Exhibit No.___(AEB-1T)
Docket No. UG-19____
Witness: Ann E. Bulkley

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. CASCADE NATURAL GAS CORPORATION, Respondent.	DOCKET UG-19_____

CASCADE NATURAL GAS CORPORATION

DIRECT TESTIMONY OF ANN E. BULKLEY

March 29, 2019

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I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name and business address.

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

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

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

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

A. I am submitting this Direct Testimony before the Washington Utilities and Transportation Commission ("Commission") on behalf of Cascade Natural Gas Corporation ("Cascade" or the "Company"), which is a wholly-owned subsidiary of MDU Resources Group, Inc. ("MDU Resources").

Q. Please describe your education and experience.

A. I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University, with more than 20 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes. I have included my resume and a summary of testimony that I have filed in other proceedings as Exhibit No.___(AEB-3) to this testimony.

Q. Please describe Concentric's activities in energy and utility engagements.

A. Concentric provides financial and economic advisory services to many and various energy and utility clients across North America. Our regulatory, economic, and

market analysis services include utility ratemaking and regulatory advisory services; energy market assessments; market entry and exit analysis; corporate and business unit strategy development; demand forecasting; resource planning; and energy contract negotiations. Our financial advisory activities include buy and sell-side merger, acquisition and divestiture assignments; due diligence and valuation assignments; project and corporate finance services; and transaction support services. In addition, we provide litigation support services on a wide range of financial and economic issues on behalf of clients throughout North America.

Q. Have you testified before any regulatory authorities?

A. Yes. A list of proceedings in which I have provided testimony is provided in Exhibit No.___(AEB-3) to this testimony.

II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding the appropriate Return on Equity ("ROE")[1] for the Company's natural gas utility operations in Washington and to provide an assessment of its proposed capital structure to be used for ratemaking purposes. My analyses and recommendations are supported by the data presented in Exhibit No.___(AEB-2), Schedules 1 through 12, which were prepared by me or under my direction.

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

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

A. As discussed in more detail in Section VII, I applied the Constant Growth form of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), the Risk Premium Approach and the Expected Earnings Analysis. My recommendation also takes into consideration: (1) the Company's small size; (2) Flotation Cost; (3) the Company's customer concentration; (4) the Company's capital expenditure requirements; (5) the regulatory environment in which the Company operates; and (6) the Company's adjustment mechanisms. Finally, I considered the Company's proposed capital structure as compared to the capital structures of the proxy companies.[2] While I did not make any specific adjustments to my ROE estimates for any of these factors, I did take them into consideration in aggregate when determining where the Company's ROE falls within the range of analytical results.

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

A. Section III provides a summary of my analyses and conclusions. Section IV reviews the regulatory guidelines pertinent to the development of the cost of capital. Section V discusses current and projected capital market conditions and the effect of those conditions on Cascade's cost of equity in Washington. Section VI explains my selection of a proxy group of natural gas utilities. Section VII describes my analyses and the analytical basis for the recommendation of the appropriate ROE

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

for Cascade. Section VIII provides a discussion of specific regulatory, business, and financial risks that have a direct bearing on the ROE to be authorized for Cascade in this case. Section IX assesses the proposed capital structure of Cascade as compared with the capital structures of the utility operating subsidiaries of the proxy group companies. Section X presents my conclusions and recommendations for the market cost of equity.

III. SUMMARY OF ANALYSIS AND CONCLUSIONS

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

A. My analyses and recommendations considered the following:

- The *Hope* and *Bluefield* decisions[3] that established the standards for determining a fair and reasonable allowed ROE, including consistency of the allowed return with other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and that result must lead to just and reasonable rates.
- The effect of current and projected capital market conditions on investors' return requirements.
- The Company's regulatory, business, and financial risks relative to the proxy group of comparable companies and the implications of those risks in arriving at the appropriate ROE for Cascade.

[3] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

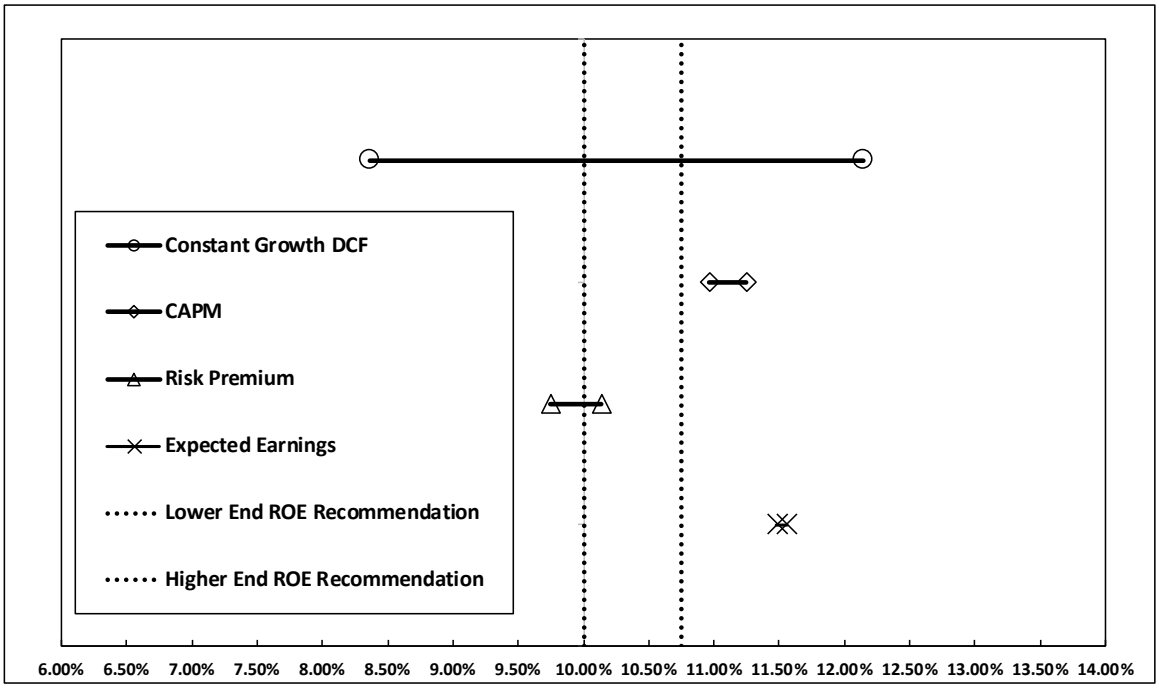
Q. Please explain how you considered those factors.

A. I have relied on several analytical approaches to estimate the Company's cost of equity based on a proxy group of publicly traded companies. As shown in Figure 1, those ROE estimation models produce a wide range of results. My conclusion as to where within that range of results Cascade's ROE falls is based on the Company's business and financial risk relative to the proxy group. Although the companies in my proxy group are generally comparable to Cascade, each company is unique, and no two companies have the exact business and financial risk profiles. Accordingly, we settle on a proxy group with similar, but not the same risk profiles; and adjust the results of our analysis either upwards or downwards within the reasonable range of results to account for any residual differences in risk.

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

A. I considered the results of the Constant Growth DCF model using current dividends, earnings growth rates and stock prices. In addition, I considered two risk premium approaches, the CAPM and a Bond Yield Plus Risk Premium methodology, as well as an Expected Earnings analysis. Figure 1 summarizes the range of results established using each of these estimation methodologies.

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



As shown on Figure 1 (and in Exhibit No.___(AEB-2), Schedule 1), the range of the DCF model results is wide, particularly in relation to the results of the other methodologies. While it is common to consider multiple models to estimate the cost of equity, it is particularly important when the range of results is wide.

The requested ROE is for the future rate period; therefore, the analyses supporting my recommendation rely on forward-looking inputs and assumptions (e.g., projected growth rates in the DCF model, forecasted risk-free rate and Market Risk Premium in the CAPM analysis, etc.) and takes into consideration the current high valuations of utility stocks and the market's expectation for higher interest rates. The use of historical inputs and assumptions would tend to understate the required ROE for Cascade, when considering current and projected conditions in

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

capital markets.

As discussed in more detail in Sections V and VII, the DCF models are influenced by current market conditions that are not projected to be sustained in the long-term. Those conditions result in lower estimates of the ROE using the DCF model. For example, the median low Constant Growth DCF[5] results (prior to exclusions for outliers) for the proxy group, ranging from 7.81 to 7.90 percent for the 30-, 90-, and 180-day assumption, are below an acceptable range of returns for a natural gas utility and are below any authorized ROE for an electric utility or natural gas utility in the U.S. since at least 1980.[6] Based on prospective capital market conditions, and the inverse relationship between the market risk premium and interest rates, I conclude that the median low DCF results do not provide a sufficient risk premium to compensate equity investors for the residual risks of ownership, including the risk that they have the lowest claim on the assets and income of Cascade.

Due to these concerns about the results produced by the DCF model, my ROE recommendation considers the median and median-high results of the DCF model, a forward-looking CAPM analysis, a Bond Yield plus Risk Premium analysis, and an Expected Earnings analysis. I also consider company-specific risk factors and current and prospective capital market conditions.

Q. What is your recommended ROE for Cascade?

A. In addition to the analytical results presented in Figure 1, I also considered the level

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

[6] Source: Regulatory Research Associates, Rate Case History, January 1, 1980 – January 31, 2019.

of regulatory, business, and financial risk faced by Cascade's natural gas operations in Washington relative to the proxy group to establish the range of reasonable returns. Considering these factors, I believe a range from 10.00 to 10.75 percent is reasonable. This recommendation reflects the range of results for the proxy group companies, the relative risk of Cascade's natural gas operations in Washington as compared to the proxy group, and current capital market conditions. Within that range, a return of 10.30 percent is reasonable.

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

A. Based on the analysis presented in Section IX of my testimony, I conclude that Cascade's proposed 50.00 percent common equity is reasonable. To determine if Cascade's requested capital structure was reasonable, I reviewed the capital structures of the utility subsidiaries of the proxy companies. As shown in Exhibit No.___(AEB-2), Schedule 12, the results of that analysis demonstrate that the average equity ratios for the utility operating companies of the proxy group range from 51.32 percent to 63.18 percent with an average of 57.07 percent. Cascade's proposed equity ratio of 50.00 percent is below the range of equity ratios for the utility operating subsidiaries of the proxy group companies and is therefore reasonable. However, it is important to note that the difference in capitalization between Cascade and the proxy group is significant and should be considered in setting the appropriate ROE for the Company, especially considering that Federal tax reform legislation has had a negative effect on the cash flows and credit metrics of regulated utilities.

Furthermore, a fundamental aspect of the financial regulation of utilities is assuring that the subject utility has a reasonable opportunity to earn a return on capital consistent with the return available on investments of similar risk. While this principle is most often discussed in terms of the allowed ROE, it is equally applicable to all aspects of overall Rate of Return ("ROR"). The equity return, the product of the ROE and the equity ratio, (i.e., the Weighted Return on Equity ("WROE")), ultimately defines the return to shareholders and the product of the cost of debt and the debt ratio ensures that a company's debt obligations are met. Therefore, it is necessary to consider both the rates that are applied to debt and equity and the composition of the capital structure to determine the reasonableness of the ROR. As discussed in greater detail in Section IX, the Company's proposed common equity ratio of 50.00 percent is below the range of the equity ratios of the companies in my proxy group. Taken together, the Company's proposed common equity ratio of 50.00 percent and the Company's requested ROE of 10.30 percent, results in a WROE of 5.15 percent. This reasonably balances the interests of customers and shareholders by enabling Cascade to maintain its financial integrity and therefore its ability to attract capital at reasonable terms and conditions under a variety of economic and financial market conditions.

IV. REGULATORY GUIDELINES

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

A. The United States Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the standards for determining the fairness or reasonableness of a

utility's allowed ROE. Among the standards established by the Court in those cases are: (1) consistency with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and access to capital; and (3) that the result, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[7]

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

A. Yes, it has. In Docket Nos. UE-170485 and UG-170486, Avista Corporation's 2017 rate case, the Commission stated that:

> The Commission's final determination of an acceptable ROE recognizes fully the guiding principles of regulatory ratemaking that require us to reach an end result that yields fair, just, reasonable, and sufficient rates.[8]

My view accords with this guidance that an allowed ROR must be sufficient to enable regulated companies, like Cascade, the ability to attract capital on reasonable terms.

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

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

[7] *Hope*, 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923).
[8] *Wash. Utils. & Transp. Comm'n v. Avista Corp.*, Docket Nos. UE-170485 and UG-170486, Order 07, ¶ 59 (April 26, 2018) (hereinafter "Avista Order 07").

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

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

Likewise, because Cascade is a subsidiary of MDU Resources, Cascade competes with the other MDU Resources subsidiaries for investment capital. In determining how to allocate its finite capital resources, it would be reasonable for MDU Resources to consider the authorized ROE of each of its subsidiaries.

Q. What are your conclusions regarding regulatory guidelines?

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

long-term interests of the utility and its ratepayers.

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

V. CAPITAL MARKET CONDITIONS

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

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

As discussed in the remainder of this section, analysts and regulatory

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

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

A. The cost of equity for regulated utility companies is being affected by several factors in the current and prospective capital markets, including: (1) the current low interest rate environment and the corresponding effect on valuations and dividend yields of utility stocks relative to historical levels; (2) the market's expectation for higher interest rates; and (3) recent Federal tax reform. In this section, I discuss each of these factors and how it affects the models used to estimate the cost of equity for regulated utilities.

A. The Effect of Market Conditions on Valuations

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

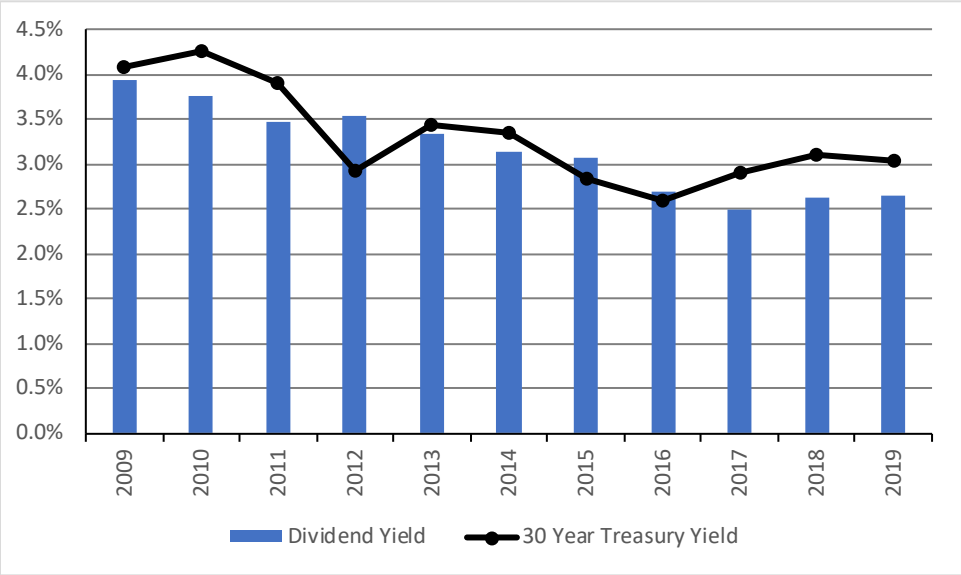
A. Extraordinary and persistent federal intervention in capital markets artificially lowered government bond yields after the Great Recession of 2008-2009, as the Federal Open Market Committee ("FOMC") used monetary policy (both reductions

in short-term interest rates and purchases of Treasury bonds and mortgage-backed securities) to stimulate the U.S. economy. As a result of very low or zero returns on short-term government bonds, yield-seeking investors have been forced into longer-term instruments, bidding up prices and reducing yields on those investments. As investors have moved along the risk spectrum in search of yields that meet their return requirements, there has been increased demand for dividend-paying equities, such as natural gas and electric utility stocks.

Q. How has the period of abnormally low interest rates affected the valuations and dividend yields of utility shares?

A. The Federal Reserve's accommodative monetary policy has caused investors to seek alternatives to the historically low interest rates available on Treasury bonds. A result of this search for higher yield is that the share prices for many common stocks, especially dividend-paying stocks such as utilities, have been driven higher while the dividend yields (which are computed by dividing the dividend payment by the stock price) have decreased to levels well below the historical average. As shown in Figure 2, over the period from 2009 through 2017, since the Federal Reserve intervened to stabilize financial markets and support the economic recovery after the Great Recession of 2008-09, Treasury bond yields and utility dividend yields declined. Specifically, Treasury bond yields declined by approximately 118 basis points, and natural gas utility dividend yields have decreased by about 144 basis points over this same period.

Figure 2: Dividend Yields for Natural Gas Utility Stocks



Note: Figure includes 2019 data through January 31, 2019.
Source: Bloomberg Professional

Q. How have higher stock valuations and lower dividend yields for utility companies affected the results of the DCF model?

A. During periods of general economic and capital market stability, the DCF model may adequately reflect market conditions and investor expectations. However, in the current market environment, the DCF model results are distorted by the historically low level of interest rates and the higher valuation of utility stocks. Value Line recently commented on the high valuations of electric utilities:

> Even after a pullback in late 2018, most stocks in the Electric Utility Industry are still priced expensively, in our view. Many of the equities are still trading within our 2021-2023 Target Price Range. The industry's average dividend yield is 3.5%, and some stocks have yields that aren't significantly higher than the median of all stocks under our coverage. For the 3- to 5-year period, the group's average total return potential is just 5%.[9]

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

[9] Value Line Investment Survey, Electric Utility (West) Industry, January 25, 2019, at 2217.

sector:

> Utility valuations have come down as 10-year Treasury bond rates have climbed back over 3%. On a price-to-earnings basis, they do remain significantly above their historical average, but have declined to less unreasonable levels. We have seen utility valuations moving in line with interest rate movements, although there have been exceptions to this. Overall, however, we believe the low-interest rate environment has been the biggest factor in pushing utilities higher since many investors buy them for their dividend yield.
>
> Utilities have declined from their all-time highs reached late in 2017, but are still trading significantly above their average price-to-earnings ratio over the past decade. The premium valuation continues to reflect not only the low interest rate environment, but also the stable and predominantly regulated earnings growth we foresee.[10]

As noted by Value Line and Edward Jones, over the last few years, utility stocks have experienced high valuations and low dividend yields; driven by investors moving into dividend paying stocks from bonds due to the low interest rates in the bond market, however, those dynamics are changing. Value Line and Edward Jones recognize that as interest rates increase, bonds become a substitute for utility stocks. As utility stock prices decline, the dividend yields will increase. This change in market conditions implies that the ROE calculated using historical market data in the DCF model may understate the forward-looking cost of equity.

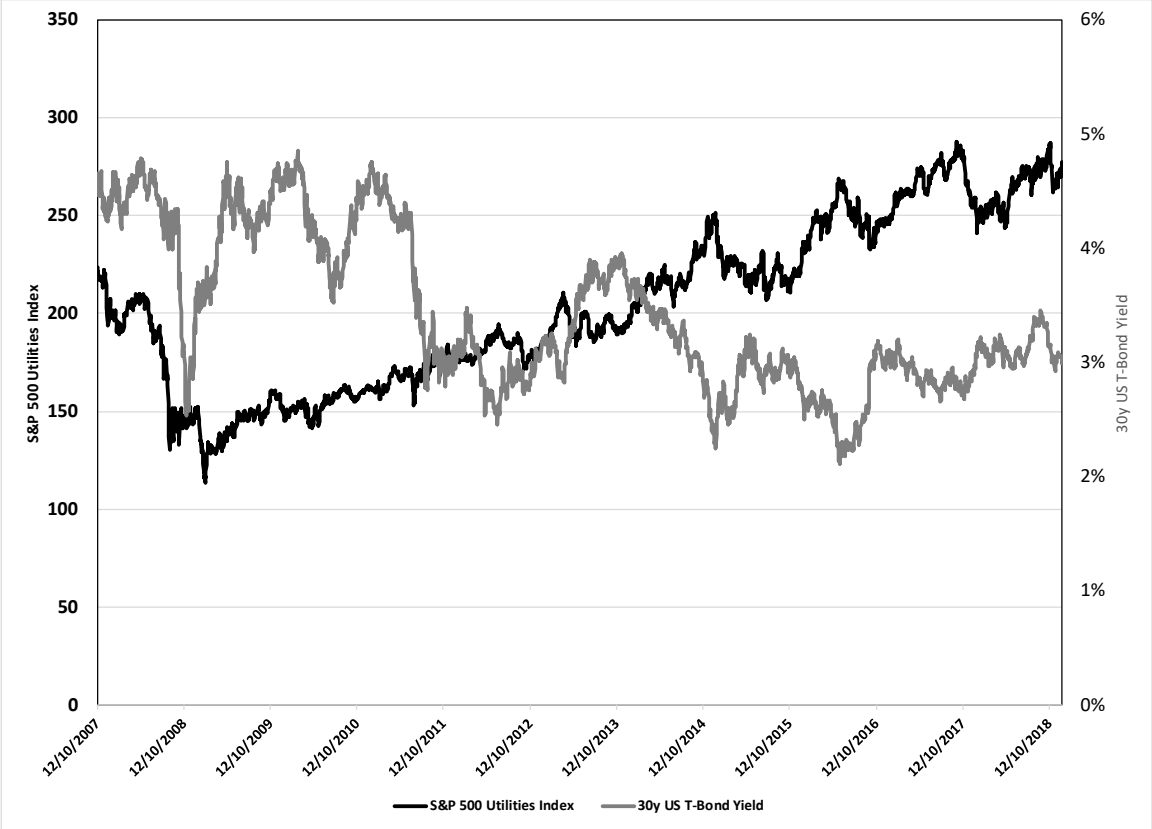
Q. How did the Standard & Poor's ("S&P") Utilities Index respond to the market conditions that existed following the Great Recession of 2008-2009?

A. Figure 3, demonstrates market conditions from 2007-2019 as measured by the S&P Utilities index and the yield on 30-year Treasury bonds. As shown in Figure 3, the

[10] Andy Pusateri and Andy Smith. Edward Jones, Utilities Sector Outlook (January 16, 2019), at 2-3.

S&P Utilities index increased steadily from the beginning of 2009 through early November 2017, as yields on 30-year Treasury bonds declined in response to accommodative federal monetary policy.

Figure 3: S&P Utilities Index and U.S. Treasury Bond Yields (2007-2019)



Source: Bloomberg Professional

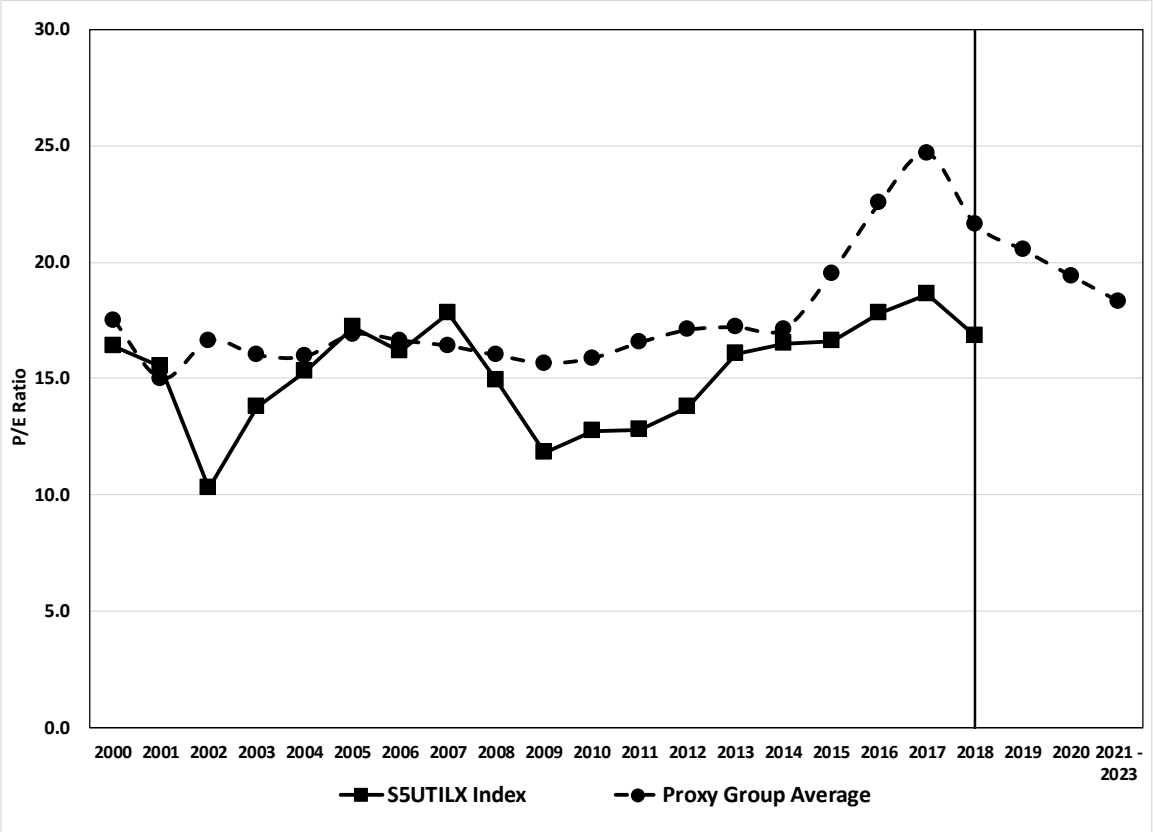
Q. How do the valuations of public utilities compare to the historical average?

A. Figure 4 summarizes the average historical and projected P/E ratios for the proxy companies calculated using data from Bloomberg Professional and Value Line.[11] As shown in Figure 4, the average P/E ratio for the proxy companies was higher in 2017 than at any other time in the last seventeen years and is significantly higher than the average projected P/E ratio for the group for the period from 2021-2023.

[11] Selection of the Proxy Companies is discussed in detail in Section VI of my Direct Testimony.

In 2018 however, the average P/E ratio for the proxy companies has decreased slightly to 21.61 from the high in 2017 of 24.64. All else equal, if P/E ratios for the proxy companies continue to decline, as Value Line projects, the ROE results from the DCF model would be higher. Therefore, the DCF model using historical market data is likely understating the forward-looking cost of equity for the proxy group companies.

Figure 4: Average Historical Proxy Group P/E Ratios[12]



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

A. Investment advisors have suggested that utility stocks may underperform as a result of market conditions. Barron's recently published its seventh annual review of

[12] Figure includes data through January 31, 2019. *Source: Bloomberg Professional.*

income-producing investments in which Barron's ranked eleven different sectors based on projected performance in 2019. The utility sector ranked ninth out of the eleven sectors with Barron's noting that:

> Utilities, however, aren't cheap; they are valued at an average of 17 times projected 2019 earnings, a premium to the S&P 500, at about 14. That may make it hard for utilities to best the index in 2019, barring a market collapse. Earnings growth is running at a mid-single-digits yearly pace.[13]

Similarly, a recent report on the market outlook for 2019 from J.P. Morgan Asset Management noted that due to higher volatility the Fed may pause increasing the federal funds rate; however, they are not recommending rotation into the utility sector:

> As prospects for slower economic growth become clearer in the middle of next year, the Fed may signal it will pause. Such a signal, or a trade agreement with China, could lead multiples to expand, pushing the stock market higher and potentially adding years to this already old bull market. However, even if the bull market does end in the next few years, it is important to remember that late-cycle returns have typically been quite strong.
>
> This leaves investors in a tough spot – should they focus on a fundamental story that is softening, or invest with an expectation that multiples will expand as the bull market runs its course? The best answer is probably a little bit of each. We are comfortable holding stocks as long as earnings growth is positive, but do not want to be over-exposed given an expectation for higher volatility. As such, higher-income sectors like financials and energy look more attractive than technology and consumer discretionary, and we would lump the new communication services sector in with the latter names, rather than the former. However, given our expectation of still some further interest rate increases, it does not yet seem appropriate to fully rotate into defensive sectors like utilities and consumer staples. Rather, a focus on cyclical

[13] Bary, Andrew. "Best Income Investments for 2019." Barron's, 4 Jan. 2019, https://www.barrons.com/articles/the-best-income-ideas-for-2019-51546632171.

> value should allow investors to optimize their upside/downside capture as this bull market continues to age.[14]

This view was further supported by UBS who underweights utilities:

> Our underweight views on consumer staples and utilities sectors reflect our preference for sectors that are more leveraged to continued favorable economic growth than these two defensive sectors. In addition, consumer staples are contending with sluggish organic growth. High dividend yields for the utilities sector makes it most negatively exposed to higher interest rates. Our industrials underweight is a bit of a hedge against a potential increase in trade frictions.[15]

Q. Have regulators recently responded to the historically low dividend yields for utility companies and the corresponding effect on the DCF model?

A. Yes. The FERC recently proposed a methodology that reflects their current view that investors rely on multiple ROE estimation models. The proposed methodology includes an equal weighting of the DCF, CAPM, Expected Earnings and Risk Premium models to better reflect investor behavior and capital market conditions.[16]

In addition, the Illinois Commerce Commission ("ICC"), the Pennsylvania Public Utility Commission ("PPUC") and the Missouri Public Service Commission ("Missouri PSC") have all considered the effect of low dividend yields on the DCF results in recent decisions. I discuss the response of these regulators to historically low dividend yields and the impact on the DCF model in detail later in my testimony.

[14] J.P. Morgan Asset Management, "The investment outlook for 2019: Late-cycle risks and opportunities", November 30, 2018, at 5.
[15] UBS, "2019 outlook: Aging gracefully", December 5, 2018, at 7.
[16] Federal Energy Regulatory Commission, Docket No. EL 11-66-001, et al., Order Directing Briefs at para. 32 (October 16, 2018).

B. The Current and Expected Interest Rate Environment

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

A. Based on stronger conditions in employment markets, a relatively stable inflation rate, steady economic growth, and increased household spending, the Federal Reserve raised the short-term borrowing rate by 25 basis points on four occasions in 2018. Since December 2015, the Federal Reserve has increased interest rates nine times, bringing the federal funds rate to the range of 2.25 percent to 2.50 percent. However, the Federal Reserve recently indicated at the March 2019 meeting that going forward it will be patient in determining future adjustments to the federal funds rate due to recent global economic and financial developments and low inflationary pressures.[17]

Additionally, in October 2017, the FOMC started reducing the size of the Federal Reserve's $4.5 trillion bond portfolio by no longer reinvesting the proceeds of the bonds it holds. In response to the Great Recession, the Federal Reserve pursued a policy known as "Quantitative Easing," in which it systematically purchased mortgage-backed securities and long-term Treasury bonds to provide liquidity in financial markets and drive down yields on long-term government bonds. Although the Federal Reserve discontinued the Quantitative Easing program in October 2014, it continued to reinvest the proceeds from the bonds it holds. Under the initial balance sheet normalization policy, the FOMC gradually

[17] FOMC, Federal Reserve press release, March 20, 2019.

reduced the Federal Reserve's securities holdings by $10 billion per month initially, ramping up to $50 billion per month by the end of the first twelve months.[18] However, at the March 2019 meeting, the FOMC announced that it intends to slow the reduction of its holdings of Treasury Securities starting in May 2019 and ultimately conclude the program in September 2019.[19]

Q. How does the recent change in the Federal Reserve's policy affect the yields on long-term government bonds?

A. While the Federal Reserve has recently indicated to that will it will be patient in determining future adjustments the federal funds rate, this is not unusual as monetary policy has a lagged effect on the economy. As Federal Reserve Bank of San Francisco notes:

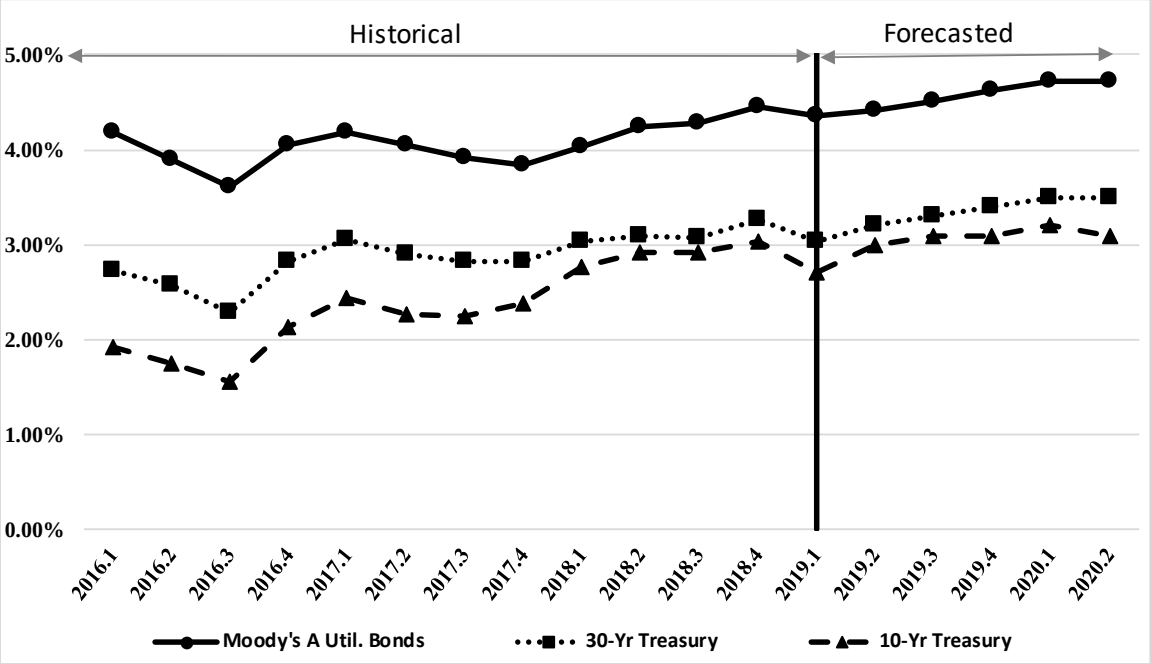
> It can take a fairly long time for a monetary policy action to affect the economy and inflation. And the lags can vary a lot, too. For example, the major effects on output can take anywhere from three months to two years. And the effects on inflation tend to involve even longer lags, perhaps one to three years, or more.[20]

Since December 2015, the Federal Reserves has increased the federal funds rate nine times, four of which occurred in 2018 and three in 2017. Therefore, given recent market volatility and lagged effect that monetary policy has on the economy, it is reasonable to expect the Federal Reserve to be patient with future increases. However, it is important to note, that the Federal Reserve is continuing to reduce

[18] Federal Reserve press release, Addendum to the Policy Normalization Principles and Plans, June 14, 2017, implemented at FOMC meeting, September 20, 2017.
[19] Federal Reserve press release, Balance Sheet Normalization Principles and Plans, March 20, 2019.
[20] Federal Reserve Bank of San Francisco, "U.S. Monetary Policy: An Introduction - How does monetary policy affect the U.S. economy?", February 6, 2004. https://www.frbsf.org/education/teacher-resources/us-monetary-policy-introduction/real-interest-rates-economy/

the size of its balance sheet by no longer reinvesting the proceeds of the bonds it holds over the near-term. This policy in conjunction with the lagged effect of past increases in the federal funds rate suggests that the yields on long-term government bonds should continue to increase over the near-term which is consistent with investors' expectations. As shown in Figure 5, investors are expecting continued increases in interest rates on both government and corporate/utility bonds over the next few years.

Figure 5: Interest Rate Conditions[21]



Q. Have you examined the effect of the Federal Reserve's monetary policy on the yields of long-term government bonds over the past few years?

A. Yes. As shown in Figure 5, yields on long-term government bonds have increased since the Federal Reserve started to raise the federal funds rate in 2016. However,

[21] Source: Historical data from Bloomberg Professional. Forecast data from Blue Chip Financial Forecasts, Volume. 38, No. 2, February 1, 2019, at 2.

the increase in long-term government bond yields has not been as pronounced as the rise in short-term interest rates. This is due to a shift in the supply and demand of long-term government bonds that has occurred since 2009. For example, since the Great Recession of 2008-2009, federal debt has increased significantly which has resulted in an increase in the supply of Treasury bonds in the market. In general, an increase in supply should result in a decrease in the price of Treasury bonds and an increase in yield. However, long-term government bonds yields have not increased as fast as expected given the increase in supply. This is because the demand for Treasury bonds has also increased since 2009. As noted in a recent article published by the St. Louis Federal Reserve, the demand for government bonds increased for a number of reasons some of which included increased holdings by foreign governments as countries in Europe and Asia faced their own economic uncertainty, and increased holdings from commercial banks due to new regulations that required banks to hold a larger portion of high-quality liquid assets.[22] This has resulted in a more gradual increase in the yields on long-term government bonds over the past few years.

Q. Is the demand for long-term government bonds currently increasing?

A. No, it is not. As noted in the Federal Reserve article:

> Some evidence suggests that the growth in demand for Treasuries has already begun to soften. Returning to Figures 1 and 2, foreign holdings have remained more or less constant since 2014, largely because of declining holdings in Japan and China. Likewise, regulation and policy changes such as the Dodd-Frank Act and new rules for prime money market funds may have only transitory effects on the demand for Treasuries.

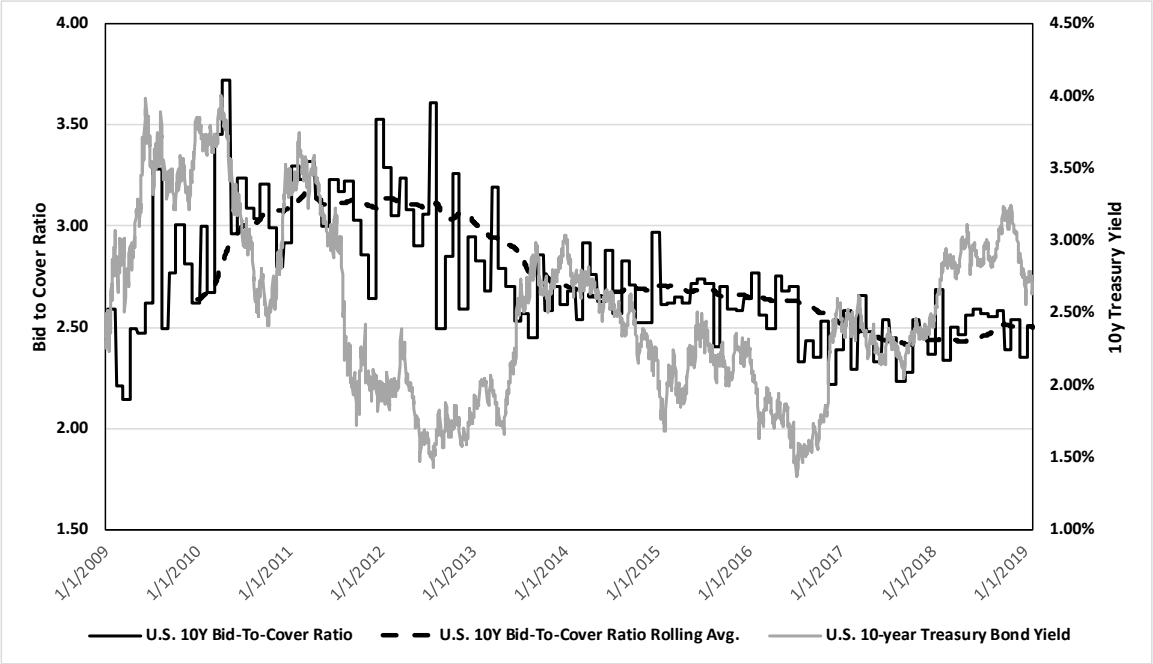
[22] David Andolfatto and Andrew Spewak, Federal Reserve Bank of St. Louis, "On the Supply of, and Demand for, U.S. Treasury Debt," Economic Synopses, No. 5, 2018. https://doi.org/10.20955/es.2018.5.

> For example, the pace of growth of the ratio of commercial bank Treasury security holdings to private loans has slowed since 2014 (see Figure 3), as has the growth of investment in government money market funds since 2017 (Figure 4).[23]

Furthermore, another indicator of the demand for Treasury bonds is the bid-to-cover ratio, which represents the dollar amount of bids received versus the dollar amount sold in a Treasury security auction. Therefore, a higher bid-to-cover ratio is indicative of an increase in the demand for government bonds. As shown in Figure 6, the bid-to-cover ratio for the 10-year U.S. Treasury bond is currently at its lowest point since 2009, which indicates that the demand for long-term government bonds has declined. The decline in demand is occurring at a time when the supply of Treasury bonds is expected to increase as the Federal Reserve continues its balance sheet unwind over the near-term and the federal government issues bonds to offset the reduced tax revenue associated with the implementation of the TCJA. As a result, yields on long-term government bonds are expected to continue to increase over the near-term which is consistent with investors' expectations shown in Figure 5.

[23] *Id.*

Figure 6: U.S. 10-year Treasury Bond Bid-to-Cover-Ratio



Q. What effect do rising interest rates have on the cost of equity?

A. As interest rates continue to increase, the cost of equity for the proxy companies using the DCF model is likely to be an overly conservative estimate of investors' required returns because the proxy group average dividend yield reflects the increase in stock prices that resulted from substantially lower interest rates. As such, rising interest rates support the selection of a return toward the upper end of a reasonable range of ROE estimates resulting from the DCF analysis. Alternatively, my CAPM and Bond Yield Plus Risk Premium analyses include estimated returns based on near-term projected interest rates, reflecting investors' expectations of market conditions over the period that the rates that are determined in this case will be set.

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

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

A. Yes. The effect of the TCJA should also be considered in the determination of the cost of equity. The credit rating agencies have commented on the effect of the TCJA on regulated utilities. In summary, the TCJA is expected to reduce utility revenues due to the lower federal income taxes and the requirement to return excess accumulated deferred income taxes. This change in revenue is expected to reduce Funds From Operations ("FFO") metrics across the sector, and absent regulatory mitigation strategies, is expected to lead to weaker credit metrics and negative ratings actions for some utilities.[24]

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

A. Yes. Moody's Investors Services ("Moody's") indicated that while the TCJA was credit positive for many sectors, it has an overall negative credit impact on regulated operating companies of utilities and their holding companies due to the reduction in cash flow metrics that results from the change in the federal tax rate and the loss of bonus depreciation.

Moody's noted that the rates that regulators allow utilities to charge customers is based on a cost-plus model, with tax expense being one of the pass-through items. Utilities will collect less taxes at the lower rate, reducing revenue.

[24] FitchRatings, Special Report, What Investors Want to Know, "Tax Reform Impact on the U.S. Utilities, Power & Gas Sector", January 24, 2018.

While the taxes are ultimately paid out as an expense, under the new law utilities lose the timing benefit, reducing cash that may have been carried over a number of years. The lower tax rate combined with the loss of bonus depreciation will have a negative effect on utility cash flows and will ultimately negatively impact the utilities' ability to fund ongoing operations and capital improvement programs.

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

A. In January 2018, Moody's issued a report changing the rating outlook for several regulated utilities from Stable to Negative.[25] At that time, Moody's noted that the rating change affected companies with limited cushion in their ratings for deterioration in financial performance. In June 2018, Moody's issued a report in which the rating agency downgraded the outlook for the entire regulated utility industry from Stable to Negative for the first time ever. Moody's cites ongoing concerns about the negative effect of the TCJA on cash flows of regulated utilities. While noting that "[r]egulatory commissions and utility management teams are taking important first steps"[26] and that "we have seen some credit positive developments in some states in response to tax reform,"[27] Moody's concludes that "we believe that it will take longer than 12-18 months for the majority of the sector to show any material financial improvement from such efforts."[28]

[25] Moody's Investor Service, Global Credit Research, Rating Action: Moody's changes outlooks on 25 US regulated utilities primarily impacted by tax reform, January 19, 2018.
[26] Moody's Investors Service, "Regulated utilities – US: 2019 outlook shifts to negative due to weaker cash flows, continued high leverage", June 18, 2018, at 3.
[27] *Id*.
[28] *Id*.

Q. Has Moody's changed its outlook for utilities in 2019?

A. No. Consistent with the prior reports issued by Moody's in January and June of 2018, Moody's is maintaining its negative outlook for regulated utilities in 2019 as a result of continued concerns over the effect of the TCJA on cash flows as well as increasing debt.[29] Moody's notes that "[t]he combination of financial pressures is expected to keep the sector's ratio of FFO to debt down around 15% in the year ahead." [30]

Q. What does it mean for Moody's to downgrade a credit outlook?

A. A Moody's rating outlook is an opinion regarding the likely rating direction over what it refers to as "the medium term." A Stable outlook indicates a low likelihood of a rating change in the medium term. A Negative outlook indicates a higher likelihood of a rating change over the medium term. While Moody's indicates that the time period for changing a rating subsequent to a change in the outlook from Stable will vary, on average Moody's indicates that a rating change will follow within a year of a change in outlook.[31]

Q. Has the Company experienced a downgrade related to cash flow metrics resulting from tax reform?

A. No, although, S&P issued a ratings report on September 27, 2018 where it affirmed the BBB+ credit rating of the Company but downgraded the stand-alone credit profile ("SACP") of Cascade from bbb+ to bbb. Specifically, S&P noted the following:

[29] Moody's Investors Service, Research Announcement: Moody's: US regulated utilities sector outlook for 2019 remains negative, November 8, 2018.
[30] *Id.*
[31] Moody's Investors Service, Rating Symbols and Definitions, July 2017, at 27.

> Our revised assessment of Cascade's SACP reflects our expectations of sustained weaker financial measures, reflecting the lower end of the range for the company's financial risk profile, including adjusted FFO to debt of about 13%-16%. This largely reflects the company's increased capital spending plan and the adverse cash flow effects from tax reform.[32]

Q. Have any utilities experienced a downgrade related to cash flow metrics resulting from the TCJA?

A. Yes. Figure 7 summarizes credit rating downgrades for utilities that have resulted from tax reform.

Figure 7: Credit Rating Downgrades Resulting from TCJA

Utility	Rating Agency	Credit Rating before TCJA	Credit Rating after TCJA	Downgrade Date
Brooklyn Union Gas Company	Moody's	A2	A3	2/22/2019
Avista Corp.	Moody's	Baa1	Baa2	12/30/2018
Consolidated Edison Company of New York	Moody's	A2	A3	10/30/2018
Consolidated Edison, Inc.	Moody's	A3	Baa1	10/30/2018
Orange and Rockland Utilities	Moody's	A3	Baa1	10/30/2018
Southwestern Public Service Company	Moody's	Baa1	Baa2	10/19/2018
Dominion Energy Gas Holdings	Moody's	A2	A3	9/20/2018
Piedmont Natural Gas Company, Inc.	Moody's	A2	A3	8/1/2018
WEC Energy Group, Inc.	Moody's	A3	Baa1	7/12/2018
Integrys Holdings Inc.	Moody's	A3	Baa1	7/12/2018
OGE Energy Corp.	Moody's	A3	Baa1	7/5/2018
Oklahoma Gas & Electric Company	Moody's	A1	A2	7/5/2018

Q. Have other rating agencies commented on the effect of the TCJA on ratings?

A. Yes. S&P and Fitch have also commented on the implications of the TCJA on utilities. S&P published a report on January 24, 2018, entitled "U.S. Tax Reform: For Utilities' Credit Quality, Challenges Abound" in which S&P concludes:

[32] Standard and Poor's Global Ratings, "Research Update: Cascade Natural Gas Corp. 'BBB+' Ratings Affirmed; Stand-Alone Credit Profile Revised to 'bbb'; Outlook Stable", September 27, 2018.

The impact of tax reform on utilities is likely to be negative to varying degrees depending on a company's tax position going into 2018, how its regulators react, and how the company reacts in return. It is negative for credit quality because the combination of a lower tax rate and the loss of stimulus provisions related to bonus depreciation or full expensing of capital spending will create headwinds in operating cash-flow generation capabilities as customer rates are lowered in response to the new tax code. The impact could be sharpened or softened by regulators depending on how much they want to lower utility rates immediately instead of using some of the lower revenue requirement from tax reform to allow the utility to retain the cash for infrastructure investment or other expenses. Regulators must also recognize that tax reform is a strain on utility credit quality, and we expect companies to request stronger capital structures and other means to offset some of the negative impact.

Finally, if the regulatory response does not adequately compensate for the lower cash flows, we will look to the issuers, especially at the holding company level, to take steps to protect credit metrics if necessary. Some deterioration in the ability to deduct interest expense could occur at the parent, making debt there relatively more expensive. More equity may make sense and be necessary to protect ratings if financial metrics are already under pressure and regulators are aggressive in lowering customer rates. It will probably take the remainder of this year to fully assess the financial impact on each issuer from the change in tax liabilities, the regulatory response, and the company's ultimate response. We have already witnessed differing responses. We revised our outlook to negative on PNM Resources Inc. and its subsidiaries on Jan. 16 after a Public Service Co. of New Mexico rate case decision incorporated tax savings with no offsetting measures taken to alleviate the weaker cash flows. It remains to be seen whether PNM will eventually do so, especially as it is facing other regulatory headwinds. On the other hand, FirstEnergy Corp. issued $1.62 billion of mandatory convertible stock and $850 million of common equity on Jan. 22 and explicitly referenced the need to support its credit metrics in the face of the new tax code in announcing the move. That is exactly the kind of proactive financial management that we will be looking for to fortify credit quality and promote ratings stability.[33]

[33] Standard and Poor's Global Ratings, "U.S. Tax Reform: For Utilities' Credit Quality, Challenges Abound", January 24, 2018.

In S&P's 2019 trends report, the rating agency notes that the utility industry's financial measures weakened in 2018 and attributed that to tax reform, capital spending and negative load growth. In addition, S&P expects that weaker credit metrics will continue into 2019 for those utilities operating with minimal financial cushion. S&P further expects that these utilities will look to offset the revenue reductions from tax reform with equity issuances. The rating agency reported that in 2018 regulated utilities issued nearly $35 billion in equity, which is more than twice the equity issuances in 2016 and 2017.[34]

Finally, FitchRatings recognized the implications of tax reform but indicated that any ratings actions will be guided by the response of regulators and the management of the utilities. Fitch notes that the solution will depend on the ability of utility management to manage the cash flow implications of the TCJA. Fitch offers several solutions to provide rate stability and to moderate changes to cash flow in the near term, including increasing the authorized ROE and/or equity ratio as measures that can be implemented.[35]

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

A. Yes. In Avista's 2017 rate case, the Commission "note[d] the TCJA will increase stress on the Company's balance sheet and credit metrics as short-term cash flows are impacted by customer refunds."[36]

[34] Standard & Poor's Ratings, "Industry Top Trends 2019, North America Regulated Utilities", November 8, 2019.
[35] FitchRatings, Special Report, What Investors Want to Know, "Tax Reform Impact on the U.S. Utilities, Power & Gas Sector", January 24, 2018.
[36] Avista Order 07, ¶ 72.

Q. Has the Company recently experienced a credit rating downgrade?

A. Yes. In August of 2018, FitchRatings downgraded Cascade from A- to BBB+. In its ratings review, Fitch noted that Cascade was downgraded due to a much weaker financial profile that resulted from the recent rate case decision in the Company's Washington rate case and an elevated capital expenditure program that is expected to increase leverage over the near-term.[37] With respect to the rate case decision in Washington, Fitch viewed unfavorably "the below-average 9.4 % authorized ROE and 49% equity ratio" and the Commission's decision to disallow Cascade from retaining the excess taxes collected between the period that the TCJA went into effect (January 1, 2018) and the date that Cascade's new rates would go in effect (August 1, 2018).[38] Fitch believes that the Commission's decision will impact Cascade's ability to earn it authorized ROE and notes that the Company has been underearning its authorized return for a few years.[39] Thus, Fitch's downgrade of Cascade highlights the importance of authorizing an ROE in this proceeding that is sufficient to maintain the credit quality of the Company while continuing to allow Cascade the ability to attract capital at reasonable terms which will be important over the near term given the Company's significant capital expenditure plan.

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

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

[37] FitchRatings, Fitch Affirms MDU Resources, Centennial Energy; Downgrades Cascade; Outlook Stable, August 1, 2018.
[38] *Id.*
[39] *Id.*

- The assumptions used in the ROE estimation models have been affected by recent historical market conditions.

- Recent market conditions are not expected to persist as yields on long-term bonds are expected to increase. As a result, the recent historical market conditions are not reflective of the market conditions that will be present when the rates for Cascade will be in effect.

- It is important to consider the results of a variety of ROE estimation models, using forward-looking assumptions to estimate the cost of equity.

- Without adequate regulatory support, the TCJA will have a negative effect on utility cash flows, which increases investor risk expectations for utilities.

VI. PROXY GROUP SELECTION

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

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

Even if Cascade was a publicly-traded entity, it is possible that transitory events could bias its market value over a given period. A significant benefit of using a proxy group is that it moderates the effects of unusual events that may be associated with any one company. The proxy companies used in my analyses all

possess a set of operating and risk characteristics that are substantially comparable to the Company, and thus provide a reasonable basis to derive and estimate the appropriate ROE for Cascade.

Q. Please provide a brief profile of Cascade.

A. Cascade is a natural gas distribution company that is a wholly-owned subsidiary of MDU Resources. The Company distributes natural gas to approximately 282,000 residential, commercial and industrial customers in approximately 96 communities in Washington and Oregon.[40] In Washington, Cascade distributes natural gas to approximately 218,540 residential, commercial and industrial customers in several non-contiguous service territories in western and central Washington.[41] Cascade serves approximately 68 communities in Washington, the largest of which are Yakima, Bellingham, the Tri-Cities, Marysville, Bremerton, Longview, and Mt. Vernon.[42] As of December 31, 2018, Cascade's net utility plant in Washington was approximately $435.75 million.[43] In addition, Cascade had total natural gas sales in Washington in 2018 of approximately 93 million Dths, made up of 12.77 percent residential, 10.27 percent firm commercial, 1.90 percent firm industrial and 75.06 percent transportation. [44] For Cascade's parent company, MDU Resources, Washington accounted for 26.00 percent of the natural gas distribution operating sales revenues in 2017, while Idaho (33.00 percent), North Dakota (13.00 percent), Montana (9.00 percent), Oregon (8.00 percent), South Dakota (6.00 percent),

[40] Cascade Natural Gas Corporation website, https://www.cngc.com/.
[41] Data provided by Cascade Natural Gas Corporation.
[42] Cascade Natural Gas Corporation website, https://www.cngc.com/.
[43] Data provided by Cascade Natural Gas Corporation.
[44] EIA FORM 176 - Electric Power (i.e., Gas used as fuel in the electric power sector).

Minnesota (3.00 percent) and Wyoming (2.00 percent) accounted for the other 74.00 percent of retail gas distribution operating sales revenues.[45] Cascade currently has an investment grade long-term rating of BBB+ (Outlook: Stable) from S&P and A- (Outlook: Stable) from Fitch.[46]

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

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

- pay consistent quarterly cash dividends, because companies that do not cannot be analyzed using the Constant Growth DCF model;
- have investment grade long-term issuer ratings from S&P and/or Moody's;
- are covered by at least two utility industry analysts;
- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;
- own regulated generation assets that are in rate base;
- derive more than 70.00 percent of their total operating income from regulated operations;
- derive more than 60.00 percent of regulated operating income from gas distribution operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

[45] MDU Resources Group, 2017 SEC Form 10-K, at 13.
[46] SNL Financial, February 15, 2019.

Q. Did you eliminate any other companies that otherwise met your screening criteria?

A. Yes. On September 13, 2018, Columbia Gas of Massachusetts, a wholly-owned subsidiary of NiSource Inc. ("NiSource") experienced a significant event as a result of over pressured lines on their system. The incident resulted in immediate financial ramifications for NiSource. In fact, NiSource's stock price fell approximately 12.00 percent immediately following the incident. Given the impact the incident had on the stock price of NiSource, and the potential effect on the company's financial performance, it is appropriate to exclude NiSource from my proxy group.

Q. What is the composition of your proxy group?

A. The screening criteria discussed above is shown in Exhibit No.___(AEB-2), Schedule 2 and resulted in a proxy group consisting of the companies shown in Figure 8 below.

Figure 8: Proxy Group

Company	Ticker
Atmos Energy Corporation	ATO
New Jersey Resources Corporation	NJR
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
South Jersey Industries, Inc.	SJI
Southwest Gas Corporation	SWX
Spire, Inc.	SR

VII. COST OF EQUITY ESTIMATION

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

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

Q. How is the required ROE determined?

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

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

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

A. Importance of Multiple Analytical Approaches

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

A. Because the cost of equity is not directly observable, it must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the cost of equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. Several models have been developed to estimate the cost of equity, and I use multiple approaches to estimate the cost of equity. As a practical matter, however, all of the models available for estimating the cost of equity are subject to limiting assumptions or other methodological constraints. Consequently, many well-regarded finance texts recommend using multiple approaches when estimating the cost of equity. For example, Copeland, Koller, and Murrin[47] suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham and Gapenski[48] recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches.

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

A. Yes. As discussed in Section V above, the U.S. economy is beginning to emerge from an unprecedented period of low interest rates. Low interest rates, and the effects of the investor "flight to quality" can be seen in high utility share valuations, relative to historical levels and relative to the broader market. Higher utility stock valuations produce lower dividend yields and result in lower cost of equity

[47] Tom Copeland, Tim Koller and Jack Murrin, Valuation: Measuring and Managing the Value of Companies, 3rd Ed. (New York: McKinsey & Company, Inc., 2000), at 214.
[48] Eugene Brigham, Louis Gapenski, Financial Management: Theory and Practice, 7th Ed. (Orlando: Dryden Press, 1994), at 341.

estimates from a DCF analysis. Low interest rates also impact the CAPM in two ways: (1) the risk-free rate is lower, and (2) because the market risk premium is a function of interest rates, (i.e., it is the return on the broad stock market less the risk-free interest rate), the risk premium should move higher when interest rates are lower. Therefore, it is important to use multiple analytical approaches to moderate the impact that the current low interest rate environment is having on the ROE estimates for the proxy group and, where possible, consider using projected market data in the models to estimate the return for the forward-looking period.

Q. Are you aware of any regulatory commissions who have recognized that recent conditions in capital markets are causing ROE recommendations based on DCF models to be unreasonable?

A. Yes, several regulatory commissions have addressed the effect of capital market conditions on the DCF model, including FERC, the ICC, the PPUC and the Missouri PSC.

Q. Please summarize how the FERC has responded to the effect of market conditions on the DCF.

A. Understanding the important role that dividend yields play in the DCF model, the FERC determined that capital market conditions have caused the DCF model to understate equity costs for regulated utilities. In Opinion No. 531, the FERC noted:

> There is 'model risk' associated with the excessive reliance or mechanical application of a model when the surrounding conditions are outside of the normal range. 'Model risk' is the risk that a theoretical model that is used to value real world

> transactions fails to predict or represent the real phenomenon that is being modeled.[49]

In Opinion No. 531, the FERC noted that the low interest rates and bond yields that persisted throughout the analytical period that was relied on (study period) had affected the results of the DCF model and recognized the need to move away from the midpoint of the DCF analysis. In that case, the FERC relied on the CAPM and other risk premium methodologies to inform its judgment to set the return above the midpoint of the DCF results.

In Opinion No. 551, issued in September 2016, the FERC recognized that those same market conditions continued into the study period, and again concluded that it was necessary to rely on ROE estimation methodologies other than the DCF model to set the appropriate ROE:

> Though the Commission noted certain economic conditions in Opinion No. 531, the principle argument was based on low interest rates and bond yields, conditions that persisted throughout the study period. Consequently, we find that capital market conditions are still anomalous as described above…[50]

****

> Because the evidence in this proceeding indicates that capital markets continue to reflect the type of unusual conditions that the Commission identified in Opinion No. 531, we remain concerned that a mechanical application of the DCF methodology would result in a return inconsistent with *Hope* and *Bluefield*.[51]

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> As the Commission found in Opinion No. 531, under these circumstances, we have less confidence that the midpoint of

[49] FERC Docket No. EL11-66-001, Opinion No. 531 (June 19, 2014), fn 286.
[50] FERC Docket No. EL14-12-002, Opinion No. 551, at para. 121.
[51] *Id*., at para. 122.

> the zone of reasonableness in this proceeding accurately reflects the equity returns necessary to meet the Hope and Bluefield capital attraction standards. We therefore find it necessary and reasonable to consider additional record evidence, including evidence of alternative methodologies…[52]

Finally, in October 2018, the FERC issued an Order in response to the remand from the U.S. Court of Appeals for the District of Columbia indicating plans to establish ROEs based on an equal weighting of the results of four financial models: the DCF, CAPM, Expected Earnings and Risk Premium. FERC explains its reasons for moving away from sole reliance on the DCF model as follows:

> Our decision to rely on multiple methodologies in these four complaint proceedings is based on our conclusion that the DCF methodology may no longer singularly reflect how investors make their decisions. We believe that, since we adopted the DCF methodology as our sole method for determining utility ROEs in the 1980s, investors have increasingly used a diverse set of data sources and models to inform their investment decisions. Investors appear to base their decisions on numerous data points and models, including the DCF, CAPM, Risk Premium, and Expected Earnings methodologies. As demonstrated in Figure 2 below, which shows the ROE results from the four models over the four test periods at issue in this proceeding, these models do not correlate such that the DCF methodology captures the other methodologies. In fact, in some instances, their cost of equity estimates may move in opposite directions over time. Although we recognize the greater administrative burden on parties and the Commission to evaluate multiple models, we believe that the DCF methodology alone no longer captures how investors view utility returns because investors do not rely on the DCF alone and the other methods used by investors do not necessarily produce the same results as the DCF. Consequently, it is appropriate for our analysis to consider a combination of the DCF, CAPM, Risk Premium, and Expected Earnings approaches.[53]

[52] *Id*.
[53] Federal Energy Regulatory Commission, Docket No. EL 11-66-001, et al., Order Directing Briefs, issued October 16, 2018, at para. 40. [Figure 2 was omitted]

Q. How have the PPUC, the ICC and the Missouri PSC addressed the effect of market conditions on the DCF?

A. In a 2012 decision for PPL Electric Utilities, while noting that the PPUC has traditionally relied primarily on the DCF method to estimate the cost of equity for regulated utilities, the PPUC recognized that market conditions were causing the DCF model to produce results that were much lower than other models such as the CAPM and Bond Yield Plus Risk Premium. The PPUC's Order explained:

> Sole reliance on one methodology without checking the validity of the results of that methodology with other cost of equity analyses does not always lend itself to responsible ratemaking. We conclude that methodologies other than the DCF can be used as a check upon the reasonableness of the DCF derived equity return calculation.[54]

The PPUC ultimately concluded:

> As such, where evidence based on the CAPM and RP methods suggest that the DCF-only results may understate the utility's current cost of equity capital, we will give consideration to those other methods, to some degree, in determining the appropriate range of reasonableness for our equity return determination.[55]

In a recent ICC case, Docket No. 16-0093, Staff relied on a DCF analysis that resulted in average returns for their proxy groups of 7.24 percent to 7.51 percent. The company demonstrated that these results were uncharacteristically too low, by comparing the results of Staff's models to recently authorized ROEs for regulated utilities and the return on the S&P 500.[56] In Order No. 16-0093, the ICC

[54] Pennsylvania Public Utility Commission, PPL Electric Utilities, R-2012-2290597, meeting held December 5, 2012, at 80.
[55] *Id.*, at 81.
[56] State of Illinois Commerce Commission, Docket No. 16-0093, Illinois-American Water Company Initial Brief, August 31, 2016, at 10.

agreed with the Company that Staff's proposed ROE of 8.04 percent was anomalous and recognized that a return that is not competitive will deter investment in Illinois.[57] In setting the return in this proceeding the ICC recognized that it was necessary to consider other factors beyond the outputs of the financial models, particularly whether or not the return is sufficient to attract capital, maintain financial integrity, and is commensurate with returns for companies of comparable risk, while balancing the interests of customers and shareholders.[58]

Finally, in February 2018, the Missouri PSC issued a decision in Spire's 2017 gas rate case, in which the allowed ROE was set at 9.80 percent. In explaining the rationale for its decision, the Commission cited the importance of considering multiple methodologies to estimate the cost of equity and the need for the authorized ROE to be consistent with returns in other jurisdictions and to reflect the growing economy and investor expectations for higher interest rates.

> Based on the competent and substantial evidence in the record, on its analysis of the expert testimony offered by the parties, and on its balancing of the interests of the company's ratepayers and shareholders, as fully explained in its findings of fact and conclusions of law, the Commission finds that 9.8 percent is a fair and reasonable return on equity for Spire Missouri. That rate is nearly the midpoint of all the experts' recommendations and is consistent with the national average, the growing economy, and the anticipated increasing interest rates. The Commission finds that this rate of return will allow Spire Missouri to compete in the capital market for the funds needed to maintain its financial health.[59]

[57] Illinois Staff's analysis and recommendation in that proceeding were based on its application of the multi-stage DCF model and the CAPM to a proxy group of water utilities.
[58] State of Illinois Commerce Commission Decision, Docket No. 16-0093, Illinois-American Water Company, 2016 WL 7325212 (2016), at 55.
[59] File No. GR-2017-0215 and File No. GR-2017-0216, Missouri Public Service Commission, Report and Order, Issue Date February 21, 2018, at 34.

Q. Has the Commission made similar findings regarding the reliance on multiple models given current market conditions?

A. Yes. It is my understanding that the Commission has repeatedly emphasized that it "places value on each of the methodologies used to calculate the cost of equity and does not find it appropriate to select a single method as being the most accurate or instructive."[60] The Commission has explained that "[f]inancial circumstances are constantly shifting and changing, and we welcome a robust and diverse record of evidence based on a variety of analytics and cost of capital methodologies."[61]

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

A. Recent market data that is used as the basis for the assumptions for both models have been affected by market conditions. As a result, relying exclusively on historical assumptions in these models, without considering whether these assumptions are consistent with investors' future expectations, will underestimate the cost of equity that investors would require over the period that the rates in this case are to be in effect. In this instance, relying on the historical average of abnormally high stock prices results in low dividend yields that are not expected to continue over the period that the new rates will be in effect. This, in turn, underestimates the ROE for the rate period.

The use of recent historical Treasury bond yields in the CAPM also tends to underestimate the projected cost of equity. Recent experience indicates that interest rates are increasing. The expectation that bond yields will not remain at

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

currently low levels means that the expected cost of equity would be higher than is suggested by the CAPM using historical average yields. The use of projected yields on Treasury bonds results in CAPM estimates that are more reflective of the market conditions that investors expect during the period that the Company's rates will be in effect.

B. Constant Growth DCF Model

Q. Please describe the DCF approach.

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

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

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

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

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

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

A. The Constant Growth DCF model requires the following four assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio;

(3) a constant price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions is violated, considered judgment and/or specific adjustments should be applied to the results.

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

A. The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended January 31, 2019.

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

A. In my Constant Growth DCF model, I use an average of recent trading days to calculate the term P_0 in the DCF model to ensure that the ROE is not skewed by anomalous events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long-term. However, the averaging periods that I use rely on historical data that is not consistent with the forward-looking expectation that interest rates will increase. Therefore, the results of my Constant Growth DCF model using historical data may underestimate the forward-looking cost of equity. As a result, I place more weight on the median to median-high results produced by my Constant Growth DCF model.

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

A. Yes, I did. Because utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend

increases will be evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half of the expected annual dividend growth rate for purposes of calculating the expected dividend yield component of the DCF model. This adjustment ensures that the expected first year dividend yield is, on average, representative of the coming twelve-month period, and does not overstate the aggregated dividends to be paid during that time.

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

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

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

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

C. Discounted Cash Flow Model Results

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

A. I calculated the low result for my DCF models using the minimum growth rate (*i.e.*,

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

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

A. Yes, I have. It is appropriate to exclude Constant Growth DCF results below a specified threshold at which equity investors would consider such returns to provide an insufficient return increment above long-term debt costs. The average credit rating for the companies in my proxy group is A-/A3. The average yield on Moody's A-rated utility bonds for the 30 trading days ending January 31, 2019, was 4.34 percent.[62] As shown on Exhibit No.___(AEB-2), Schedule 3, I have eliminated Constant Growth DCF results lower than 7.00% because such returns would provide equity investors a risk premium only 266 basis points above A-rated utility bonds.

Q. What were the results of your DCF analyses?

A. Figure 9 summarizes the results of my DCF analyses. As shown in Figure 9, the median DCF results range from 9.63 percent to 9.72 percent and the median high results are in the range of 12.12 percent to 12.17 percent. While I also summarize the median low DCF results, I do not believe that the low DCF results provide a reasonable spread over the expected yields on Treasury bonds to compensate

[62] Source: Bloomberg Professional.

investors for the incremental risk related to an equity investment.

Figure 9: Discounted Cash Flow Results

	Median Low	Median	Median High
Constant Growth DCF[63]			
30-Day Average	8.24%	9.69%	12.16%
90-Day Average	8.58%	9.63%	12.12%
180-Day Average	8.26%	9.72%	12.17%

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

A. As discussed previously, one primary assumption of the DCF models is a constant P/E ratio. That assumption is heavily influenced by the market price of utility stocks. To the extent that utility valuations are high and may not be sustainable, it is important to consider the results of the DCF models with caution. As I indicated previously, this is due to the high utility equity valuations that occurred in the lower interest rate environment as investors have sought higher returns. With the expectation of rising interest rates, such levels are not expected to be sustained in the upcoming years. Because the low dividend yields may result in the DCF model understating investors' expected return, I have given primary weight to the median and high-end DCF results. My overall recommendation also relies on the results of other ROE estimation models.

D. CAPM Analysis

Q. Please briefly describe the Capital Asset Pricing Model.

A. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or "systematic" risk of that security. This second

[63] *See* Exhibit No.___(AEB-2), Schedule 3.

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

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

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

Where:

K_e = the required market ROE;

β = Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market.

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

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

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

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

A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day

average yield on 30-year U.S. Treasury bonds of 3.03 percent;[64] (2) the average projected 30-year U.S. Treasury bond yield for Q2 2019 through Q2 2020 of 3.38 percent;[65] and (3) the average projected 30-year U.S. Treasury bond yield for 2020 through 2024 of 3.90 percent.[66]

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

A. Yes. Based on current market conditions, I place more weight on the results of the projected yields on the 30-year Treasury bonds. As discussed previously, the estimation of the cost of equity in this case should be forward looking because it is the return that investors would receive over the future rate period. Therefore, the inputs and assumptions used in the CAPM analysis should reflect the expectations of the market at that time. As discussed in Section V of my Direct Testimony, leading economists surveyed by Blue Chip are expecting an increase in long-term interest rates over the next five years. This is an important consideration for equity investors as they assess their return requirements. While I have included the results of a CAPM analysis that relies on the current average risk-free rate, this analysis fails to take into consideration the effect of the market's expectations for interest rate increases on the cost of equity.

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

A. As shown on Exhibit No.___(AEB-2), Schedule 4, I used the average Beta coefficients for the proxy group companies as reported by Value Line. Value Line's calculation is based on five years of weekly returns relative to the New York

[64] Bloomberg Professional, as of January 31, 2019.
[65] Blue Chip Financial Forecasts, Vol. 38, No. 2, February 1, 2019, at 2.
[66] Blue Chip Financial Forecasts, Vol. 37, No. 12, December 1, 2018, at 14.

Stock Exchange Composite Index. My average Beta coefficient for the proxy group was 0.671.

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

A. I estimated the market risk premium based on the expected return on S&P 500 Index less the yield on the 30-year Treasury bond. I calculate the expected return on the S&P 500 Index companies for which dividend yields and long-term earnings projections are available using the Constant Growth DCF model discussed earlier in my Direct Testimony. Based on an estimated market capitalization-weighted dividend yield of 2.08 percent and a weighted long-term growth rate of 12.64 percent, the estimated required market return for the S&P 500 Index is 14.85 percent. As shown in Exhibit No.___(AEB-2), Schedule 5, the implied market risk premium over the current 30-day average of the 30-year U.S. Treasury bond yield, and projected yields on the 30-year U.S. Treasury bond, range from 10.95 percent to 11.81 percent.

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

A. Yes. In Opinion No. 531-B, the FERC specifically endorsed a method that is similar to the method I have used to calculate the forward-looking market risk premium (i.e., applying a Constant Growth DCF analysis to the S&P 500 and using the 30-year Treasury bond yields).[67]

In response to arguments against this methodology, the FERC stated:

> We are also unpersuaded that the growth rate projection in the NETOs' CAPM study was skewed by the NETOs' reliance on

[67] 150 FERC ¶ 61,165, Docket Nos. EL11-66-002, Opinion No. 531-B (March 3, 2015), at para. 109-111.

> analysts' projections of non-utility companies' medium-term earnings growth, or that the study failed to consider that those analysts' estimates reflect unsustainable short-term stock repurchase programs and are not long-term projections. As explained above, the NETOs based their growth rate input on data from IBES, which the Commission has found to be a reliable source of such data. Thus, the time periods used for the growth rate projections in the NETOs' CAPM study are the time periods over which IBES forecasts earnings growth. Petitioners' arguments against the time period on which the NETOs' CAPM analysis is based are, in effect, arguments that IBES data are insufficient in a CAPM study. [68]
>
> ***
>
> While an individual company cannot be expected to sustain high short term growth rates in perpetuity, the same cannot be said for a stock index like the S&P 500 that is regularly updated to contain only companies with high market capitalization, and the record in this proceeding does not indicate that the growth rate of the S&P 500 stock index is unsustainable.[69]

Additionally, the Staff in Maine has also endorsed the use of a forward-looking market risk premium. In the Bench Analysis in Docket No. 2017-00198 for Emera Maine and Docket No. 2017-00065 for Northern Utilities, Staff accepted the approach proposed by the companies for calculating the market return.[70] In each case, the market return was the expected return for the S&P 500 which was calculated using a Constant Growth DCF model. In Docket No. 2017-00198, Staff noted the following:

> Staff has no issue with the methodology used by Mr. Perkins in calculating market parameters based on the S&P 500 and

[68] *Id.*, at para. 112.
[69] *Id.*, at para. 113.
[70] *Emera Maine, Request for Approval of a Proposed Rate Increase*, Docket No. 2017-00198, Bench Analysis at 71-72 (December 21, 2017); *Northern Utilities, Inc. d/b/a UNITIL, Request for Approval of Rate Change Pursuant to Section 307*, Docket No. 2017-00065, Bench Analysis, at 15-16 (October 6, 2017).

used the model provided by Mr. Perkins with the revised risk free rate to re-calculate the market risk premiums.[71]

Furthermore, the Maine Public Utilities Commission ("Maine PUC") in Docket No. 2017-0198 used the CAPM results calculated by Staff and Emera Maine as a check on the reasonableness of the DCF results in the case and did not dispute the use of the forward-looking market risk premium by the parties (i.e., Staff and Emera Maine).[72]

Q. What are the results of your CAPM analyses?

A. As shown in Figure 10 (*see* also Exhibit No.___(AEB-2), Schedule 5), my CAPM analysis produces a range of returns from 10.97 percent to 11.25 percent.

Figure 10: CAPM Results

	CAPM Results
Current Risk-Free Rate (3.03%)	10.97%
Q2 2019-Q2 2020 Projected Risk-Free Rate (3.38%)	11.08%
2020-2024 Projected Risk-Free Rate (3.90%)	11.25%
Mean Result	**11.10%**

E. Bond Yield Plus Risk Premium Analysis

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

A. In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with equity ownership and therefore require a premium over the return they would have earned as a bondholder. That is, because returns to equity holders have greater risk than returns to bondholders,

[71] *Emera Maine, Request for Approval of a Proposed Rate Increase*, Docket No. 2017-00198, Bench Analysis, at 71-72 (December 21, 2017).
[72] *Emera Maine, Request for Approval of Proposed Rate Increase*, Docket No. 2017-00198, June 28, 2018, at 41

equity investors must be compensated to bear that risk. Risk premium approaches, therefore, estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I used actual authorized returns for natural gas utility companies as the historical measure of the cost of equity to determine the risk premium.

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

A. Yes. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity risk premium decreases (increases). Consequently, it is important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) relies on recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of U.S. Treasury bond yields. If we let authorized ROEs for natural gas utilities serve as the measure of required equity returns and define the yield on the long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[73]

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

A. Yes. Investors are aware of ROE awards in other jurisdictions, and they consider

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

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

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

A. As shown in Figure 11 below, from 1992 through January 2019, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

$$RP = a + b(T) \quad [5]$$

Where:

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

a = intercept term

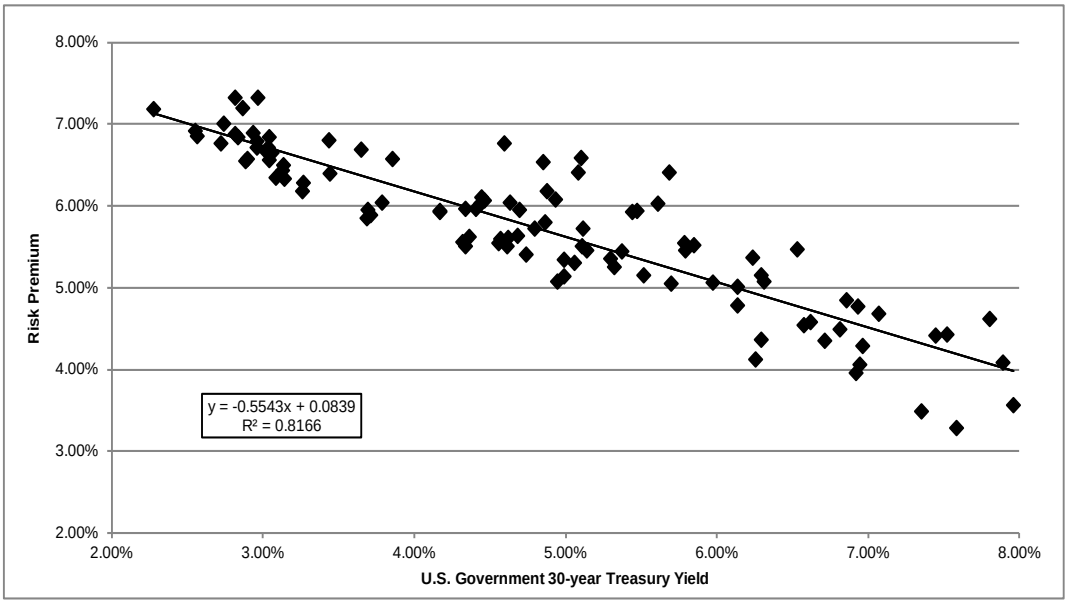
b = slope term

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

Data regarding allowed ROEs were derived from 613 natural gas utility rate cases from 1992 through January 2019 as reported by Regulatory Research Associates ("RRA").[74] This equation's coefficients were statistically significant at the 99.00 percent level.

[74] This analysis began with a total of 956 cases and was screened to eliminate limited issue rider cases, transmission-only cases, and cases that were silent with respect to the authorized ROE. After applying those screening criteria, the analysis was based on data for 613 cases.

Figure 11: Risk Premium Results



As shown on Exhibit No.___(AEB-2), Schedule 6, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 3.03 percent), the risk premium would be 6.71 percent, resulting in an estimated ROE of 9.74 percent. Based on the near-term (Q2 2019 – Q2 2020) projections of the 30-year U.S. Treasury bond yield (i.e., 3.38 percent), the risk premium would be 6.52 percent, resulting in an estimated ROE of 9.90 percent. Based on longer-term (2020-2024) projections of the 30-year U.S. Treasury bond yield (i.e., 3.90 percent), the risk premium would be 6.23 percent, resulting in an estimated ROE of 10.13 percent.

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

A. I have considered the results of the Bond Yield Risk Premium analysis in setting my recommended ROE for Cascade. The results of both my CAPM and Bond Yield Risk Premium analyses provide support for my view that the DCF model is understating investors' return requirements under current market conditions. Also,

as noted above, investors will consider the ROE award of a company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions. The risk premium analysis takes into account this comparison by estimating the return expectations of investors based on the current and past ROE awards of gas utilities across the US.

F. Expected Earnings Analysis

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

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

Q. What is an Expected Earnings Analysis?

A. The Expected Earnings methodology is a comparable earnings analysis that calculates the earnings that an investor expects to receive on the book value of a stock. The expected earnings analysis is a forward-looking estimate of investors' expected returns. The use of an Expected Earnings approach based on the proxy companies provides a range of the expected returns on a group of risk comparable companies to the subject company. This range is useful in helping to determine the opportunity cost of investing in the subject company, which is relevant in determining a company's ROE.

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

A. Yes. As discussed above, the FERC issued an Order in October 2018 indicating plans to establish ROEs based on an equal weighting of the results of four financial models: the DCF, CAPM, Expected Earnings and Risk Premium. In regard to the

expected earnings analysis, FERC noted the following:

> A comparable earnings analysis is a method of calculating the earnings an investor expects to receive on the book value of a particular stock. The analysis can be either backward looking using the company's historical earnings on book value, as reflected on the company's accounting statements, or forward-looking using estimates of earnings on book value, as reflected in analysts' earnings forecasts for the company. The latter approach is often referred to as an "Expected Earnings analysis." The returns on book equity that investors expect to receive from a group of companies with risks comparable to those of a particular utility are relevant to determining that utility's cost of equity, because those returns on book equity help investors determine the opportunity cost of investing in that particular utility instead of other companies of comparable risk. Because investors rely on Expected Earnings analyses to help estimate the opportunity cost of investing in a particular utility, we find this type of analysis useful in determining a utility's ROE.[75]

Q. Has the Commission considered the use of an Expected Earnings Analysis?

A. Yes. In its order in Dockets UE-170485 and UG-170486, the Commission considered the results of the Comparable Earnings analysis[76] in establishing the authorized ROE for Avista Corporation. The Commission noted that it tends to place more weight on the results of the DCF, CAPM and Risk Premium analyses; however, given the wide range of CAPM results presented by the ROE witnesses in the case, the Commission decided to apply weight to the results of the Comparable Earnings analysis.[77] Specifically, the Commission stated the following:

> Finally, as additional data points for our consideration of establishing Avista's ROE, we note that two witness, Mr.

[75] Federal Energy Regulatory Commission, Docket No. EL 11-66-001, et al., Order Directing Briefs, issued October 16, 2018, at 42.
[76] The Expected Earnings analysis is a form of the Comparable Earnings analysis that relies exclusively on forward-looking projections.
[77] Avista Order 07, ¶ 65.

> McKenzie for Avista and Mr. Parcell for Staff, employ the CE approach to two proxy groups of companies. The respective mid-points of each witnesses' CE analysis are 10.5 and 9.5 percent, respectively, with an average of 10.0 percent. Although we generally do not apply material weight to the CE method, having stronger reliance on the DCF, CAPM and RP methods, we are inclined to include the CE method here given the anomalous CAPM results described previously.[78]

Q. How did you develop the Expected Earnings Approach?

A. I relied primarily on the projected ROE capital for the proxy companies as reported by Value Line for the period from 2021-2023. However, I adjusted those projected ROEs to account for the fact that the ROEs reported by Value Line are calculated on the basis of common shares outstanding at the end of the period, as opposed to average shares outstanding over the period. This adjustment is consistent with FERC's methodology for the Expected Earnings analysis that was included in its October 2018 order. As shown in Exhibit No.___(AEB-2), Schedule 7, the Expected Earnings analysis results in a mean of 11.56 percent and a median of 11.48 percent.

VIII. REGULATORY AND BUSINESS RISKS

Q. Do the median DCF and mean CAPM, Risk Premium and Expected Earnings results for the proxy groups, taken alone, provide an appropriate estimate of the cost of equity for Cascade?

A. No. These results provide only a range of the appropriate estimate of the Company's cost of equity. There are several additional factors that must be taken into consideration when determining where the Company's cost of equity falls

[78] *Id.*

within the range of results. These factors, which are discussed below, should be considered with respect to their overall effect on the Company's risk profile.

A. Small Size Risk

Q. Please explain the risk associated with small size.

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

> For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[79]

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

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

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

smaller companies.

Q. How does Cascade's natural gas distribution operations in Washington compare in size to the proxy group companies?

A. Cascade's natural gas distribution operations in Washington are substantially smaller than the median for the proxy group companies in terms of market capitalization. Exhibit No.___(AEB-2), Schedule 8 provides the actual market capitalization for the proxy group companies and estimates the implied market capitalization for Cascade (i.e., the implied market capitalization if Cascade's natural gas distribution operations in Washington were a stand-alone publicly-traded entity). To estimate the size of the Company's market capitalization relative to the proxy group, I calculated Cascade's proposed capital structure equity component of $202.50 million by multiplying Cascade's test year rate base of $405.00 million by Cascade's test year common equity ratio of 50.00 percent. I then applied the median market-to-book ratio for the proxy group of 2.07 to Cascade's implied common equity balance and arrived at an implied market capitalization of approximately $420.18 million, or 10.30 percent of the median market capitalization for the proxy group.

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

A. Given this relative size information, it is possible to estimate the impact of size on the ROE for Cascade using Duff and Phelps data that estimates the stock risk premia based on the size of a company's market capitalization. As shown in Exhibit No.___(AEB-2), Schedule 8, the median market capitalization of the proxy group of approximately $4.08 billion corresponds to the fifth decile of the Duff and Phelps

market capitalization data. Based on Duff and Phelps' analysis, that decile corresponds to a size premium of 1.28 percent (i.e., 128 basis points). Cascade's implied market capitalization of approximately $420.18 million falls within the ninth decile, which comprises market capitalization levels up to $727.843 million and corresponds to a size premium of 2.46 percent (i.e., 246 basis points). The difference between those size premia is 118 basis points (i.e., 2.46 percent minus 1.28 percent).

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

A. Yes, other regulators have accepted the importance of small size in setting the risk premium for regulated utilities. For example, the British Colombia Utilities Commission's ("BCUC") Generic Cost of Capital decision for Stage 2 stated that small size relative to the benchmark utility was a business risk factor considered when awarding an equity risk premium to the following utilities:

- FortisBC Electric - awarded a total equity risk premium of 40 basis points;[80]
- FortisBC Whistler - awarded an additional 25 basis points (for a total of 75 basis points above the benchmark) "in recognition of risks related to its small size;"[81] and
- PNG-Tumbler Ridge- awarded an additional 25 basis points above the 50 basis point risk premium given to PNG-West due to "greater weight on factors related to size" among other things.[82]

[80] BCUC Generic Cost of Capital Proceeding (Stage 2) Decision, March 25, 2014, at iv.
[81] *Id.*, at iii.
[82] *Id.*, at iv.

In addition, the Yukon Utilities Board, in Board Order 2017-01, concluded "that small size is the most significant factor to be considered in determining a risk premium for ATCO Electric Yukon ("AEY")."[83] The Board noted the 25 basis point premium awarded for small size in the BCUC decision which the Board deemed an acceptable premium for the additional risk associated with AEY's small size. Therefore, the Board awarded AEY an ROE that was equal to the ROE determined for the BCUC benchmark utility plus a 25 basis point premium for size.[84]

In Order No. 15, the Regulatory Commission of Alaska ("RCA") concluded that Alaska Electric Light and Power Company ("AEL&P") was riskier than the proxy group companies due to small size as well as other business risks. The RCA did "not believe that adopting the upper end of the range of ROE analyses in this case, without an explicit adjustment, would adequately compensate AEL&P for its greater risk."[85] Thus, the RCA awarded AEL&P an ROE of 12.875 percent which was 108 basis points above the highest return on equity estimate from any model presented in the case.[86] Similarly, in Order No. 19, the RCA noted that small size as well as other business risks such as structural regulatory lag, weather risk, alternative rate mechanisms, gas supply risk, geographic isolation and economic conditions increased the risk of ENSTAR Natural Gas Company.[87] Ultimately, the

[83] YUB Appendix A to Board Order 2017-01: Reasons for Decision, April 27, 2017, at 44.
[84] *Id*.
[85] *In the Matter of the Revenue Requirement and Cost of Service Study Designated as TA381-1 Filed by Alaska Electric Light and Power Company*, Docket No. U-10-29, Order No. 15 at 37 (Sept. 2, 2011).
[86] *Id.* at 32 and 37.
[87] *In the Matter of the Tariff Revision Designated as TA285-4 Filed by ENSTAR Natural Gas Company, A Division of Semco Energy, Inc.*, Docket No. U-16-066, Order No. 19 at 50-52 (Sept. 22, 2017).

RCA concluded that:

> Although we agree that the risk factors identified by ENSTAR increase its risk, we do not attempt to quantify the amount of that increase. Rather, we take the factors into consideration when evaluating the remainder of the record and the recommendations presented by the parties. After applying our reasoned judgment to the record, we find that 11.875% represents a fair ROE for ENSTAR.[88]

Q. How have you considered the smaller size of Cascade in your recommendation?

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

B. Flotation Cost

Q. What are flotation costs?

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

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

A. A regulated utility must have the opportunity to earn an ROE that is both competitive and compensatory to attract and retain new investors. To the extent

[88] *Id.*

that a company is denied the opportunity to recover prudently incurred flotation costs, actual returns will fall short of expected (or required) returns, thereby diluting equity share value.

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

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

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

A. Suppose MDU Resources issues stock with a value of $100, and an equity investor invests $100 in MDU Resources in exchange for that stock. Further suppose that, after paying the flotation costs associated with the equity issuance, which include fees paid to underwriters and attorneys, among others, MDU Resources ends up with only $97 of issuance proceeds, rather than the $100 the investor contributed. MDU Resources invests that $97 in plant used to serve its customers, which

becomes part of rate base. Absent a flotation cost adjustment, the investor will thereafter earn a return on only the $97 invested in rate base, even though she contributed $100. Making a small flotation cost adjustment gives the investor a reasonable opportunity to earn the authorized return, rather than the lower return that results when the authorized return is applied to an amount less than what the investor contributed.

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

A. No. As shown in Exhibit No.___(AEB-2), Schedule 9, MDU Resources closed on equity issuances of approximately $58 million and $54 million (for a total of 4.7 million shares of common stock) in November 2002 and February 2004, respectively. The vintage of the issuance, however, is not particularly important because the investor suffers a shortfall in every year that he should have a reasonable opportunity to earn a return on the full amount of capital that he has contributed. Returning to my earlier example, the investor who contributed $100 is entitled to a reasonable opportunity to earn a return on $100 not only in the first year after the investment, but in every subsequent year in which he has the $100 invested. Leaving aside depreciation, which is dealt with separately, there is no basis to conclude that the investor is entitled to earn a return on $100 in the first year after issuance, but thereafter is entitled to earn a return on only $97. As long as the $100 is invested, the investor should have a reasonable opportunity to earn a return on the entire amount.

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

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

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

Q. How did you calculate the flotation costs for Cascade?

A. My flotation cost calculation is based on the costs of issuing equity that were incurred by MDU Resources in its two most recent common equity issuances. Those issuance costs were applied to my proxy group. Based on the issuance costs provided in Exhibit No.___(AEB-2), Schedule 9, flotation costs for Cascade are approximately 0.09 percent (i.e., 9 basis points) for the proxy group.

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

A. No. I did not make an explicit adjustment for flotation costs to any of my quantitative analyses. Rather, I provide the above result for consideration in my

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

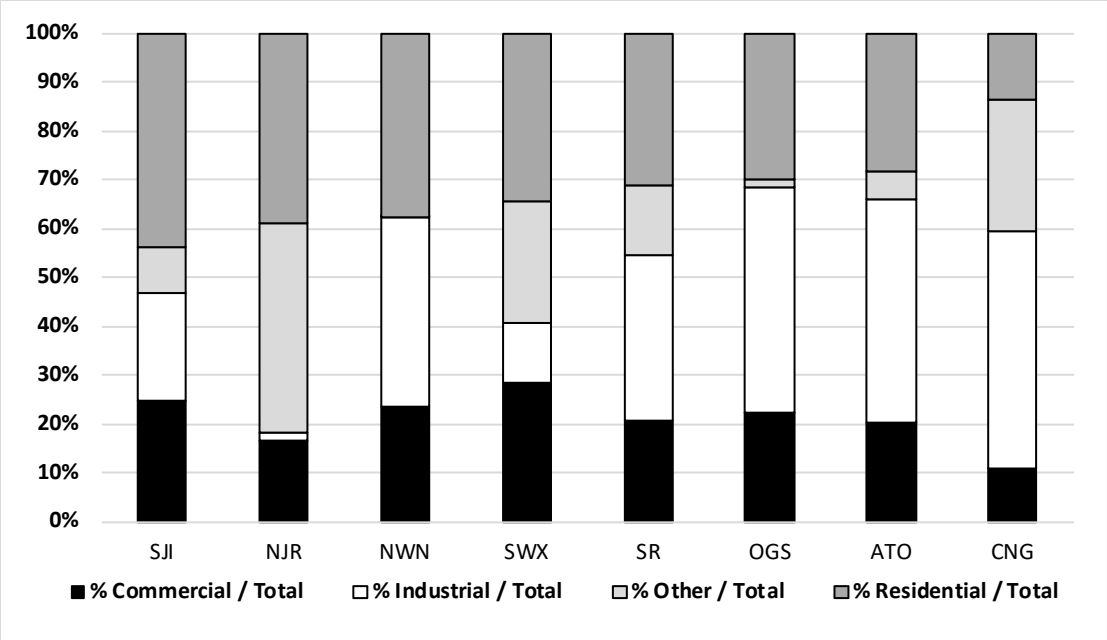
recommended ROE, which reflects the range of results from my Constant Growth DCF, CAPM, Risk Premium and Expected Earnings analyses.

C. Customer Concentration

Q. Please summarize Cascade's customer concentration risk.

A. Approximately 49.00 percent of Cascade's 2017 total company utility gas sales in Washington were derived from industrial customers. As shown in Figure 12, Cascade's industrial and electric power[90] sales volume as a percentage of total utility gas sales was 76.00 percent, higher than each of the proxy group companies.

Figure 12: Customer Concentration[91]



Q. How does customer concentration affect business risk?

A. A relatively high concentration of commercial and industrial customers results in higher business risk. Because the customers are large, they can represent a

[90] Labeled as other sales in Figure 12.
[91] EIA FORM 176 - Other sales includes Electric Power (i.e., Gas used as fuel in the electric power sector) and Vehicle Fuel Volume (i.e., The quantity of fuel used by vehicles).

significant portion of a company's sales which could be lost if a customer goes out of business or switches suppliers. As noted by Dhaliwal, Judd, Serfling and Shaikh in their article, *Customer Concentration Risk and the Cost of Equity Capital*:

> Depending on a major customer for a large portion of sales can be risky for a supplier for two primary reasons. First, a supplier faces the risk of losing substantial future sales if a major customer becomes financially distressed or declares bankruptcy, switches to a different supplier, or decides to develop products internally. Consistent with this notion, Hertzel et al. (2008) and Kolay et al. (2015) document negative supplier abnormal stock returns to the announcement that a major customer declares bankruptcy. Further, a customer's weak financial condition or actions could signal inherent problems about the supplier's viability to its remaining customers and lead to compounding losses in sales. Second, a supplier faces the risk of losing anticipated cash flows from being unable to collect outstanding receivables if the customer goes bankrupt. This assertion is consistent with the finding that suppliers offering customers more trade credit experience larger negative abnormal stock returns around the announcement of a customer filing for Chapter 11 bankruptcy (Jorion and Zhang, 2009; Kolay et al., 2015).[92]

Therefore, a company that has a high degree of customer concentration will be inherently riskier than a company that derived income from a larger customer base. Furthermore, as Dhaliwal, Judd, Serfling and Shaik detail in the article, the increased risk associated with a more concentrated customer base will have the effect of increasing a company's cost of equity.[93]

Q. Please describe how changes in economic conditions and Cascade's high degree of customer concentration can affect its business risks.

A. While Cascade does not depend on any one major customer, the Company has a

[92] Dhaliwal, Dan S., J. Scott Judd, Matthew A. Serfling, and Sarah Shaikh. "Customer Concentration Risk and the Cost of Equity Capital." SSRN Electronic Journal (2016): 1-2. Web.
[93] *Id.,* at 4.

high concentration of industrial customers in Washington. Cascade's major industrial customers are engaged in manufacturing products for industries such as food processing, primary metals, stone/clay/glass, petroleum, paper and printing, and wood and lumber products.[94] The manufacturing industry is dependent on economic conditions and the business cycle.

Q. How has manufacturing employment faired in recent economic conditions?

A. As shown in Figure 13, total manufacturing employment in Washington decreased 13.44 percent from the beginning of 2008 to the end of 2009 before beginning to gradually increase in 2010 as the U.S. entered the economic recovery phase of the business cycle. However, as of November 2018, manufacturing employment in Washington had just achieved pre-recession levels. As a result, manufacturing employment is very susceptible to fluctuations in the business cycle. It is also directly impacted by the global economy as U.S. firms face growing competition from firms in other countries whose goods are imported into the U.S.

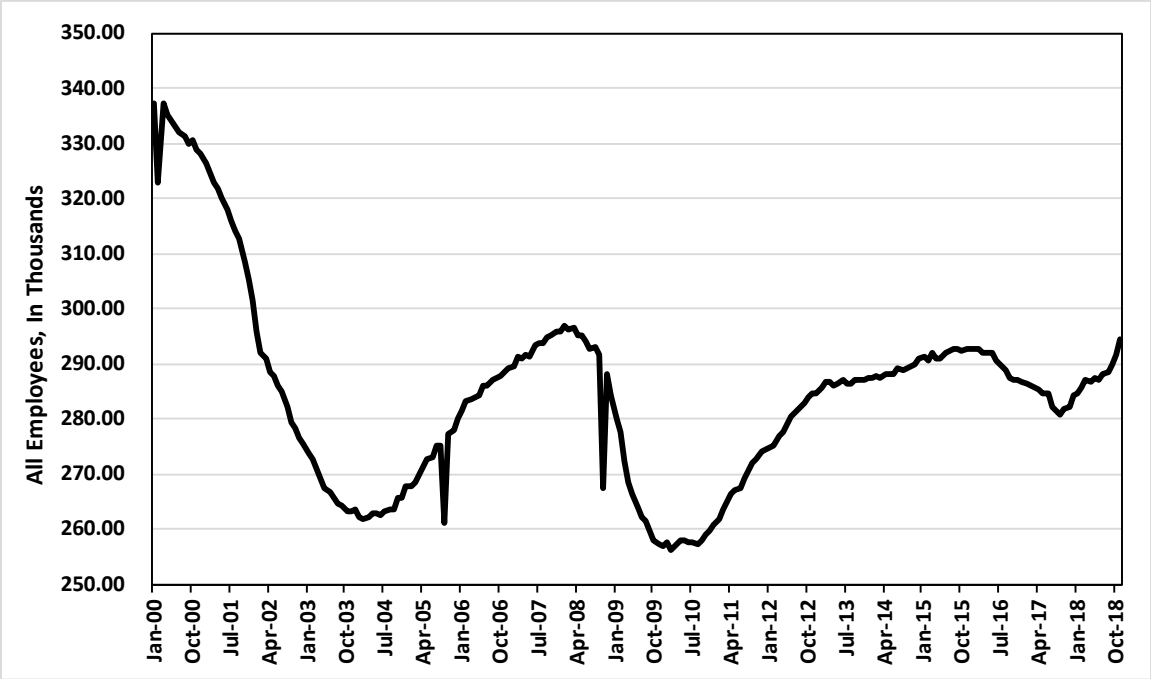
Q. Is Cascade's natural gas delivery volume dependent on the manufacturing industry?

A. Yes. As discussed above, 49.00 percent of Cascade's 2017 total company utility gas sales in Washington were derived from industrial customers, a large portion of which are engaged in manufacturing. Therefore, fluctuations in the business cycle could have a large impact on the natural gas sales of Cascade. Furthermore, if manufacturing firms reduce output due to weak economic conditions, the effect could be compounded if local employment declined, reducing the sales volume for

[94] Cascade Natural Gas Corporation, 2018 Integrated Resource Plan, December 14, 2018, at 7-15.

Cascade.

Figure 13: Washington Manufacturing Employment (Thous.)



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

A. Cascade is also in direct competition with other sources of energy such as electricity, diesel, solar and wind, among others. Therefore, depending on how competitive the price of gas is to other sources of energy, there is the risk that customers in the commercial and industrial classes could switch to an alternative energy source. Furthermore, as discussed above, a large portion of Cascade's distribution load is derived from electric power sales. Natural gas generation in Washington has historically been in direct competition with hydroelectric power, which is the state's largest source of electricity.[95] However, natural gas generation

[95] Source: EIA – Annual Generation by State.

could now also face increased competition in the near and long-term from renewable generation such as wind and solar due to various subsidies and mandates for renewable generating technologies. For example, in 2006, Initiative 937 passed, which requires electric utilities who serve more than 25,000 customers to obtain 15.00 percent of their electric load from new renewable resources by 2020.[96] Thus, Cascade's reliance on a large percentage of industrial and electric power load results in an increased risk of volatility with respect to sales, earnings, and cash flow.

Q. How does Cascade's revenue decoupling mechanisms affect the Company's customer concentration risk?

A. In Docket No. UG-152286, the Commission approved a revenue decoupling mechanism ("RDM") for Cascade.[97] The RDM is a revenue per customer mechanism with a deferral account established to track the difference between the authorized margin revenue per customer and the actual margin revenue per customer. The Company is then able to file rates each year that will either collect or refund the amount in the deferral account from the prior year. The authorized margin revenue per customer will be determined by rate class for the residential, commercial and industrial sales customers.[98] Transportation customers are not included in the RDM. Cascade is allowed to recover any under-collection subject to an annual rate adjustment cap of 3.00 percent. Any amount that exceeds the 3.00

[96] Source: Database of State Incentives for Renewables and Efficiency ("DSIRE"). http://programs.dsireusa.org/system/program/detail/2350.
[97] *Wash. Utils. & Transp. Comm'n v. Cascade Natural Gas Corporation*, Docket No. UG-152286, Order 04, ¶ 8 (July 7, 2016).
[98] *Id.*

percent cap will be deferred for recovery in a subsequent year. Over-collections are refunded to customers and there is no cap on the amount that can be refunded in a given year. Additionally, the RDM is subject to an earnings test that would adjust the amount collected or refunded if earnings were to exceed a given level.[99]

The approval of the RDM for Cascade has the effect of mitigating the financial impact of customer concentration risk by providing the Company the opportunity to recover the authorized margin revenue per customer for each rate class included in the RDM. Therefore, the under-recovery of revenue as a result of a sales large customer switching to an alternative energy source or reducing output due to economic conditions can be recovered by the Company in a subsequent year. However, the RDM does not eliminate the effect of customer concentration risk. For example, the RDM does not include transportation customers. Therefore, if a large transportation customer were to switch to an alternative energy source or reduce output due to economic conditions, the Company would not be able to recover the revenue reduction associated with the customer. Furthermore, if the under-collected amount is significantly above the 3.00 percent cap there could be a long lag between when the revenue shortfall occurred and when it is recovered by the Company.

Q. Does the Company's revenue decoupling mechanism reduce the customer concentration risk of the Company as compared to the proxy group?

A. No. While Cascade does have an RDM to mitigate the impact of customer concentration risk, this does not imply that the Company has less customer

[99] *Id.*

concentration risk than the proxy group. As shown in Exhibit No.___(AEB-2), Schedule 11 and discussed in more detail below, 89.00 percent of the operating companies held by the proxy group have some form of a decoupling mechanism. Since the proxy group companies have already implemented similar risk mitigation measures, Cascade would not have less risk than the benchmark group as a result of its RDM.

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

A. Cascade is heavily reliant on sales to industrial and electric power customers in Washington. As noted above, 76.00 percent of Cascade's total natural gas sales were to industrial and electric power customers, and 49.00 percent of sales were to industrial customers. This industrial concentration is higher than all of the proxy group companies. A high degree of customer concentration increases the Company's risk related to customer migration, economic conditions or competition. Increased customer diversity decreases the effect that any one customer can have on a company's sales. Furthermore, while Cascade has an RDM, the RDM does not eliminate the risk posed by customer concentration. In addition, similar to the Company, most of the companies in the proxy group have some form of an RDM. Thus, the Company's heavy customer concentration in a small number of industrial and electric power customers implies that Cascade has an above average risk profile when compared to the companies in the proxy group.

D. Capital Expenditures

Q. Please summarize the Company's capital expenditure requirements.

A. The Company's current projections for 2019 through 2023 include approximately $282.11 million in capital investments for the period.[100] Based on the Company's net utility plant of approximately $383.75 million as of December 31, 2017,[101] the 282.11 million anticipated capital expenditures are approximately 73.51 percent of Cascade's net utility plant as of December 31, 2017.

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

A. As with any utility faced with substantial capital expenditure requirements, the Company's risk profile may be adversely affected in two significant and related ways: (1) the heightened level of investment increases the risk of under recovery or delayed recovery of the invested capital; and (2) an inadequate return would put downward pressure on key credit metrics.

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

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

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project

[100] Data provided by Cascade Natural Gas Corporation for Capital Expenditures 2019-2023.
[101] Data provided by Cascade Natural Gas Corporation.

> represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an incentive to investors.[102]

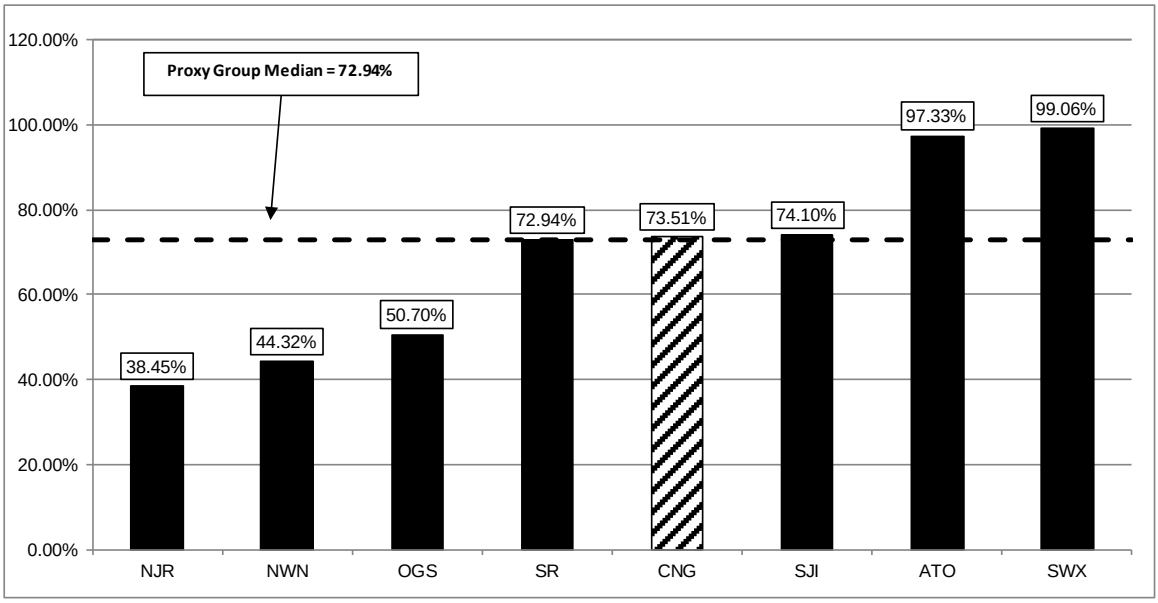
Therefore, to the extent that Cascade's rates do not permit the opportunity to recover its full cost of doing business, the Company will face increased recovery risk and thus increased pressure on its credit metrics.

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

A. As shown in Exhibit No.___(AEB-2), Schedule 10, I calculated the ratio of expected capital expenditures to net utility plant for Cascade and each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2019-2023 by its total net utility plant as of December 31, 2017. As shown in Exhibit No.___(AEB-2), Schedule 10 (*see* also Figure 14 below), Cascade's ratio of capital expenditures as a percentage of net utility plant of 73.51 percent is approximately 1.01 times the median for the proxy group companies of 72.94 percent. This result indicates slightly greater risk relative to the companies in the proxy group.

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

Figure 14: Comparison of Capital Expenditures – Proxy Group Companies



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

A. Yes. Currently, Cascade has an annual pipeline Cost Recovery Mechanism ("CRM"), which allows Cascade to recover the costs associated with qualifying gas infrastructure investments that improve safety and reliability. However, it is important to note that the majority of the costs included in Cascade's capital expenditures plan do not qualify for cost recovery through the CRM. In fact, the CRM represents only approximately 18 percent of total projected capital expenditures for 2019. As a result, Cascade would still depend on rate case filings for capital cost recovery.

Additionally, as shown in Exhibit No.___(AEB-2), Schedule 11, 67.00 percent of the proxy group utilities recover costs through capital tracking mechanisms. While Cascade does recover capital expenditures through a capital tracking mechanism, Cascade does still rely on rate case filings for a large portion of the Company's capital costs.

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

A. The Company's capital expenditure requirements as a percentage of net utility plant are significant and will continue over the next few years. Additionally, similar to a number of the operating subsidiaries of the proxy group, Cascade does have a capital tracking mechanism to recover the Company's projected capital expenditures. However, a large portion of Cascade's capital expenditure plan does not qualify for recovery through the CRM; therefore, the Company is still dependent on rate case filings to recover capital expenditures. As a result, Cascade's significant capital expenditure plan, only part of which qualifies for timely cost recovery, results in a risk profile that is greater than that of the proxy group and supports an ROE toward the higher end of the reasonable range of ROEs.

E. Regulatory Risk

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

A. The ratemaking process is premised on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility service, the subject utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory authorities recognize that because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms; doing so balances the long-term interests of investors and customers. Cascade is no exception. They must finance their operations and require the opportunity to earn a reasonable return on their

invested capital to maintain their financial profiles. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' risk assessments.

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

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

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

A. Both S&P and Moody's consider the overall regulatory framework in establishing credit ratings. Moody's establishes credit ratings based on four key factors: (1)

regulatory framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4) financial strength, liquidity and key financial metrics. Of these criteria, regulatory framework and the ability to recover costs and earn returns are each given a broad rating factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00 percent weighting in the overall assessment of business and financial risk for regulated utilities.[103]

S&P also identifies the regulatory framework as an important factor in credit ratings for regulated utilities, stating: "One significant aspect of regulatory risk that influences credit quality is the regulatory environment in the jurisdictions in which a utility operates."[104] S&P identifies four specific factors that it uses to assess the credit implications of the regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and (4) regulatory independence and insulation.[105]

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

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

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

adapts to that environment are the most important credit considerations."[106] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting: "[b]roadly speaking, the Regulatory Framework is the foundation for how all the decisions that affect utilities are made (including the setting of rates), as well as the predictability and consistency of decision-making provided by that foundation."[107]

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

A. Yes. I have evaluated the regulatory framework in Washington on four factors that are important in terms of providing a regulated utility an opportunity to earn its authorized ROE. These are: 1) test year convention (i.e., forecast vs. historical); 2) method for determining rate base (i.e., average vs. year-end); 3) use of revenue decoupling mechanisms or other clauses that mitigate volumetric risk; and 4) prevalence of capital cost recovery between rate cases. The results of this regulatory risk assessment are shown in Exhibit No.___(AEB-2), Schedule 11 and are summarized below.

Test year convention: Cascade uses a modified historical test year adjusted for known and measurable changes in Washington, while 39.00 percent of the operating companies held by the proxy group provide service in jurisdictions that use a fully or partially forecast test year.

[106] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 6.
[107] *Id.*

Rate Base: The Company's rate base in Washington is determined based on average rate base. However, the majority (i.e., 61.00 percent) of the operating subsidiaries held by the proxy group are allowed to use year-end rate base, meaning that the rate base includes capital additions that occurred in the second half of the test year and is more reflective of net utility plant going forward.

Volumetric Risk: Cascade does have protection against volumetric risk in Washington, through a revenue decoupling mechanism that was approved in 2016. This is consistent with the companies in the proxy group where 89.00 percent of the operating companies held by the proxy group have some form of protection against volumetric risk.

Capital Cost Recovery: Cascade does have a capital tracking mechanism to recover a limited range of capital investment costs between rate cases. However, it is important note that the capital cost recovery mechanism only accounts for approximately 18 percent of total projected capital expenditures for 2019. As discussed above, 67.00 percent of the operating companies held by the proxy group have some form of capital cost recovery mechanism in place.

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

A. Yes. In May 2017, RRA updated its evaluation of the regulatory environment in Washington and noted the following:

> The regulatory environment in Washington is, on balance, somewhat more restrictive than average from an investor viewpoint. The state's electric utilities remain vertically integrated and are regulated under a traditional regulatory paradigm. Rate case activity has been fairly robust, and authorized equity returns, some of which were approved

> following settlements, have been below prevailing industry averages when established. In addition, while there have been limited exceptions, the commission has primarily relied upon average rate base valuations and historical test years, each of which can exacerbate regulatory lag and render it difficult for the utility to earn the authorized return. On a more constructive note, the WUTC has approved the implementation of revenue decoupling mechanisms for most of the state's electric and gas utilities, and for one utility, has adopted a rate plan that provides for annual increases in allowed revenue per customer for the duration of the rate-plan period. Power-cost adjustment mechanisms, in effect for all of the state's electric utilities, contain dead-bands and sharing mechanisms that, while allowing the company an opportunity to retain a benefit, also limit the costs that may be recovered from ratepayers. In addition, for one utility operating in the state, recent rulings have disallowed purchased power costs from qualifying facilities located outside the state. In May 2017, RRA performed a comprehensive audit of its regulatory rankings. The ranking accorded Washington did not change as a result of this process. RRA continues to accord Washington an Average/3 ranking.[108]

Q. How do the returns that have been authorized in Washington since May 2017 compare with the authorized returns in other jurisdictions?

A. As noted in RRA's evaluation above, the authorized ROEs for electric and natural gas utilities in Washington, while partially the result of settlement agreements approved by the Commission, have been below the average authorized ROEs for electric and natural gas utilities across the U.S. As shown in Figure 15, the Commission has issued orders in three natural gas utility rate cases since RRA completed its evaluation of the regulatory jurisdiction in Washington in May 2017. In each rate case, the ROE authorized was below the average authorized ROE for electric and natural gas utilities for 2017 through 2019 of 9.70 percent by a range

[108] Regulatory Research Associates, Profile of Washington Utilities and Transportation Commission, accessed February 26, 2019.

of 20 basis points to 30 basis points.[109] Therefore, the ROEs authorized in Washington continue to be below the prevailing national average.

Figure 15: Washington Authorized Returns – 2017– 2019[110]

Company	Docket	Service	Commission Decision	
			Date	Authorized ROE
Cascade Natural Gas Corp.	UG-170929	Natural Gas	7/20/2018	9.40%
Avista Corp.	UE-170485	Electric	4/26/2018	9.50%
Avista Corp.	UG-170486	Natural Gas	4/26/2018	9.50%
Puget Sound Energy Inc.	UE-170033	Electric	12/5/2017	9.50%
Puget Sound Energy Inc.	UG-170034	Natural Gas	12/5/2017	9.50%

Q. Have any credit rating agencies commented on the regulatory environment in Washington?

A. Yes. As discussed in Section V above, FitchRatings downgraded Cascade from A- to BBB+ for reasons that included the less than favorable outcome in the Company's last rate case in Washington. Specifically, Fitch viewed the "below-average 9.4% authorized ROE and 49% equity ratio" as well as the Commission's decision to disallow Cascade from retaining the excess taxes collected between the period that the TCJA went into effect (January 1, 2018) and the date that Cascade's new rates would go in effect (August 1, 2018) as unfavorable.[111] Ultimately, Fitch noted that it "believes the likelihood of a material improvement in Washington's regulatory environment that would lead to more constructive rate outcomes is

[109] The average authorized ROE of 9.70 percent excludes rate cases in New York since the ROE determinations are based on a formulaic approach that has generally resulted in the lowest returns for any state regulatory jurisdiction for electric and natural gas distribution companies. Similarly, the average excludes electric rate cases in Illinois since the authorized ROEs are also based on a formulaic approach which produces results well below 9.00 percent.

[110] Figure 15 excludes the expedited rate filing of Puget Sound Energy Inc. in 2018 (Docket Nos. UE-180899 and UG-180900) as the case was settled and reflected the equity ratio and return on equity established in Docket Nos. UE-170033 and UG-170034.

[111] FitchRatings, "Fitch Affirms MDU Resources, Centennial Energy; Downgrades Cascade; Outlook Stable", August 1, 2018, https://www.fitchratings.com/site/pr/10040135.

questionable in the near-to-intermediate term."[112]

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

A. As discussed throughout this section of my testimony, both Moody's, S&P and Fitch have identified the supportiveness of the regulatory environment as an important consideration in developing their overall credit ratings for regulated utilities. Considering the regulatory adjustment mechanisms, many of the companies in the proxy group have timely cost recovery through forecasted test years, year-end rate base, cost recovery trackers and revenue stabilization mechanisms. While Cascade has a decoupling mechanism, a large portion of the Company's capital expenditure plan is not recovered through Cascade's capital cost tracker. Additionally, authorized ROEs in Washington have been below the average authorized ROEs for electric and gas utilities across the U.S. For these reasons, I conclude that the authorized ROE for Cascade should be higher than the proxy group mean.

IX. CAPITAL STRUCTURE

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

A. Yes, it is. Assuming other factors equal, a higher debt ratio increases the risk to investors. For debt holders, higher debt ratios result in a greater portion of the available cash flow being required to meet debt service, thereby increasing the risk associated with the payments on debt. The result of increased risk is a higher

[112] *Id*.

interest rate. The incremental risk of a higher debt ratio is more significant for common equity shareholders. Common shareholders are the residual claimants on the cash flow of the Company. Therefore, the greater the debt service requirement, the less cash flow available for common equity holders.

Q. What is Cascade's proposed capital structure?

A. The Company's proposal is to establish a capital structure consisting of 50.00 percent common equity, and 50.00 percent long-term debt.

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

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

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

A. I calculated the mean proportions of common equity, long-term debt, and preferred equity for the most recent year for each of the companies in the proxy group at the operating subsidiary level.[113] My analysis of the capital structures of the proxy group companies is provided in Exhibit No.___(AEB-2), Schedule 12. As shown in Exhibit No.___(AEB-2), Schedule 12, the equity ratios for the proxy group at the operating utility company level ranged from 51.32 percent to 63.18 percent with

[113] Source: SNL Financial and FERC Form 1 and FERC Form 2 annual reports.

an average of 57.07 percent. Cascade's proposed equity ratio of 50.00 percent is below the range of equity ratios for the utility operating subsidiaries of the proxy group companies and is therefore reasonable.

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

A. Yes. The credit rating agencies' response to the TCJA must also be considered when determining the equity ratio. As discussed previously in my testimony, all three rating agencies have noted that the TCJA has negative implications for utility cash flows. S&P and FitchRatings have specifically identified increasing the equity ratio as one approach to ensure that utilities have sufficient cash flows following the tax cuts and the loss of bonus depreciation. Furthermore, Moody's unprecedented downgrade of the rating outlook for the entire utilities sector in June 2018 stresses the importance of maintaining adequate cash flow metrics for the industry as a whole and Cascade in the context of this proceeding. Finally, in a recent credit opinion, S&P downgraded the SACP of Cascade from bbb+ to bbb due partially to the impact on cash flows of tax reform.[114]

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

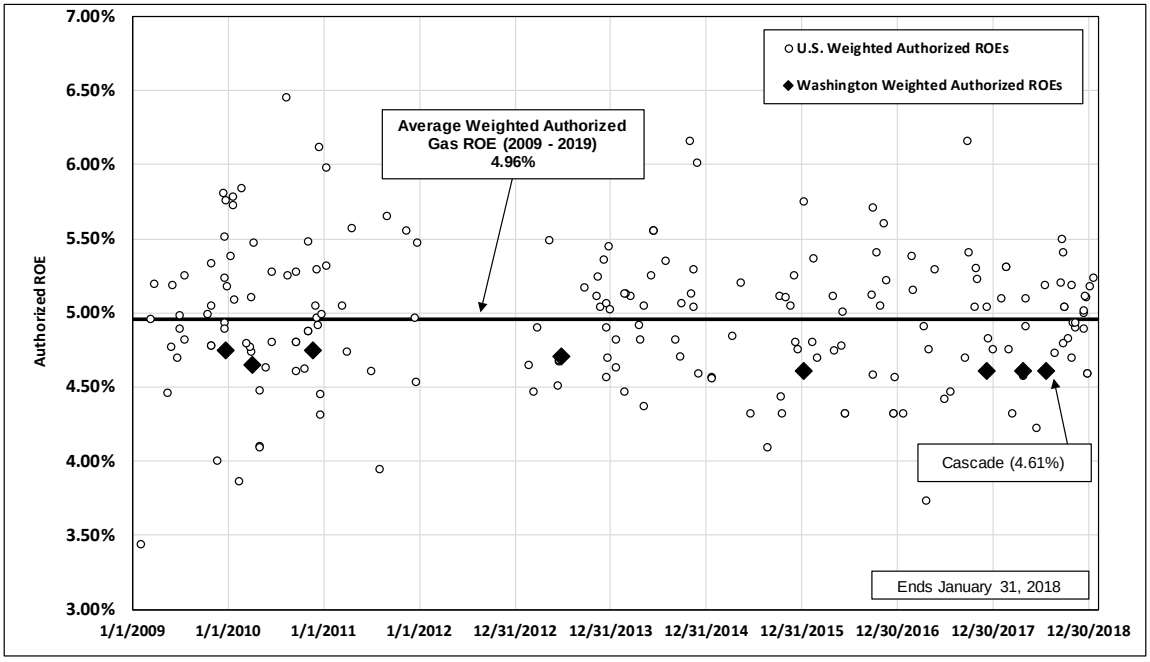
A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such as Cascade. To the extent the equity ratio is reduced, it is necessary to increase the authorized ROE to compensate investors for the greater financial risk associated with a lower equity ratio.

[114] Standard and Poor's Global Ratings, "Research Update: Cascade Natural Gas Corp. 'BBB+' Ratings Affirmed; Stand-Alone Credit Profile Revised to 'bbb'; Outlook Stable", September 27, 2018.

Q. Have you conducted an analysis to examine how the Commission's recent authorized Equity Ratios and authorized ROEs compare to those authorized in other jurisdictions?

A. Yes. As shown in Figure 16 below, I compared the authorized WROEs (i.e., authorized ROE times the authorized equity ratio) for natural gas utilities in Washington to the authorized WROEs in other jurisdictions since January 2009. As shown in Figure 16, the authorized WROEs for natural gas utilities in Washington have been at the bottom of the range of WROEs authorized by state jurisdictions.

Figure 16: Comparison of Washington and U.S. Authorized Weighted Equity Ratios for Natural Gas Utilities[115]



Q. Is it appropriate to consider the WROE that has been authorized in other

[115] Rate cases in Arkansas, Florida, Indiana, and Michigan have been excluded from Figure 16 since the authorized capital structure approved in the cases includes deferred taxes and other credits at zero or low cost. The additional items have the effect of reducing both the equity and debt ratios used to establish the rate of return which, in turn, produces results that are not comparable to allowed equity ratios in other states.

jurisdictions when considering the appropriate equity ratio for Washington?

A. Yes. One of the most important principles in determining the ROE for a company is to ensure the company has the opportunity to earn a reasonable return on capital that is consistent with the returns available on investments of comparable risk. While it is referenced most often in the discussion of the appropriate ROE, it is equally as important to consider the equity ratio. It is the combination of the equity ratio and the authorized ROE that define the return to investors. Therefore, as discussed above, the Commission must consider the equity ratio as well as the authorized ROE in establishing a risk-comparable return.

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

A. Considering the actual capital structures of the operating companies in the proxy group, Cascade's proposed common equity ratio of 50.00 percent is slightly below the range established by the capital structures of the utility operating subsidiaries of the proxy group companies. This difference in capitalization is significant, especially considering the cash flow concerns raised by credit rating agencies as a result of the TCJA, and thus should be considered in setting the appropriate ROE at the higher end of the range of reasonable equity returns. As a result, the proposed equity ratio in combination with my recommended ROE are reasonable and would be adequate to support capital attraction on reasonable terms.

X. CONCLUSIONS AND RECOMMENDATION

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

A. Based on the quantitative and qualitative analyses presented in my Direct

Testimony, and in light of the business and financial risks of Cascade compared to the proxy group, and the effects of Federal tax reform on the cash flow metrics of utilities, it is my view that an ROE of 10.30 is reasonable and would fairly balance the interests of customers and shareholders. This ROE would enable the Company to maintain its financial integrity and therefore its ability to attract capital at reasonable rates under a variety of economic and financial market conditions, while continuing to provide safe, reliable and affordable natural gas utility service to customers in Washington.

Figure 17: Summary of Analytical Results[116]

Constant Growth DCF			
	Median Low	Median	Median High
30-Day Average Price	8.24%	9.69%	12.16%
90-Day Average Price	8.58%	9.63%	12.12%
180-Day Average Price	8.26%	9.72%	12.17%
Capital Asset Pricing Model			
	Current Risk-Free Rate (3.03%)	Q2 2019 – Q2 2020 Projected Risk-Free Rate (3.38%)	2020-2024 Projected Risk-Free Rate (3.90%)
CAPM Results	10.97%	11.08%	11.25%
Bond Yield Plus Risk Premium			
	Current Risk-Free Rate (3.03%)	Q2 2019 – Q2 2020 Projected Risk-Free Rate (3.38%)	2020-2024 Projected Risk-Free Rate (3.90%)
Risk Premium Results	9.74%	9.90%	10.13%
Expected Earnings Analysis			
	Mean		Median
Expected Earnings Results	11.56%		11.48%

[116] The analytical results included in Figure 17 reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

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

A. My conclusion is that Cascade's proposal to establish a capital structure consisting of 50.00 percent common equity, and 50.00 percent long-term debt is reasonable when compared to the capital structures of the companies in the proxy group and taking in consideration the impact of the TCJA on the cash flows and therefore should be adopted.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.