4.04%
1996.4	11.40%	6.62%	4.78%
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	11.12%	6.14%	4.98%
1998.1	12.00%	5.88%	6.12%
1998.2	12.20%	5.85%	6.35%
1998.3	11.65%	5.47%	6.18%
1998.4	12.15%	5.10%	7.05%
1999.1	10.40%	5.37%	5.03%
1999.2	10.94%	5.79%	5.15%
1999.3	10.75%	6.04%	4.71%
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	11.50%	5.44%	6.06%
2001.3	10.76%	5.52%	5.24%
2001.4	12.69%	5.30%	7.39%
2002.1	10.10%	5.51%	4.59%
2002.2	11.57%	5.61%	5.95%
2002.3	11.65%	5.08%	6.57%
2003.1	11.88%	4.85%	7.03%
2003.2	11.58%	4.60%	6.98%
2003.4	12.00%	5.11%	6.89%
2004.1	11.00%	4.88%	6.12%
2004.2	10.67%	5.32%	5.35%
2004.3	11.00%	5.06%	5.94%
2004.4	11.33%	4.86%	6.47%
2005.1	10.65%	4.69%	5.96%
2005.2	10.00%	4.47%	5.53%
2005.3	11.63%	4.44%	7.19%
2005.4	10.65%	4.68%	5.97%
2006.1	11.00%	4.63%	6.37%
2006.2	10.80%	5.14%	5.66%
2006.3	10.54%	4.99%	5.55%
2006.4	11.08%	4.74%	6.34%
2007.1	10.55%	4.80%	5.75%
2007.2	10.31%	4.99%	5.32%
2007.4	10.52%	4.61%	5.90%
2008.1	10.75%	4.41%	6.34%
2008.2	10.57%	4.57%	6.00%
2008.3	10.42%	4.44%	5.97%
2008.4	10.50%	3.65%	6.85%
2009.1	10.82%	3.44%	7.38%
2009.2	10.93%	4.17%	6.76%
2009.4	10.48%	4.34%	6.15%
2010.1	10.80%	4.62%	6.18%
2010.2	10.07%	4.36%	5.70%
2010.3	10.11%	3.86%	6.25%
2010.4	10.34%	4.17%	6.17%
2011.1	10.13%	4.56%	5.57%
2011.2	10.23%	4.34%	5.89%
2011.3	11.14%	3.69%	7.45%
2011.4	10.47%	3.04%	7.43%
2012.1	10.25%	3.14%	7.11%
2012.2	9.97%	2.93%	7.04%
2012.3	9.80%	2.74%	7.06%
2012.4	10.19%	2.86%	7.33%

Risk Premium -- Vertically Integrated Electric
(Excluding Settled Cases)

	[1]	[2]	[3]
	Average Authorized VI ELectric ROE	U.S. Govt. 30-year Treasury	Risk Premium
2013.1	10.20%	3.13%	7.07%
2013.3	9.83%	3.71%	6.12%
2013.4	9.88%	3.79%	6.09%
2014.1	9.96%	3.69%	6.27%
2014.2	10.40%	3.44%	6.96%
2014.4	9.98%	2.96%	7.02%
2015.1	9.57%	2.55%	7.02%
2015.2	9.64%	2.88%	6.76%
2015.3	9.40%	2.96%	6.44%
2015.4	9.97%	2.96%	7.01%
2016.1	9.85%	2.72%	7.13%
2016.2	9.48%	2.57%	6.91%
2016.3	9.65%	2.28%	7.37%
2016.4	9.56%	2.83%	6.72%
2017.1	9.78%	3.04%	6.73%
2017.2	9.50%	2.90%	6.60%
2017.4	9.64%	2.82%	6.82%
2018.1	9.52%	3.02%	6.49%
2018.2	9.78%	3.09%	6.70%
2018.3	9.56%	3.06%	6.50%
2018.4	9.30%	3.27%	6.03%
2019.2	9.44%	2.78%	6.66%
2019.3	9.06%	2.29%	6.77%
2019.4	10.12%	2.25%	7.87%
2020.1	9.67%	1.89%	7.78%
AVERAGE	10.79%	4.82%	5.98%
MEDIAN	10.76%	4.74%	6.12%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.85496
R Square	0.73096
Adjusted R Square	0.72830
Standard Error	0.00522
Observations	103

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.007481	0.007481	274.407503	0.000000
Residual	101	0.002753	0.000027		
Total	102	0.010234			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0860	0.00166	51.72	0.000000	0.082670	0.089264	0.082670	0.089264
U.S. Govt. 30-year Treasury	(0.5437)	0.03282	(16.57)	0.000000	(0.608799)	(0.478583)	(0.608799)	(0.478583)

	[7] U.S. Govt. 30-year Treasury	[8] Risk Premium	[9] ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	1.56%	7.75%	9.31%
Blue Chip Near-Term Projected Forecast (Q3 2020 - Q3 2021) [5]	1.80%	7.62%	9.42%
Blue Chip Long-Term Projected Forecast (2021-2025) [6]	3.20%	6.86%	10.06%
AVERAGE			9.59%

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 31, 2020
[5] Source: Blue Chip Financial Forecasts, Vol. 39, No. 4, April 1, 2020, 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 0.085967 + (-0.543691 x Column [7])
[9] Equals Column [7] + Column [8]