BEFORE THE WASHINGTON

UTILITIES & TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

CASCADE NATURAL GAS CORPORATION,

Respondent.

DOCKET UG-200568

CROSS-ANSWERING TESTIMONY OF J. RANDALL WOOLRIDGE
ON BEHALF OF THE
WASHINGTON STATE OFFICE OF THE ATTORNEY GENERAL
PUBLIC COUNSEL UNIT

Exhibit JRW-14T

January 8, 2021

CROSS-ANSWERING TESTIMONY OF J. RANDALL WOOLRIDGE

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Docket UG-200568

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I. INTRODUCTION / OVERVIEW

Q. Please state your name and business address.

A. My name is J. Randall Woolridge, and my business address is 120 Haymaker Circle, State College, PA 16801. I am a Professor of Finance, and the Goldman, Sachs & Co. and Frank P. Smeal Endowed University Fellow in Business Administration at the University Park Campus of Pennsylvania State University.

Q. Have you previously provided testimony in this proceeding?

A. Yes, I provided testimony for the Public Counsel Unit of the Washington State Attorney General's Office on the overall fair rate of return or cost of capital for the regulated electric and gas utility service of Cascade Natural Gas Corporation ("Cascade" or "the Company"). I also provided an evaluation of Cascade's rate of return testimony in this proceeding.

Q. What is the purpose of your cross-answering testimony?

A. I primarily address and critique the testimony and return on equity (ROE) recommendation of Staff witness, Mr. David C. Parcell. I have not directly addressed the 9.40 percent ROE recommendation of AWEC witness Mr. Bradley Mullins. However, I will note that Mr. Mullins did not perform any analysis in arriving at his recommendation. All that Mr. Mullins did was cite the authorized ROEs for electric and gas companies in the Northwest in recent years. He performed no analyses of capital costs, relative risks, or any other economic factors affecting ROEs.

II. PARCELL TESTIMONY

A. Summary

Q. Please summarize Mr. Parcell's testimony.

A. Mr. Parcell's testimony includes a discussion of the following topics: (1) the economic and legal principles of the cost of capital for public utilities; (2) a review of general economic conditions; (3) a summary of Cascade's operations; (4) Cascade's capital structure and cost of debt; (5) proxy group selection; (6) discounted cash flow (DCF) model; (7) Capital Asset Pricing Model (CAPM); (8) Comparable Earnings (CE) analysis; (9) the risk premium (RP) approach; (10) ROE recommendation; and (11) the total proposed cost of capital.

Q. What is Staff witness Mr. Parcell's cost of capital recommendation?

A. Mr. Parcell's cost of capital recommendation is summarized in Table 1.[1]

Table 1
Staff's Cost of Capital Position

Item	Percent	Cost		Weighted Cost	
Long-Term Debt	51.50%	4.745%		2.44%	
Common Equity	48.50%	9.00% 9.25% 9.50%	4.37%	4.49%	4.61%
Total	100.00%		6.81%		7.05%
				6.93%	

In his recommendation, Mr. Parcell employs a hypothetical capital structure with a common equity ratio of 48.50 percent, uses the Company's debt cost rate, and applies a common equity cost rate in the range of 9.0 percent to 9.5 percent, with a specific ROE recommendation of 9.25 percent. His overall cost of capital recommendation is 6.93 percent.

[1] Response Testimony of David C. Parcell, Exh. DCP-1T at 2:14–15.

Q. Which of the issues addressed by Mr. Parcell are you reviewing in your cross-answering testimony?

A. I am going to discuss: (1) Mr. Parcell's review of general economic conditions; (2) his capital structure recommendation; (3) his DCF, CAPM, RP, and CE approaches and results; and (4) his overall ROE and cost of capital recommendation.

Q. Please summarize your assessment of Mr. Parcell's conclusions on these issues.

A. I generally agree with Mr. Parcell's position on economic conditions as well as his observation that interest rates and capital costs are at historic lows due, in part, to the coronavirus pandemic. I also agree that Cascade's proposed capital structure include an inflated common equity ratio. However, Mr. Parcell's ROE recommendation does not accurately reflect the results of his ROE studies. Simply put, Mr. Parcell has misstated and distorted the results of his equity cost rate studies, as well as ignored low-end results, and thereby reports a significantly higher recommended ROE than is supported by his ROE studies. He appears to be misreporting the results of his ROE studies so he can arrive at a higher, predetermined ROE recommendation. As discussed below, in this process he has distorted the figures, abandoned traditional statistical measures of central tendency like the mean and median, and relied on ranges of individual outcomes. In doing so, he makes an elementary statistical error that he highlights and recognizes in his testimony, but then he goes ahead and commits it. The simple answer is that all four of Mr. Parcell's ROE studies suggest a significantly lower ROE for Cascade than he recommends. If he had just reported the actual ROE results, and not distorted the data, he would have a much lower ROE recommendation.

B. Distorted Reporting of ROE Results

Q. What are the reported results of staff witness Mr. Parcell's equity cost rate studies for Cascade?

A. Mr. Parcell's reported equity cost rate results for his ROE studies are presented in Table 2.[2]

Table 2
Staff's Reported Cost of Equity Capital Position

Methodology	Range
Discounted Cash Flow ("DCF")	9.0%-10.0% (9.5% mid-point)
Capital Asset Pricing Model ("CAPM")	6.0%-6.4% (6.2% mid-point)
Comparable Earnings ("CE")	8.5%-9.5% (9.0% mid-point)
Risk Premium ("RP")	8.3%-9.6% (9.0% mid-point)

Mr. Parcell summarizes his equity cost rate recommendation in the following manner:[3]

> Based upon these findings, I conclude that Cascade's ROE is within a range of 9.00 percent to 9.50 percent, which is based upon the mid-point of the range of the results for the DCF, CE and RP models. I specifically recommend a 9.25 percent ROE for Cascade. As I indicate in a later section, my ROE recommendation does not directly incorporate the CAPM results, which I believe to be somewhat low at this time, relative to the DCF, CE and RP results.

Q. Do you agree with Mr. Parcell's reported ROE results?

A. No. He has seriously distorted his summary results as well as his overall ROE recommendation, apparently with the goal of reporting a higher ROE recommendation than indicated by his ROE studies.

Q. How has Mr. Parcell's distorted his reported ROE results?

A. He has distorted his summary results as well as overall ROE recommendation using non-traditional statistical measures. He notes in the quote above that the 9.0 percent to 9.50

[2] Parcell, Exh. DCP-1T at 4:4–5. On page 51, lines 4-14 of his testimony, Mr. Parcell notes that his CAPM results range from 6.0 percent to 6.4 percent, with a midpoint of 6.0 percent. This is an error. The actual midpoint is 6.2 percent.

[3] *Id.*

percent represents "the mid-point of the range of the results for the DCF, CE and RP models." There are two related issues with using the "midpoint of the range" as a measure of central tendency.

(1) The midpoint of the range of the outcomes: (1) is based on only two data points – the lowest and the highest individual ROE outcomes; (2) can be significantly impacted by outliers on either the low and high side; and (3) is not necessarily reflective of all outcomes because only the lowest and highest go into the calculation of the midpoint of the range.

(2) He has made an elementary statistical mistake that he even recognizes as an error, but he still commits it. In discussing his DCF results, he states, "I note that the individual DCF calculations shown on Exh. DCP-9 should not be interpreted to reflect the expected cost of capital for individual companies in the proxy group …"[4] This observation is illustrative of the statistical error that Mr. Parcell is making by only using the highest and lowest DCF growth rates in calculating the midpoint of the range. The problem is that the individual DCF cost of equity estimates are measured with error, most likely due to the growth rate estimates. In statistics, this is the well-known errors-in-variables (EIV) problem. The EIV problem results from incorrectly measured dependent variables (in this case, the DCF equity cost rate estimates) in a regression model. Errors in measuring the dependent variable (the growth rates) are incorporated in the error term in the regression, which cause no problems. However, when an independent variable is

[4] Parcell, Exh. DCP-1T at 31:9–13.

measured with error, this error appears in both the regressor variable and in the error term of the regression model. The typical way to address this issue is to group the data to mitigate the EIV problem. That is why, in estimating an equity cost rate, rate of return analysts use a proxy group and employ the means or medians for the entire group. The presumption in using such an approach is that the measurement errors for the individual companies in the group will average out, and therefore the results of the entire group are a meaningful measure for the cost of equity capital, but not the individual company results.

Q. How does this distort Mr. Parcell's reported ROE results?

A. For each of Mr. Parcell's equity cost rate approaches, Table 3[5] shows the reported range, the midpoint, and the actual mean and medians of the outcomes for the proxy group. There are several issues highlighted here:

(1) The DCF midpoint result is the only midpoint outcome that supports Mr. Parcell's 9.25 percent ROE. The mean and median DCF results are 8.80 percent and 9.0 percent, which do not support the 9.25 percent ROE.

(2) He has ignored his CAPM results because they are too low. This is addressed below.

(3) With respect to the CE approach, Mr. Parcell does report ranges but does not report means or median results. As discussed below, that is because this is a model of his own creation, and only he can interpret the results.

[5] *See supra* note 2.

(4) Finally, the mean risk premium result is 8.15 percent. Mr. Parcell's range and midpoint figures are based on his subjective estimates of the base yield and risk premium. Both of these inputs are above current estimates.

Table 3
Staff's Reported Cost of Equity Capital Position

Approach	Reported Range	Midpoint of Reported Range	Mean	Median
DCF	9.0%-10.0%	9.50%	8.80%	9.00%
CAPM	6.0%-6.4%	6.20%	6.00%	6.40%
Comparable Earnings	8.5%-9.5%	9.00%	NA	NA
Risk Premium	8.3%-9.6%	9.00%	8.15%	8.15%

C. Economic Conditions

Q. Please review Mr. Parcell's discussion of general economic conditions.

A. Between pages 8 through 16 of his Response Testimony, Mr. Parcell discusses general economic conditions. On pages 15-16, he summarizes his view on economic conditions:[6]

> Recent economic and financial circumstances have differed from any that have prevailed since at least the 1930s. Concurrent with the Great Recession, there was a decline in capital costs and returns which significantly reduced the values of most retirement accounts, investment portfolios, and other assets. One significant aspect of this has been a decline in investor expectations of returns even with the return of stock prices to levels achieved prior to the "crash." This is evidenced by: (1) lower interest rates on bank deposits; (2) lower interest rates on U.S. Treasury and utility bonds; and (3) lower authorized returns on equity by regulatory commissions. As noted above, utility bond interest rates are currently at levels well below those prevailing prior to the financial crisis of late 2008 to early 2009 and remain near the lowest levels in the past 45 years and are also generally lower than the embedded cost rates for most utilities, including Cascade. Finally, current economic conditions, resulting from "shut-downs" of many large and small businesses in response to the COVID-19 pandemic, are resulting in lower profit levels, equity returns and interest rates.

Q. Do you agree with Mr. Parcell's view of general economic conditions?

A. Yes. I discuss capital market conditions on pages 10 through 17 of my Response

[6] Parcell, Exh. DCP-1T at 15:6–7 and 15:11–16:2 (citation omitted).

Testimony. Consistent with Mr. Parcell, I discuss how interest rates fell in 2019, and then dropped to an all-time low in 2020 due to the coronavirus pandemic. However, since the market lows in March of this year, the economy has rebounded significantly, stock prices have hit all-time highs, interest rates have stabilized in the 1.5 percent range, and the VIX, which hit all-time highs in March, is back near its historic average of 20. I also show that utilities are taking advantage of the market conditions and raising records amount of capital. As a result, consistent with Mr. Parcell, I believe that with low interest rates and high stock prices, expected returns and capital costs are near all-time lows.

D. Capital Structure

Q. What is Staff witness, Mr. Parcell's capital structure recommendation for Cascade?

A. Mr. Parcel recommends a capital structure with a common equity ratio of 48.50 percent. Mr. Parcell explains his recommendation of pages 23-24 of his testimony:[7]

> I first note that Cascade's actual capital structure as of December 31, 2019 contained 46.6 percent common equity, as shown on Exh. DCP-6. Thus, my proposed capital structure has more equity than the recent actual capital structure ratio of the Company. Second, the actual equity ratios of Cascade have been below 50 percent over the past five years, also as shown on Exh. DCP-6. Third, the 48.5 percent hypothetical common equity ratio is the same as that used by the Commission in establishing the respective costs of capital for both Avista and Puget Sound Energy.

Mr. Parcell also cites the Commission's recent policy on capital structure, and specifically the fact that the Commission has noted that the appropriate capital structure can either be the Company's historical capital structure, the projected capital structure, or a hypothetical capital structure. Mr. Parcell also notes that Cascade's proposed capital structure include a higher common equity ratio than the Company has maintained in recent years. As a

[7] Parcell, Exh. DCP-1T at 23:3 and 23:1–24:4 (citation omitted).

result, Mr. Parcell concludes that a hypothetical capital structure is appropriate in this case and uses a capital structure with a common equity ratio of 48.5 percent. This is the same capital structure and common equity ratio used in the recent Avista and Puget Sound cases.

E. DCF Approach

Q. Please review Mr. Parcell's DCF results.

A. As shown in Table 4, Mr. Parcell states that his DCF results are in the range of 7.0 percent to 10.9 percent for the gas groups.[8]

Table 4
Staff's DCF Results

	Mean	Median	Mean Low[38]	Mean High[39]	Median Low[40]	Median High[41]
Proxy Group	8.8%	9.0%	7.0%	10.1%	7.0%	10.9%

Q. What are your observations on how Mr. Parcell reports his DCF results?

A. I have four observations.

(1) I agree with Mr. Parcell when he states: "The DCF model is one of the oldest and most commonly-used models for estimating the ROE for public utilities";[9]

(2) Mr. Parcell has misstated the results of his DCF results by using non-traditional statistical measures. In his summary, Mr. Parcell reports a DCF range of 9.0 percent to 10.0 percent, with a midpoint of 9.5 percent. The mean and median of his DCF results are 8.8 percent and 9.0 percent. How does he report results that are much higher than the mean and median? He ignores the mean and median, and uses the

[8] Parcell, Exh. DCP-1T at 31:9–10.

[9] *Id*. at 28:8–9 (punctuation omitted).

range of results. The range is represented by the lowest and highest of the individual DCF results. However, as discussed above, even he acknowledges that "the individual DCF calculations shown on Exh. DCP-9 should not be interpreted to reflect the expected cost of capital for individual companies in the proxy group."[10] As such, he acknowledges that the individual high and low DCF ROE observations, which are used to establish the range, do not represent the expected cost of equity capital;

(3) In addition, he proceeds to violate this principle a second time when he reports the mean and median high observations in his summary of results. In this case, he is reporting an individual DCF result, which only considers the high mean and median DCF results, which in turn are based on the EPS growth rate forecast of only one analyst. As noted above, in estimating an equity cost rate, we use proxy groups and take a measure of central tendency; and

(4) Mr. Parcell also makes the mistake of combining the EPS growth rates from First Call and Zacks, which are measured from the present, with those from *Value Line*, which are measured from a three-year historical period. The *Value Line* projected EPS growth rates are about 200 points higher than the First Call and Zacks projected EPS growth rates because they do not measure growth from the present but from a historical (and stale) time period. This issue, which is addressed on pages 62-65 of my initial testimony, is significant in this case because of the small number of gas companies in the proxy group.

[10] Parcell, Exh. DCP-1T at 31:11–13.

F. CAPM Approach

Q. Please review Mr. Parcell's CAPM results.

A. Mr. Parcell's CAPM results are presented in Table 5 for the gas group.[11]

Table 5
Staff's CAPM Results

Proxy Group	Mean	Median
	6.4%	6.0%

Q. How much weight does Mr. Parcell give his CAPM results in his 9.25 percent ROE recommendation?

A. None. As noted above, Mr. Parcell's ROE recommendation is based upon the midpoint of the range of the results of the DCF, CE, and RP models.

Q. What is your observation on this omission?

A. I have three observations:

(1) The CAPM is a well-recognized methodology for measuring the cost of equity capital. The CAPM was developed in the late 1960s and early 1970s, has been around for a long time, is widely used to compute the cost of equity capital, has been used routinely in utility rate cases, and the academics who developed the model have won the Nobel prize in economics.

(2) Mr. Parcell offers no rational reason for discounting his CAPM results. In fact, Mr. Parcell's testimony supports considering, not ignoring, his CAPM results in analyzing Cascade's cost of equity. Indeed, he states that the CAPM results are low because of lower interest rates and a lower market risk premium, and that the CAPM

[11] Parcell, Exh. DCP-1T at 39:5–6.

results should be considered in determining Cascade's cost of equity. I wholeheartedly agree with Mr. Parcell's observations regarding interest rates, market risk premium, and view on CAPM results. I disagree with the ultimate treatment Mr. Parcell gives to his CAPM results.

(3) By ignoring the CAPM results, Mr. Parcell's analysis does not accurately reflect the result of the studies used to measure ROE. As a result, Mr. Parcell's ultimate conclusion is unreasonably inflated.

G. Comparable Earnings Approach

Q. Please review Mr. Parcell's CE results.

A. Mr. Parcell's CE results are presented in Table 6 for the gas group.[12]

Table 6
Staff's CE Results

	Proxy Group
Historic ROE	
Mean	9.9-11.3%
Median	9.8-11.0%
Historic M/B	
Mean	177-191%
Median	174-183%
Prospective ROE	
Mean	7.6-9.2%
Median	8.0-9.0%

Q. How does Mr. Parcell explain his CE model?

A. Mr. Parcell summarizes his CE model in the following:

> The CE method normally examines the experienced and/or projected return on book common equity. The logic for examining returns on book equity follows from the use of original cost rate base regulation for public utilities,

[12] Parcell, Exh. DCP-1T at 44.

> which uses a utility's book common equity to determine the cost of capital. This cost of capital is, in turn, used as the fair rate of return which is then applied (multiplied) to the book value of rate base to establish the dollar level of capital costs to be recovered by the utility. This technique is thus consistent with the rate base – rate of return methodology used to set utility rates.[13]

Q. Is the CE model as used by Mr. Parcell a model that is recognized in academics and finance to compute an equity cost rate?

A. No. As noted above, the DCF and CAPM models are well-recognized in the academic and professional financial worlds and are regularly used to calculate equity cost rates. Mr. Parcell's CE approach is a model of his own creation that is not generally recognized as a cost of equity capital model. Moreover, his interpretation of the results of his CE model is totally subjective.

Q. Do you agree with any of the statements made by Mr. Parcell about his CE model?

A. Yes. Mr. Parcell makes some general observations regarding ROEs, the cost of equity capital, and market-to-book ("M/B") ratios that I do agree with. Specifically, he notes the following: [14]

> I apply the CE methodology by examining realized ROEs for the group of proxy utilities, as well as unregulated companies, and evaluating investor acceptance of these returns by reference to the resulting market-to-book ratios ("M/Bs"). In this manner it is possible to assess the degree to which a given level of return equates to the COC. It is generally recognized for utilities that an M/B of greater than one (i.e., 100 percent) reflects a situation where a company is able to attract new equity capital without dilution (i.e., above book value). As a result, one objective of a fair cost of equity is the maintenance of stock prices at or above book value. There is no regulatory obligation to set rates designed to maintain an M/B significantly above one.

[13] Parcell, Exh. DCP-1T at 42:5–11.

[14] *Id.* at 42:14–22.

Mr. Parcel and I are in agreement about the relationship between ROEs, the cost of equity capital, and M/B ratios. I discussed this exact point on pages 26–27 of my Response Testimony. In particular, I agree with Mr. Parcell's observation in the above except that "There is no regulatory obligation to set rates designed to maintain an M/B significantly above one."[15]

Q. What does this tell you about the results of Mr. Parcell's CE approach?

A. It tells me that the cost of equity capital that results from Mr. Parcell's CE approach should be well below 9.0 percent. Additionally, I am not in agreement with Mr. Parcell's interpretation of the CE results, in which he concludes that the results suggest a ROE of 8.5 percent to 9.5 percent, with a midpoint of 9.0 percent. This is a highly subjective interpretation and recommendation, which are at odds with the ROE – M/B discussion cited above.

Q. What other specific issues occur within Mr. Parcell's CE approach?

A. There are a number of issues with his CE approach. As such, I strongly suggest that the Commission ignore the CE approach in setting a ROE for Cascade. These issues include:

The CE Approach Does Not Measure the Market Cost of Equity Capital — First, this accounting-based methodology does not measure investor return requirements. Dr. Roger Morin's Book, *New Regulatory Finance*, is commonly cited (such as by Cascade's witness, Ms. Bulkley) as the source of the Comparable Earnings approach. In his book on utility cost of capital, Dr. Morin has made the following observation on the CE approach: "More simply, the Comparable (Expected) Earnings standard ignores

[15] Parcell, Exh. DCP-1T at 42:21–22.

capital markets. If interest rates go up 2% for example, investor requirements and the cost of equity should increase commensurably, but if regulation is based on accounting returns, no immediate change in equity cost results."[16] As such, this method does not measure the market cost of equity because there is no way to assess whether the earnings are greater than or less than the earnings investors require.

The Expected ROEs are not Related to Investors' Market-Priced Opportunities — The ROE ratios are an accounting measure that do not measure investor return requirements. Investors had no opportunity to invest in the proxy companies at the accounting book value of equity. As also indicated by Morin,

> The denominator of accounting return, book equity, is a historical cost-based concept, which is insensitive to changes in investor return requirements. Only stock market price is sensitive to a change in investor requirements. Investors can only purchase new shares of common stock at current market prices and not at book value.[17]

The CE Approach is Circular — The proxies' ROE ratios are not determined by competitive market forces, but instead are largely the result of federal and state rate regulation, including the present proceedings.

The Proxies' ROEs Reflect Earnings on Business Activities that are not Representative of Cascade's Rate-Regulated Utility Activities — The numerators of the proxy companies' ROEs include earnings from business activities that are riskier and produce more projected earnings per dollar of book investment than does regulated

[16] Roger Morin, NEW REGULATORY FINANCE at 293 (Pub. Utils. Report 2006).

[17] *Id.*

electric utility service. These include earnings from: (1) unregulated businesses including merchant generation; (2) electric generation; and (3) international operations.

Q. Please summarize the observations of the Federal Energy Regulatory Commission's (FERC) on the Comparable Earnings approach in its recent Midcontinent Independent System Operator (MISO) decision.

A. In a 2019 order, FERC rejected the use of the CE or Expected Earnings approach to estimate an equity cost rate to set an authorized ROE.[18] Specifically, FERC made note of the following:

> While it may be true that the Expected Earnings model does not involve the same complexities as the market-based approaches, we find that this is because it does not reflect a utility's cost of equity. It is simpler because it does not consider the market price that an investor must pay to make its investment and other factors such as projected growth rates for the subject utility. Factors such as these—in particular the market price that an investor must pay for an investment, which is the basis for determining the return on that investment—are critical to determining a utility's cost of equity. While it may be simpler to use a model that does not consider such factors, doing so renders that model unable to effectively estimate the rate of return that investors require to invest in the market-priced common equity capital of a utility, which is the utility's cost of equity capital. We find that it is not appropriate to use a model that does not accurately measure the "return to the equity owner" as required by *Hope* merely because it may be simpler to administer. We are cognizant of the administrative burden that is placed on parties to evaluate models that are used in analyzing ROEs, but the mere simplicity of one model as compared to others does not justify using that model if it does not assist us in ensuring that returns to equity owners are just and reasonable.[19]

[18] FERC called Mr. Parcell's CE approach "the Expected Earnings approach." In either case, the comparable or expected earnings are simply stated as an accounting return on book value (net income/book value of equity).

[19] *See*, *Ass'n of Bus. Advocating Tariff Equity Coalition of MISO Transmission Carriers v. Midcontinent Independent System Operator*, Docket No. EL14-12-003 and EL15-45-000, 169 FERC ¶ 61,129, Opinion No. 569, ¶ 204 (Nov. 21, 2019).

Q. Did Dr. Morin use this approach in his recent testimony in Washington?

A. No. Dr. Morin is a well-known utility company rate of return witness who testified on behalf of Puget Sound Energy (PSE) in its 2019 rate case. And – no, Dr. Morin did not use the Comparable Earnings approach in estimating PSE's cost of equity capital in the rate case.[20]

Q. Please summarize your analysis of Mr. Parcell's Comparable Earnings approach.

A. In short, Mr. Parcell's CE approach does not measure the market cost of equity capital, is independent of most cost of capital indicators, has a number of other empirical issues, and was rejected in 2019 by FERC as a methodology to estimate the cost of equity capital for a public utility. Therefore, the Commission should ignore this approach in determining the appropriate ROE for Cascade.

H. Risk Premium Approach

Q. Please review Mr. Parcell's risk premium (RP) results.

A. Mr. Parcell also uses a RP approach in this case. Mr. Parcell normally does not use this approach, but in this case, he has opted to do so by making modifications to Ms. Bulkley's RP study.

Q. How has Mr. Parcell modified Ms. Bulkley's RP study?

A. Mr. Parcell claims Ms. Bulkley's RP study is flawed because she has recommended a 10.3 percent ROE for Cascade, yet this figure exceeds all quarterly gas company average authorized ROEs for the past decade. As a result, he makes two modifications to her

[20] *See* Direct Testimony of Roger A. Morin, Exh. RAM-1T, *Wash. Utils. & Transp. Comm'n vs. Puget Sound Energy*, Dockets UE-190529 and UG-190530 (June 2019) (filename "PSE-Exh-RAM-01T-6-20-19,pdf").

approach: (1) he uses the yield on BBB utility bonds and not Treasury bonds; and (2) to estimate a risk premium, instead of using a regression, he computes the average annual difference between quarterly average gas company authorized ROEs and the yields on BBB utility bonds over the 2015–20 time period.

Table 7[21]
Staff's Risk Premium Study Results

Year	Avg ROE	Risk Premiums
2015	9.58%	4.55-4.93%
2016	9.51%	4.27-4.83%
2017	9.73%	5.05-5.35%
2018	9.59%	4.92-5.27%
2019	9.74%	4.97-5.55%
2020	9.58%	4.97-5.93%
2015-2020 5 ½ -Year Avg	9.64%	4.94-5.16%

Q. How has Mr. Parcell used this data to arrive at a recommended equity cost rate using the RP model?

A. Table 8 provides the data and estimates used by Mr. Parcell. He does not use his actual figures, but instead he make some very subjective adjustments to the risk premium data. As I can figure, there are three different versions of Mr. Parcell's risk premium analysis – the actual risk premium equity cost rate, and then two different Parcell-adjusted versions. These are provided in Panel A of Table 8:

(1) Actual — These are the actual data reported by Mr. Parcell. The based yield is the three-month average BBB-utility bond yield of 3.1 percent. The risk premium range is 4.9 percent to 5.2 percent, which is the 2015–20 average as found in Table 7. The

[21] Parcell, Exh. DCP-1T at 49:16–17.

actual data show a ROE range of 8.0 percent to 8.30 percent, with the midpoint of the range of 8.15 percent.

(2) Parcell Modified I — This version uses the three-month average BBB-utility bond yield of 3.1 percent as the base yield. The risk premium range is 5.2 percent to 5.9 percent. This range is based on Mr. Parcell's opinion after reviewing the data in Table 7. There is no justification for the range, and no empirical analysis to support the range. Simply put, it is Mr. Parcell's opinion. This version produces a ROE range of 8.3 percent to 9.0 percent, with the midpoint of the range of 8.55 percent.

(3) Parcell Modified II — This version uses 2019 Pre COVID three-month average BBB-utility bond yield of 3.7 percent as the base yield. The risk premium range of 5.2 percent to 5.9 percent is the range based on Mr. Parcell's opinion after reviewing the data in Table 7. Again, simply put, it is Mr. Parcell's opinion. This version produces a ROE range of 8.9 percent to 9.6 percent, with the midpoint of the range of 9.25 percent.

Table 8
Staff's Risk Premium Study Results

Panel A
Risk Premium Inputs

	Actual	Parcell Modified I	Parcell Modified II
BBB-Utility Yield*	3.1%	3.1%	3.7%
Risk Premium Range**	4.9%-5.2%	5.2%-5.9%	5.2%-5.9%
RP-Equity Cost Rate Range	8.0%-8.3%	8.3%-9.0%	8.9%-9.6%
RP-Equity Cost Rate Midpoint	8.15%	8.55%	9.25%
* BBB-Utility Yield	2020 Three Month Avg.	2020 Three Month Avg.	Pre-Covid Historical Avg.
** Risk Premium Range	Historical - 2015-20	Parcell Estimate	Parcell Estimate

Panel B
Risk Premium Estimate Using 3.7% Base Yield and Risk Premium Range of 5.2% to 5.9%

Parcell Estimate Range/Estimate	Low	Midpoint	High
	8.3%	9.0%	9.6%

Panel B of Table 8 provides Mr. Parcell's risk premium ROE recommendation. For his ROE recommendation, he uses 2019 Pre-COVID three-month average BBB-utility bond yield of 3.7 percent as the base yield. The risk premium range of 5.2 percent to 5.9 percent is based on Mr. Parcell's opinion after reviewing the data in Table 7. Using these inputs, Mr. Mr. Parcell reports a ROE range of 8.3 percent to 9.6 percent, with the midpoint of the range of 9.00 percent.

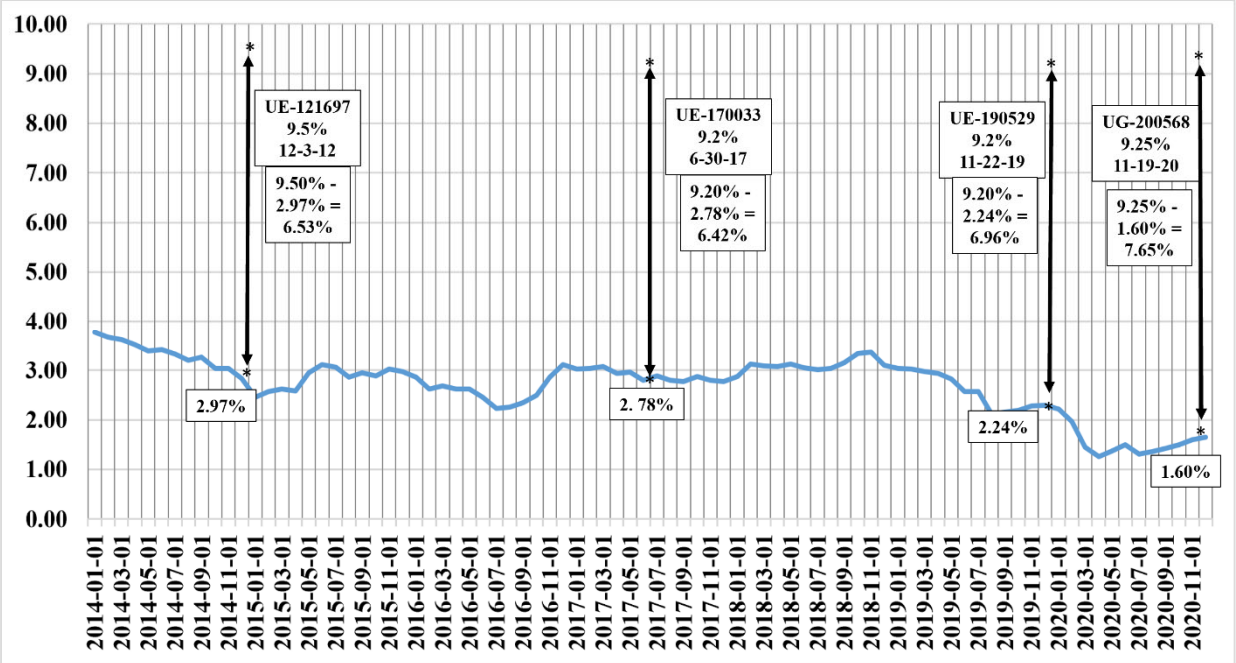
Q. What are your observations on Mr. Parcell's RP approach?

A. Once again, as with his DCF and CE approaches, Mr. Parcell does not use the actual data to come to a ROE recommendation. As with the other approaches, the actual data suggest a much lower ROE. Mr. Parcell makes his own subjective judgement — which is not based on any studies or analyses — to modify the actual data and recommend a high ROE than indicated by the approaches and the data.

Q. Have you reviewed Mr. Parcell's recommendations in prior rate cases in Washington?

A. Yes. Figure 1 shows Mr. Parcell's ROE recommendations and the concurrent 30-year Treasury yield in Washington since 2014. Mr. Parcell recommended a ROE or 9.50 percent in Dockets UE-121697/UG-121705 (Remand) and a ROE of 9.20 percent in both Dockets UE-170033/UG-170034 and Dockets UE-190529/UG-190530. As shown in the graph, the spread between Mr. Parcell's ROE recommendation and the Treasury yield was 6.53 percent in Docket UE-121697 and 6.42 percent in Docket UE-170033. However, this spread increased to 6.96 percent in the 2019. In the current case, Mr. Parcell's 9.25 percent is 765 basis points or 7.65 percentage points above the current 30-year Treasury yield of 1.60 percent.

Figure 1
Staff's Mr. Parcell's ROE Recommendations and 30-Year Treasury Yields



Q. What observations do you make with respect to Mr. Parcell's recommendation of 9.25 percent ROE in this case?

A. As noted above, Mr. Parcell's ROE recommendation of 9.25 percent in this case is 765 basis points above the 30-year Treasury yield. This is much higher than in previous cases. As previously discussed, his ROE recommendation of 9.25 percent does not reflect the data and approaches he has used to estimate an equity cost rate for Cascade.

Q. Please summarize your assessment of Mr. Parcell's, testimony, ROE results, and recommendation.

A. First, I agree with Mr. Parcell's position on economic conditions and capital structure. However, I do not believe that Mr. Parcell's ROE recommendation reflects the low capital cost environment because this recommendation does not

accurately reflect the results of his ROE studies. The fact is that Mr. Parcell's four ROE studies suggest a significantly lower ROE for Cascade than he recommends. Specifically, Mr. Parcell has misstated the results of his DCF and risk premium analyses by reporting DCF results that are above the actual ROEs indicated by the data. Mr. Parcell has totally ignored his CAPM analysis, which produces a ROE range of 6.0 percent to 6.4 percent. Finally, Mr. Parcell's CE approach is a model of his own creation and interpretation and was recently rejected by FERC as an approach to estimating the cost of equity capital.

In summary, the Commission should recognize the numerous errors, distortions, and inconsistencies in Mr. Parcell's rate of return recommendation and testimony and reject his 9.25 percent recommendation in setting a ROE for Cascade.

Q. Does this conclude your testimony?

A. Yes.