Exh. DCP-1T
Dockets UE-220066, UG-220067,
UG-210918
Witness: David C. Parcell

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**DOCKETS UE-220066, UG-220067, UG-220918 (*Consolidated*)**

TESTIMONY OF

DAVID C. PARCELL

ON BEHALF OF STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION

Cost of Capital

July 28, 2022

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I. INTRODUCTION

Q. Please state your name, and address.

A. My name is David C. Parcell. My address is 2218 Worchester Rd., Midlothian, VA 23113.

Q. By whom are you employed and in what capacity?

A. I am a Principal and Senior Economist of Technical Associates, Inc.

Q. Please state your qualifications to provide testimony in this proceeding.

A. I hold a B.A. (1969) and an M.A. (1970) degrees in economics from Virginia Polytechnic Institute and State University (Virginia Tech) and a M.B.A. (1985) from Virginia Commonwealth University. I have been a consulting economist with Technical Associates since 1970. I have provided cost of capital testimony in public utility ratemaking proceedings dating back to 1972, and I have previously filed testimony and/or testified in over 600 utility proceedings before more than 50 regulatory agencies in the United States and Canada.

Q. Have you testified previously before the Commission?

A. Yes. I have previously filed testimony on behalf of the Staff of the Washington Utilities and Transportation Commission (Commission) in several proceedings involving Avista Utilities, Cascade Natural Gas, Pacific Power & Light Company, as well as Puget Sound

Energy (PSE). Exh. DCP-2 provides a more complete description of my education and relevant work experience.

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

A. Commission Staff retained me to evaluate the cost of capital (COC) aspects of the current electric and natural gas distribution Multi-year Rate Plan (MYRP) filings of PSE. I performed independent studies and make recommendations for the current COCs for PSE. In my testimony, I derive COCs for the three periods (i.e., December 31, 2023, December 31, 2024, and December 31, 2025) of the Company's MYRP. In addition, since PSE is a wholly-owned subsidiary of Puget Energy, Inc. (PH), I also evaluated this entity in my analyses.

Q. Have you prepared an exhibit in support of your testimony?

A. Yes. In addition to Exh. DCP-2, identified above, I prepared Exh. DCP-3 through Exh. DCP-15. I prepared each of these exhibits. The information contained in these exhibits is correct to the best of my knowledge and belief. DCP-16 though DCP-19 are several PSE responses to UTC Staff data requests in this matter.

II. RECOMMENDATIONS AND SUMMARY

Q. What are your COC recommendations in this proceeding?

A. My overall COC recommendations for PSE are shown in Exh. DCP-3 and are summarized as follows:

Item	Percent	Cost	Weighted Cost[1]
December 31, 2023			
Short-Term Debt	2.42%	1.43%	0.05%
Long-Term Debt	49.08%	5.07%	2.51%
Common Equity	48.50%	9.25%	4.49%
Total	100.00%		
			7.05%
December 31, 2024			
Short-Term Debt	2.45%	2.36%	0.08%
Long-Term Debt	49.05%	5.07%	2.51%
Common Equity	48.50%	9.25%	4.49%
Total	100.00%		
			7.07%
December 31, 2025			
Short-Term Debt	1.96%	3.14%	0.08%
Long-Term Debt	49.54%	5.08%	2.54%
Common Equity	48.50%	9.25%	4.49%
Total	100.00%		
			7.10%

Q. How do your proposed COCs compare with the MYRP COCs proposed by PSE?

A. PSE's proposed COCs for each year of its MYRP are as follows:[2]

Item	Percent	Cost	Weighted Cost
December 31, 2023			
Short-Term Debt	2.4%	1.43%	0.05%
Long-Term Debt	48.6%	5.07%	2.49%
Common Equity	49.0%	9.90%	4.85%
Total	100.0%		
			7.39%
December 31, 2024			
Short-Term Debt	2.4%	2.36%	0.08%
Long-Term Debt	48.1%	5.07%	2.46%
Common Equity	49.5%	9.90%	4.90%
Total	100.0%		
			7.44%
December 31, 2025			
Short-Term Debt	1.9%	3.14%	0.08%
Long-Term Debt	48.1%	5.08%	2.46%
Common Equity	50.0%	9.90%	4.95%
Total	100.0%		
			7.49%

[1] Weighted costs include: "Marginal" cost rate plus 0.01% Commitment Fees and 0.01% Amortization of Short-Term Debt Issue Cost for short-term debt and 0.02% Amortization of Reacquired Debt for long-term debt.
[2] Peterman, Exh. CGP-1CT at 22, Table 7; 24, Table 8; and 26-27, Table 9.

Q. Please summarize the major differences between your COC recommendations and those of PSE.

A. The first major difference between my COC analyses and those of PSE is the appropriate capital structure to be used in calculating the COC for each year of the MYRP. PSE proposes use of a set of capital structures incorporating 49.0 percent common equity in 2023, 49.5 percent equity in 2024, and 50.0 percent equity in 2025.[3] These differ from the capital structures the Commission approved in the recent proceedings of PSE, where the Commission has consistently adopted a capital structure with 48.5 percent common equity and 51.5 percent debt.[4] I use the 48.5 percent common equity ratio from the previously-adopted capital structures, which I believe remains the proper capital structure for the Company. I also use a set of capital structures for each year of the MYRP, with each year's capital structure containing 48.5 percent common equity.

The second major difference between my COC analyses and those of PSE lies in our respective recommendations on the return on equity (ROE) for PSE. I recommend a 9.25 percent ROE while PSE requests a 9.90 percent ROE.[5] I employ four recognized methodologies to estimate PSE's ROE, each of which I apply to a proxy group of electric and combination electric/gas utilities. These methodologies and my findings are:

Methodology	Range
Discounted Cash Flow (DCF)	8.7%-8.8% (8.75% mid-point)
Capital Asset Pricing Model (CAPM)	8.7% (8.7% mid-point)
Comparable Earnings (CE)	9.0%-10.0% (9.5% mid-point)
Risk Premium (RP)	9.45%-9.95% (9.7% mid-point)

[3] Peterman, Exh. CGP-1CT at 5, Table 2.
[4] *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 & UG-190530, Order 08, 13, ¶ 28, 29 ¶ 81 (Jul. 8, 2020); *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-170033 & UG-170034, Order 08, 28, ¶ 83, Table 3A; 34, ¶ 94 (Dec. 5, 2017).
[5] Peterman, Exh. CGP-1CT at 14:1-15.

Based upon these findings, I conclude that PSE's ROE is 9.25 percent. This figure is supported collectively by the results of all four of the methodologies. I further conclude that a reasonable range of ROE for PSE is 9.0 percent to 9.5 percent, which is more directly supported by the respective range of the results for the DCF model and CE method. I recommend the same 9.25 percent ROE for both PSE's electric operations and its natural gas distribution operations, as well as for all three years of the proposed three-year Rate Plan.

III. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES

Q. What are the primary economic and legal principles that establish the standards for determining a fair rate of return for a regulated utility?

A. Public utility rates are normally established in a manner designed to allow the recovery of their costs, including capital costs. This is frequently referred to as "cost of service" ratemaking. Rates for regulated public utilities traditionally have been primarily established using the "rate base – rate of return" concept. Under this concept, utilities are allowed to recover a level of operating expenses, taxes, and depreciation deemed reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate of return on the assets utilized (i.e., rate base) in providing service to their customers.

The rate base is derived from the asset side of the utility's balance sheet as a dollar amount and the rate of return is developed from the liabilities/owners' equity side of the balance sheet as a percentage. Thus, the revenue impact of the COC is derived by multiplying the rate base by the rate of return, including income taxes.

The rate of return is developed from the COC, which is estimated by weighting the capital structure components (i.e., debt, preferred stock, and common equity) by their percentages in the capital structure and multiplying these values by their cost rates. This is also known as the weighted COC (WCOC).

Technically, the "fair rate of return" is a legal and accounting concept that refers to an *ex post* (after the fact) earned return on an asset base, while the COC is an economic and financial concept which refers to an *ex ante* (before the fact) expected, or required, return on a capital base. In regulatory proceedings, however, the two terms are often used interchangeably, and I have equated the two concepts in my testimony.

From an economic standpoint, a fair rate of return is normally interpreted to mean that an efficient and economically managed utility will be able to maintain its financial integrity, attract capital, and establish comparable returns for similar risk investments. These concepts are derived from economic and financial theory and are generally implemented using financial models and economic concepts.

Although I am not a lawyer and I do not offer a legal opinion, my testimony is based on my understanding that two United States Supreme Court decisions provide the controlling standards for a fair rate of return. The first decision is *Bluefield Water Works and Improvement Co. v. Public Serv. Comm'n of West Virginia*, 262 U.S. 679 (1923). In this decision, the Court stated:

> What annual rate that will constitute just compensation depends upon many circumstances and must be determined by the exercise of fair and enlightened judgment, having regard to all relevant facts. A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right

> to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility, and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally.[6]

It is generally understood that the *Bluefield* decision established the following parameters for a fair rate of return: comparable earnings, financial integrity, and capital attraction. The opinion also notes that required returns change over time, and that there is an underlying assumption that the utility be operated efficiently.

The second decision is *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1942). In that decision, the Court stated:

> The rate-making process under the [Natural Gas] Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the investor and consumer interests . . . From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By this standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[7]

The three economic and financial parameters in the *Bluefield* and *Hope* decisions – comparable earnings, financial integrity, and capital attraction – reflect the economic criteria encompassed in the "opportunity cost" principle of economics. The opportunity cost principle provides that a utility and its investors should be afforded an opportunity (not a guarantee) to earn a return commensurate with returns they could expect to achieve

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[6] *Bluefield*, 262 U.S. at 692.
[7] *Hope*, 320 U.S. at 603.

on investments of similar risk. The opportunity cost principle is consistent with the fundamental premise on which regulation rests, namely, that it is intended to act as a surrogate for competition.

Q. How can the *Bluefield* and *Hope* parameters be employed to estimate the cost of capital for a utility?

A. Neither the courts nor economic/financial theory has developed exact and mechanical procedures for precisely determining the COC. This is the case because the COC is an opportunity cost and is prospective-looking, which dictates that it must be estimated. However, there are several useful models that can be employed to assist in estimating the ROE, which is the capital structure item that is the most difficult to determine. These include the DCF, CAPM, CE, and RP. Each of these methodologies will be described in more detail later in my testimony.

IV. GENERAL ECONOMIC CONDITIONS

Q. Are economic and financial conditions important in determining the COC for a public utility?

A. Yes. The COC for both fixed-cost (e.g., debt) components and common equity are determined in part by current and prospective economic and financial conditions. At any given time, each of the following factors has an influence on the COC:

- The level of economic activity (i.e., growth rate of the economy);
- The stage of the business cycle (i.e., recession, expansion, or transition);

- The level of inflation;
- The level and trend of interest rates; and,
- Current and expected economic conditions.

My understanding is that this position is consistent with the *Bluefield* decision, which noted "[a] rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally."[8]

Q. What indicators of economic and financial activity did you evaluate in your analyses?

A. I examined several sets of economic and financial statistics from 1975 to the present. I chose this time period because it permits the evaluation of economic conditions over five full business cycles, allowing for an assessment of changes in long-term trends. Consideration of economic/financial conditions over a relatively long period of time permits an assessment of how such conditions have impacted the level and trends of the COC. This period also approximates the beginning and continuation of active rate case activities by public utilities that generally began in the mid-1970s.

A business cycle is commonly defined as a complete period of expansion (recovery and growth) and contraction (recession). A full business cycle is a useful and convenient period over which to measure levels and trends in long-term capital costs because it incorporates the cyclical (i.e., stage of current business cycle), as well as cycle-

[8] *Bluefield*, 262 U.S. at 693.

to-cycle characteristics and, thus, permits an evaluation of structural (or long-term) trends.

Q. Please describe the time frames of the five prior business cycles and the beginning of the current cycle.

A. The five prior complete cycles and current cycle cover the following periods:

Business Cycle	Expansion Period	Contraction Period
1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
1982-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991
1991-2001	Mar. 1991-Mar. 2001	Apr. 2001-Nov. 2001
2001-2009	Nov. 2001-Nov. 2007	Dec. 2007-June 2009
2009-2020	July 2009-Feb. 2020	Mar. 2020-Apr. 2020
Current	May 2020 -	

Source: The National Bureau of Economic Research, "U.S. Business Cycle Expansions and Contractions."[9]

Q. Please describe how you have examined recent and current economic and financial conditions and their impact on the COC.

A. Exh. DCP-4 shows several sets of relevant economic and financial statistics for the cited time periods. Page 1 contains general macroeconomic statistics, page 2 shows interest rates, and page 3 contains equity market statistics.

Q. Do you have any general observations concerning the recent trends in economic conditions and their impact on capital costs over this broad period?

A. Yes, I do. From the early 1980s until the end of 2007, the United States economy enjoyed general prosperity and stability. This period was characterized by longer economic

[9] Available at: http://www.nber.org/cycles/cyclesmain.html.

expansions, relatively tame contractions, low and declining inflation, and declining interest rates and other capital costs.

The economic/financial data shown on Exh. DCP-4 indicates the following averages for the cited business cycles:

Cycle[10]	No. of Months Exp.	No. of Months Rec.	Real GDP Growth	CPI	A-Rated Utilities Bond Yield
1975-1982	77	15	2.1%	8.3%	11.62%
1983-1991	93	8	3.2%	3.9%	11.04%
1992-2001	121	8	3.6%	2.5%	7.85%
2002-2009	73	19	1.7%	2.6%	6.31%
2010-2020	127	2	1.7%	1.7%	4.22%

This indicates that the most recent business cycle, while having a longer-than-normal expansion period, experienced a lower average annual growth rate of GDP in comparison to the prior cycles. This cycle also experienced the shortest recession period. In addition, both the rate of inflation and yields on utility bonds declined significantly over the most recent two business cycles. This is further indicative of a declining cost of equity capital, as is reflected in declining authorized ROE for regulated electric and natural gas utilities:

Authorized Returns on Equity[11]

Year	Electric Average	Electric Median	Natural Gas Average	Natural Gas Median
2007	10.32%	10.23%	10.22%	10.20%
2008	10.37%	10.30%	10.39%	10.45%
2009	10.52%	10.50%	10.22%	10.26%
2010	10.29%	10.26%	10.15%	10.10%
2011	10.19%	10.14%	9.91%	10.05%
2012	10.02%	10.00%	9.93%	10.00%
2013	9.82%	9.82%	9.68%	9.72%
2014	9.76%	9.75%	9.78%	9.78%

[10] Annual periods corresponding to the respective business cycle periods. See Parcell, Exh. DCP-4.
[11] S&P Global, Market Intelligence: "Regulatory Focus", February 2, 2021, General Rate Cases; "Major Energy Rate Case Decisions – January-December 2021", February 10, 2022. Data for electric and natural gas general rate cases.

2015	9.60%	9.53%	9.60%	9.68%
2016	9.60%	9.60%	9.53%	9.50%
2017	9.68%	9.60%	9.73%	9.60%
2018	9.56%	9.58%	9.59%	9.60%
2019	9.65%	9.65%	9.72%	9.72%
2020	9.39%	9.45%	9.46%	9.42%
2021	9.39%	9.39%	9.56%	9.60%

Q. Please describe the two most recent business cycles and their impact on the COC for utilities and other enterprises.

A. Since 2008, there have been two significant economic events which have impacted capital costs. First, in 2008 and 2009 the U.S. economy declined significantly, initially as a result of the 2007 collapse of the "sub-prime" mortgage market and the related liquidity crisis in the financial sector of the economy and followed by a significant decline in most sectors of the U.S. and global economies. This decline has been described as the worst financial crisis since the Great Depression of the 1930s and has been referred to as the "Great Recession." This was both a substantial (in terms of GDP decline) and longer-lasting recession that resulted in unprecedented Federal Reserve System (Federal Reserve) and other governmental actions to stimulate the economy. These actions included the Federal Reserve's maintenance of the "Fed Funds Rate" at a near-zero level and the purchase of longer-term U.S. Treasury securities[12] in an effort to stimulate the economy through increasing the money supply and lowering interest rates on federal debt.

[12] A process known as Quantitative Easing, or QE. The Federal Reserve implemented three QDE programs following the financial crisis of 2007-2008 (QE 1 through QE 3) and one additional program (QE 4) during the COVID-19 pandemic/recession. See. e.g., https://americandeposits.com.

Second, in the first quarter of 2020, the U.S. economy entered a new recession. This was largely driven by the Coronavirus Disease (COVID-19) pandemic and the result that the economic and financial consequences of this serious health crisis created a recession as nations, including the U.S., instituted significant travel, social, and commercial restrictions designed to slow the spread of COVID-19. Beginning in March and lasting into June of 2020, much of the world and U.S. were in "lock down" as a significant portion of both businesses and governments operated under restrictive conditions in some instances and remained closed in other instances. In addition, the U.S. Federal government instituted two multi-trillion-dollar stimulus programs (i.e., the CARES Act in 2020 and the American Relief Act in 2021) to aid businesses, individuals and state/local governments during this crisis. Further, the Federal Reserve implemented several financial and stimulus tools to help maintain the U.S. financial system, again through the near-zero Fed Funds Rate and the purchase of U.S. Treasury securities. As before, the effect of the Federal Reserve actions was the maintenance of lower interest rates on federal debt. It is also noteworthy that the 2020 COVID-19 recession was the shortest on record but was one of the most pronounced recessions in terms of degree of economic contraction.[13]

Q. Are there any unique aspects of the COVID-19 recession and the subsequent recovery and aftermath?

A. Yes, there are several unique aspects of this recession. First, as noted, this was the shortest recession on record. This partially reflects the fact that much of the U.S., as well

[13] See, e.g., "U.S. Economic Recovery in the Wake of COVID-19: Successes and Challenges", dated May 31, 2022, Congressional Research Service, available at https://crsreports.congress.gov.

as other countries' economies were purposely "shut down" in order to limit the spread of the COVID-19 virus. Second, the series of stimulus payments and other economic incentives created a rapid apparent recovery, although the U.S. economy showed a decline in GDP for the entire calendar year 2020. Third, the sequential mutations of COVID-19 (e.g., Alpha, Delta, and Omicron variants) continued to create uncertainty in terms of public health and financial markets. Fourth, the COVID-19 pandemic continues to have a significant impact on both capital markets and the economy.[14] Finally, the recent increases in the inflation rate have created uncertainty as to its sources (e.g., "transition" and "supply chain" effects resulting from the economic effects of the COVID-19 pandemic, and the ongoing impact of the Russia-Ukraine conflict), as well as how the Federal Reserve has and intends to respond in terms of monetary policy.[15] Over the past several months interest rates have increased, primarily in response to the Federal Reserves' attempts to thwart the recent increases in inflation. In addition, after reaching record levels in 2021, stock prices have declined in 2022, with the S&P 500, for example, reaching "bear market" status.[16]

In spite of all these factors, interest rates, while experiencing recent increases, have remained relatively low by historical standards and stock prices reached record levels (prior to the recent declines). These are indicative of a continuing low COC for utilities and other enterprises. I note that PSE's costs of long-term debt have declined in recent years, as its weighted cost of debt has declined from 5.57 percent in 2021[17] to 5.07

[14] *Id.*
[15] *Id.*
[16] A "bear market" refers to a decline in a stock index's level of 20 percent from the prior peak levels.
[17] *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 & UG-190530, Order 08, 29 ¶ 81 (Jul. 8, 2020).

percent in 2022.[18] On a longer-term basis, PSE's cost of long-term debt has declined from 6.59 percent in 2010 to 5.21 percent in 2021 and is expected to decline further to 5.08 percent in 2025.[19]

Q. What conclusions do you draw from your discussion of economic and financial conditions?

A. 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 is a decline in investor expectations of returns even with the return of stock prices to levels achieved prior to the 2008 "crash." The COVID-19 recession and its recovery have seen a continuation of these lower COCs. Specifically, authorized utility ROEs and utility bond interest rates (even reflecting some recent increases) are still at levels well below those prevailing prior to the financial crisis of late 2008 to early 2009 and remain near the lowest levels over most of the past 45 years.

Q. How do these economic/financial conditions impact the determination of a ROE for regulated utilities?

A. The COC for regulated utilities (including PSE) have declined in recent years. In addition, the results of the traditional ROE models (i.e., DCF, CAPM, CE and RP) are lower than was the case prior to the Great Recession. Considering this, it is not surprising

[18] Peterman, Exh. CGP-1CT at 19, Table 6.
[19] *Id*. at 47, Figure 3.

that the average ROEs authorized by state regulatory agencies have declined and continue to remain relatively low, as noted previously.

Q. Do current capital market conditions reflect the impact of recent increases in the rate of inflation and certain interest rates?

A. Yes, they do. Security markets (e.g., stock market and interest rates) reflect the collective impact of investors' perceptions of all relevant information.[20] As a result, any perceived impacts of inflation and interest rates are already incorporated in stock and other security prices and, as a result, an analysis of the current COC (using market-based methodologies such as DCF, CAPM, RP, and my version of CE) incorporates these factors. I also note that, even though interest rates have increased in recent months, they are still below the levels preceding the Great Recession and the COVID-19 pandemic, as well as recent years.

V. PUGET SOUND ENERGY'S OPERATIONS AND RISKS

Q. Please summarize PSE and its operations.

A. PSE is a regulated combination electric and natural gas utility that generates, transmits and distributes electricity to about 1.2 million customers and natural gas to 900,000 customers in the Puget Sound region of Western Washington.[21]

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[20] This is known as the Efficient Market Hypothesis.
[21] *Available at* https://www.pse.com/about-us.

Q. Please describe PSE's ownership structure.

A. PSE is a subsidiary of Puget Energy, Inc. (PH), which was formed in 1997 by the merger of Puget Sound Power and Light Company and Washington Energy Company (parent of Washington Natural Gas Co.). PH existed as a publicly-traded entity until 2009, when it was acquired by a group of private investors[22] in a leveraged private equity buyout. PH is now a Washington-based holding company whose operations are conducted through PSE.

Q. What are the current security ratings of PSE?

A. The present debt ratings of PSE's debt are shown on Exh. DCP-5 and are as follows:

	Secured	Corp./Issuer
Moody's	A2	Baa1
Standard & Poor's	A-	BBB

Q. What have been the trends in PSE's bond ratings?

A. This is also shown on Exh. DCP-5. As this indicates, PSE's current ratings by Standard & Poor's and Moody's have remained the same throughout the period 2017 to the present.

Q. How do the bond ratings of PSE compare to other electric and combination gas/electric utilities?

A. PSE's ratings are generally similar to most electric utilities in the U.S. This is evidenced by the relative Moody's and Standard & Poor's debt ratings, as shown on my Exh. DCP-

[22] Puget Holdings is currently owned by the following entities: Alberta Investment Management Funds, British Columbia Investment Co., Canada Pension Plan Investment Board, Ontario Municipal Employees Retirement System, and PGGM. See Parcell, Exh. DCP-16 at 1, Attachment A.

8 and which indicates that PSE's ratings are generally similar to those of the group of proxy electric utilities used to develop the ROE recommendations in my testimony.

Q. Please briefly describe the "recent legislation in Washington" and explain how this impacts the risks and costs of capital for PSE and other Washington utilities.

A. In May of 2021, the Washington legislature passed SB 5295,[23] which:

- Requires a gas or electric company (utilities) to pursue MYRPs that set rates and align cost recovery for several years at a time;
- Allows the Commission to set performance measures to assess a utility under the MYRP;
- Allows utilities to expand bill assistance programs and to invest in programs that achieve energy conservation and improve the energy efficiency of single-family and multifamily rental housing; and,
- Allows utilities to provide financial assistance to organizations who represent highly impacted communities and vulnerable populations in regulatory proceedings.

It is my understanding that this legislation provides the impetus for the three-year Rate Plan that forms the basis for PSE's current applications.

It is also my belief that this legislation is largely beneficial to Washington utilities, including PSE, as it provides a more stable regulatory and financial environment. In this regard, Moody's stated:

> On 3 May 2021, Washington State Governor Jay Inslee signed into law a senate bill (SB 5295) aimed at reforming the regulatory framework for

[23] "An act relating for transforming the regulation of gas and electrical companies toward multiyear rate plans and performance-based rate making."

utilities in the state by paving the way for multi-year rate plans (MYRP) and performance based ratemaking (PBR). The bill could enhance the consistency and predictability of utility regulation and provides credit positive opportunities for Washington's utilities, including Puget Energy Inc's (Puget, Baa3, stable) primary subsidiary Puget Sound Energy, Inc. (PSE, Baa1, stable) and Avista Corp. (Avista, Baa2, stable), to reduce regulatory lag and earn returns closer to their authorized returns on equity (ROE). However, improved regulatory and financial outcomes for these utilities remain subject to the bill's implementation by the Washington Utilities and Transportation Commission (WUTC), the state's utility regulator.

The bill requires the WUTC to develop, in collaboration with utilities and other interested stakeholders, a policy statement on alternatives to traditional cost of service rate making, including performance measures, incentives, and penalty mechanisms. The WUTC must provide an update to the relevant legislative committees by 1 January 2022.

Importantly, beginning 1 January 2022, utilities are required to include a proposal for a MYRP between two and four years in length in every general rate case filing. The bill allows for property that is deemed used and useful as of the rate effective date of the first year of a MYRP to be included in rate base, with the remainder of the rate plan based on forecasted information. This would be a material improvement over the historical test year currently used by utilities in rate cases and help reduce regulatory lag, a credit positive. The terms approved by the WUTC for the first two years of a MYRP are binding, but utilities must update power costs at the beginning of the third year and may file a new multi-year rate plan for the third and fourth rate year, if applicable. In addition, if a utility earns a rate of return 50 basis points higher than authorized, excess revenues must be deferred for customer refund or other uses as determined by the WUTC in a subsequent proceeding.

….

This new law follows Washington's Clean Energy Transformation Act (CETA), signed into law in May 2019, that requires utilities to eliminate coal-fired electricity by 2025 and commits to a carbon free electricity supply by 2045. While the CETA also clarified the WUTC's authority to consider and implement various constructive regulatory mechanisms including MYRPs and PBR regulation, SB 5295 provides more enforceable guidance. We view the PBR construct as credit positive because MYRPs with performance targets and the potential to earn performance incentives will not only work to reduce regulatory lag, but also aid PSE's and Avista's renewable transition, improve operational

> efficiency and enhance cash flow and profitability, all while considering customer cost and service.[24]

It is apparent from these statements that Moody's considers the recent regulatory mechanisms to be credit supportive, and therefore risk reducing for Washington electric and natural gas utilities.

Q. Have Moody's and S&P commented specifically on PSE's expected impact from SB 5295?

A. Yes. Moody's also stated the following in a report on PSE:

> The more recently passed SB 5295 (enacted on 3 May 2021) followed the clean energy bill and aims at reforming the regulatory framework for utilities in the state by paving the way for multiyear rate plans (MYRP) and performance based ratemaking (PBR). We view the bill as credit positive as it could enhance the consistency and predictability of utility regulation. Specifically, we view the PBR construct as a credit supportive rate making mechanism because MYRPs with performance targets and the potential to earn performance incentives will work to reduce regulatory lag. It could also aid PSE's renewable transition, improve operational efficiency and enhance cash flow and profitability, all while considering customer cost and service.[25]

Moody's also noted:

> Puget Sound Energy, Inc.'s (PSE) credit profile reflects its low risk regulated utility operations with a number of credit supportive cost recovery mechanisms authorized by its primary regulator, the Washington Utilities and Transportation Commission (WUTC).[26]

S&P issued similar analyses and statements:

> **Rating Action Rationale**

[24] Moody's Investors Service, Issuer Comment, dated 10 May 2021, "Puget Sound Energy Inc. and Avista Corp. Legislation supporting multi-year rate plans has positive credit implications for Washington's investor-owned utilities." Parcell, Exh. DCP-2 at 1, Attachment A.
[25] Moody's Investors Service, Credit Opinion, dated 26 August 2021, "Puget Sound Energy, Inc., Update to credit analysis." Peterman, Exh. CGP-10 at 35-45.
[26] *Id.*

> **Washington's SB 5295 includes the mandatory filing of an MYRP that we view as credit supportive.** We expect Puget will file its first MYRP in January 2022, with new rates effective the following year. Under the new legislation, utilities must file an MYRP between two and four years long. We expect the commission will approve the MYRPs, reducing regulatory lag and cash flow volatility. Furthermore, power costs are trued-up after the second year, improving cash flow predictability. We believe Washington's new law, predicated on the commission implementing it in a credit supportive way, could improve the regulatory environment.[27]

It is correspondingly clear that Moody's and S&P regard the recent legislation as risk-reducing to PSE.

Q. What is the significance of this legislation as it impacts PSE and its ROE in this proceeding?

A. It is apparent that SB 2595, as well as several other favorable regulatory mechanisms (as cited by Moody's) the Company has access to, provides favorable risk-reducing attributes to PSE. The impact of these mechanisms, on both an individual and collective basis, is to transfer a significant portion of PSE's risks from its shareholders to its ratepayers. This risk transfer is not voluntary from the ratepayer perspective. I correspondingly believe that ratepayers should receive some benefit for their acceptance of this risk transfer.

Q. How do you propose that PSE's ratepayers be compensated for this risk transfer?

A. I first note that the most relevant impact of the recent legislation is to reduce the overall level of risks to PSE, compared to what the risks were prior to the implementation of the legislation. In other words, PSE is less risky on a "post-legislation" basis than it was on a "pre-legislation" basis.

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[27] S&P Global Ratings, "RatingsDirect, Research Update, Puget Energy, Inc. and Subsidiary Outlooks Revised to Stable Following New Rate Plan Legislation; Rating Affirmed", dated May 27, 2021. Exh. CGP-10 at 30-34.

I recommend that the ROE established in this proceeding be set at a level that is no higher than the average market-determined ROE for the proxy group, as established by the various cost of equity models employed in this proceeding, which is 9.25 percent. The Commission reducing PSE's ROE from the currently-authorized 9.4 percent to 9.25 percent would be consistent with the reduced risk PSE is now exposed to in conjunction with the MYRP legislation's elimination of regulatory lag, as well as the PBR ratemaking mechanisms.

VI. CAPITAL STRUCTURES AND COSTS OF DEBT

Q. What is the importance of determining a proper capital structure in a regulatory framework?

A. A utility's capital structure is important because the concept of rate base–rate of return regulation requires the capital structure to be utilized in estimating the total COC. Within this framework, it is proper to ascertain whether the utility's capital structure is appropriate relative to its level of business risk and relative to other utilities.

As discussed in a prior section of my testimony, the purpose of determining the proper capital structure for a utility is to ascertain its capital costs. The rate base-rate of return concept recognizes the assets employed in providing utility services and provides for a return on those assets by identifying the liabilities and common equity (and their cost rates) used to finance the assets. In this process, the rate base is derived from the asset side of the balance sheet and the COC is derived from the liabilities/owners' equity side of the balance sheet. The inherent assumption in this procedure is that the dollar values of the capital structure and the rate base are approximately equal, and the former is utilized to finance the latter.

The common equity ratio (i.e., the percentage of common equity in the capital structure) is the capital structure item which normally receives the most attention. This is the case because common equity: (1) usually commands the highest cost rate; (2) generates associated income tax liabilities; and (3) causes the most controversy since its cost cannot be precisely determined.

Q. What are the historic capital structure ratios of PSE?

A. I have examined the historic (2017-2021) capital structure ratios of PSE, which is shown on Exh. DCP-6. The common equity ratios have been:

	PSE Regulated Utility[28]		PSE Consolidated		PH	
	Including S-T Debt	Excluding S-T Debt	Including S-T Debt	Excluding S-T Debt	Including S-T Debt	Excluding S-T Debt
2017	49.8%	50.3%	46.9%	49.0%	39.3%	40.7%
2018	49.0%	50.6%	46.5%	48.8%	38.9%	40.5%
2019	47.7%	49.7%	47.3%	48.3%	37.9%	38.6%
2020	48.8%	49.8%	47.0%	49.1%	37.9%	39.2%
2021	49.0%	50.0%	46.9%	47.7%	40.2%	40.7%

This indicates that PSE and PH have had equity ratios that have generally been stable over the past five years. In addition, it is apparent that the equity ratios of PSE (on a consolidated basis) are slightly lower than PSE (on a "regulated utility" basis). Finally, it is apparent that the equity ratios of PH (consolidated) are significantly lower than those of PSE.

[28] The "regulated utility" capital structure of PSE excludes investments in non-utility operations.

Q. How do these capital structures compare to those of investor-owned electric utilities?

A. Exh. DCP-7 shows the common equity ratios (excluding short-term debt in capitalization) for the group of proxy electric utilities used in developing my cost of equity models and related conclusions. These are:

	Period	Average	Median
Proxy Group	2017-2021	51.9%	52.6%
	2025-2027	52.1%	51.3%

The equity ratios for the proxy group are slightly higher than those of PSE (excluding short-term debt).

Q. What have been the average common equity ratios adopted by U.S. State Regulatory Commissions in recent years?

A. Over the past several years, the average common equity ratios cited in U.S. state regulatory electric proceedings have been:[29]

	Electric
2015	49.23%
2016	48.91%
2017	48.90%
2018	49.02%
2019	49.94%
2020	49.66%
2021	50.06%

The utility ratios are similar to those of PSE's common equity ratios. It is noteworthy, on the other hand, that these equity ratios reflect a combination of approved

[29] S&P Global, Market Intelligence: "Regulatory Focus", February 2, 2021; General Rate Cases; "Major Energy Rate Case Decisions – January-December 2021". February 10, 2022.

capital structures, some of which include short-term debt and some of which exclude short-term debt.

Q. What capital structure has PSE requested in the proceedings?

A. PSE proposes a set of capital structures comprised as follows:

	Dec. 31, 2023	Dec. 31, 2024	Dec. 31, 2025
S-T Debt	2.4%	2.4%	1.9%
L-T Debt	48.6%	48.1%	48.1%
Common Equity	49.0%	49.5%	50.0%

Two relevant points are apparent from these requested capital structure ratios. First, each of the proposed equity ratios exceed the currently-authorized 48.5 percent equity ratio for PSE. Second, PSE proposes to increase the regulatory equity ratio in each year during the MYRP.

Q. What reasons does PSE give to rationalize its request for higher equity ratios than those approved by the Commission in recent years?

A. Company Witness Peterman, whose testimony describes PSE's proposed capital structure,[30] does not appear to directly explain why the Company is requesting an increase in its equity ratios over the three years of the MYRP. However, Witness Peterman cites the Company's reasons for requesting an increase in its common equity ratio levels in the 2022 calendar year, which is described as a combination of the following factors:[31]

(1) Implementation of the TCJA;

[30] Peterman, Exh. CGP-1CT at 2:4.
[31] *Id.* at 4:6-22, 5:1-4.

(2) Current prolonged under-recoveries of investments and costs incurred; and

(3) Forecasted cash flow constraints.

The Company maintains that the cumulative effect of these factors "are limiting PSE's ability to hold an equity ratio that is higher than the allowed 48.5 percent in calendar year 2022."[32] It thus appears that PSE is requesting an increase in its regulatory common equity ratios in order for it to be able to maintain an actual equity ratio of 49 percent.[33]

Q. Do you concur with Witness Peterman that these factors justify an increase in PSE's regulatory common equity ratio?

A. No, I do not. I note, first, that PSE did not request an increase in its equity ratio in its prior two rate proceedings.[34] These two sets of proceedings did not have the recently-authorized regulatory mechanisms of MYRPs and PBR. As a result, the "regulatory environment" should be viewed as more favorable at the present time – a conclusion also reached by Moody's and S&P, as noted above. The improvement in the perceived regulatory environment should imply that, if any changes in the required equity ratio were required, it would be in a downward direction, as opposed to the upward direction proposed by PSE.

In addition, in my judgment there is no requirement that the Commission should be obligated to maintain a utility's capital structure at some specific level. Actual capital structures are determined not just by earnings levels but also by retention of earnings,

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[32] *Id*. at 4:9-12.
[33] *Id*.
[34] Dockets UE-170033 & UG-170034 and UE-190529 & UG-190530.

which are impacted by dividend policy which is largely determined by a utility's Board of Directors. In addition, a utility can also raise its equity ratio via capital infusions by its parent.[35]

Q. What capital structure do you propose to use in these proceedings?

A. I have also used three sets of capital structures, but with a 48.5 percent common equity rate. My proposed capital structures are derived in Exh. DCP-3 and are as follows:[36]

	December 31		
	2023	2024	2025
Short-Term Debt	2.42%	2.45%	1.96%
Long-Term Debt	49.08%	49.05%	49.54%
Common Equity	48.50%	48.50%	48.50%

Q. Why are you proposing capital structures for PSE containing 48.5 percent common equity?

A. I first note that PSE's actual consolidated capital structure[37] as of December 31, 2021, contained 46.9 percent common equity, as shown on Exh. DCP-6, page 2. Thus, my proposed capital structure is similar to the recent actual consolidated capital structure ratios of PSE.

Second, Exh. DCP-6 shows that the actual equity ratios of PSE have not increased in recent years.

[35] PSE admits that its parent can infuse equity into the Company. Parcell, Exh. DCP-18 at 1.
[36] See Parcell, Exh. DCP-3 for development of each year's capital structure ratios.
[37] The consolidated capital structure is the proper method with which to determine PSE's financial structure. For example, rating agencies assess PSE on a consolidated basis, rather than on a "non-actual" regulatory capital structure basis.

Third, the common equity ratio in this capital structure matches the capital structure adopted by the Commission in PSE's prior rate proceedings.[38]

Q. What is your understanding of this Commission's recent policy on the proper capital structure to use to determine the COC?

A. It is my understanding that the Commission's policy on determining a capital structure balances safety (the preservation of investment quality credit ratings and access to capital) against economy (the lowest overall cost to attract and maintain capital). The Commission noted that the appropriate capital structure can either be the Company's historical capital structure, the projected capital structure, or a hypothetical capital structure.[39]

Q. Is your recommended capital structure consistent with this policy?

A. Yes. The capital structure that I use is similar to recent actual ratios of PSE, as well as its 2021 capital structure, and is consistent with the capital structure of other electric and combination electric/gas utilities. I also believe that the capital structure that I propose provides a "balance of safety and economy" as cited above.

Q. What are the cost rates of debt in PSE's applications?

A. PSE proposes the following costs of debt as of December 31, 2023, 2024, and 2025:[40]

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[38] Parcell, Exh. DCP-19 at 1.
[39] *Id*. at 39, ¶ 109; *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy, Inc.*, Dockets UE-040640 & UG-040641, Order 06, 13, ¶ 27 (February 18, 2005).
[40] Peterman, Exh. CGP-1CT at 21:12-13, 23:20-21, 25:10-14.

	December 31		
	2023	2024	2025
Short-Term Debt	1.43%	2.36%	3.14%
Long-Term Debt	5.07%	5.07%	5.08%

I use those rates in my COC calculations.

Q. Can the ROE be determined with the same degree of precision as the costs of debt?

A. No. The cost rates of debt are largely determined by interest payments, issue prices, and related expenses. The ROE, on the other hand, cannot be precisely quantified, primarily because this cost is an opportunity cost. As mentioned previously, there are several models that can be employed to estimate the ROE. Four of the primary methods – DCF, CAPM, CE, and RP – are developed in the following sections of my testimony.

VII. SELECTION OF PROXY GROUP

Q. How have you estimated the ROE for PSE?

A. PSE is not a publicly traded company. Consequently, it is not possible to directly apply ROE models to PSE. However, in COC analyses, it is customary to analyze a group of comparison, or "proxy," companies as a substitute for PSE to determine its ROE.

I have accordingly selected a group of investor-owned electric and combination electric/natural gas utilities for comparison to PSE. I selected this group using the criteria listed in Exh. DCP-8. These criteria are as follows:

(1) Market cap of $1 billion to $10 billion;

(2) Common equity ratio 40% or greater;

(3) Value Line Safety rank of 1 or 2;

(4) S&P and Moody's bond ratings of A or BBB;[41]

(5) Currently pays dividends; and

(6) Not involved in major merger or acquisition.

I do not apply my ROE analyses to the proxy group proposed by PSE Witness Bulkley. Exh. DCP-8 describes the reasons for the proxy companies of Witness Bulkley that I do not agree are appropriate indicators of the ROE for PSE.

VIII. DCF ANALYSIS

Q. What is the theory and methodological basis of the DCF model?

A. The DCF model is one of the oldest and most commonly used models for estimating the ROE for public utilities.

The DCF model is based on the "dividend discount model" of financial theory, which maintains that the value (price) of any security or commodity is the discounted present value of all future cash flows.

The most common variant of the DCF model assumes that dividends are expected to grow at a constant rate (the "constant growth" or "Gordon DCF model"). In this framework, the ROE is derived from the following formula:

[41] Proxy group companies have ratings between mid-Triple-B and mid-Single-A.

$$K = \frac{\mathrm{D}}{\mathrm{P}} + \mathrm{g}$$

where: P = current price

D = current dividend rate

K = discount rate (cost of capital)

g = constant rate of expected growth

This formula essentially recognizes that the return expected or required by investors is comprised of two factors: the dividend yield (current income) and expected growth in dividends (future income).

Q. Please explain how you employ the DCF model.

A. I use the constant growth DCF model. In doing so, I combine the current dividend yield for each of the proxy utility stocks described in the previous section with several indicators of expected dividend growth.

Q. How did you derive the dividend yield component of the DCF equation?

A. Several methods can be used to calculate the dividend yield component. These methods generally differ in the manner in which the dividend rate is employed (i.e., current versus future dividends or annual versus quarterly compounding variant). I used a quarterly version of the dividend yield, which is expressed as follows:

$$Yield = \frac{\mathrm{D_0}(1 + 0.5\mathrm{g})}{\mathrm{P_0}}$$

This dividend yield component recognizes the timing of dividend payments and dividend increases.

The P_0 in my yield calculation is the average of the high and low stock price for each proxy company for the most recent three-month period (March - May 2022). The D_0 is the current annualized dividend rate for each proxy company.

Q. How do you estimate the dividend growth component of the DCF equation?

A. The DCF model's dividend growth rate component is usually the most crucial and controversial element involved in using this methodology. The objective of estimating the dividend growth component is to reflect the growth expected by investors that is embodied in the price (and yield) of a company's stock. As such, it is important to recognize that individual investors have different expectations and consider alternative indicators in deriving their expectations. This is evidenced by the fact that every investment decision resulting in the purchase of a particular stock is matched by another investment decision to sell that stock.

A wide array of indicators exist for estimating investors' growth expectations. As a result, it is evident that investors do not always use one single indicator of growth. It therefore is necessary to consider alternative dividend growth indicators in deriving the growth component of the DCF model. I have considered five indicators of growth in my DCF analyses. These are:

1. Years 2017-2021 (5-year average) earnings retention, or fundamental growth (per Value Line);
2. Five-year average of historic growth in earnings per share (EPS), dividends per share (DPS), and book value per share (BVPS) (per Value Line);

3. Years 2022, 2023 and 2025-2027 projections of earnings retention growth (per Value Line);
4. Years 2019-2021 to 2025-2027 projections of EPS, DPS, and BVPS (per Value Line); and
5. Five-year "consensus" projections of EPS growth (per First Call and Zack's).

I believe this combination of growth indicators is a representative and appropriate set with which to begin the process of estimating investor expectations of dividend growth for the group of proxy companies. I also believe that these growth indicators reflect the types of information that investors consider in making their investment decisions. As I indicated previously, investors have an array of information available to them, all of which would be expected to have some impact on their decision-making process.

Q. Please describe your DCF calculations.

A. Exh. DCP-9 presents my DCF analysis. Page 1 shows the calculation of the "raw" (i.e., prior to adjustment for growth) dividend yield for each proxy company. Pages 2, 3, and 4 show the respective growth rates for the group of proxy companies. Page 5 shows the DCF calculations, which are presented on several bases: mean, median, low, and high values. These results can be summarized as follows:

	Mean	Median	Mean Low[42]	Mean High[43]	Median Low[44]	Median High[45]
Proxy Group	8.0%	7.8%	7.0%	8.8%	6.9%	8.7%

[42] Using only the lowest average growth rate.
[43] Using only the highest average growth rate.
[44] Using the lowest median growth rate.
[45] Using only the highest median growth rate.

I note that the individual DCF calculations shown in Exh. DCP-9 should not be interpreted to reflect the expected COC for individual companies in the proxy group; rather, the individual values shown should be interpreted as alternative information considered by investors.

Q. What do you conclude from your DCF analyses?

A. The DCF rates resulting from the analysis of the proxy group fall into a wide range, between 6.9 percent and 8.8 percent. The highest DCF rates are 8.7 percent to 8.8 percent.

I believe a range of 8.7 percent to 8.8 percent (8.75 percent mid-point) represents the current DCF-derived ROE for the proxy group. This range includes the highest DCF rates and exceeds the low and mean/median DCF rates. My recommendation focuses on the highest of the DCF results to incorporate my recognition that these results are relatively lower than historic DCF results. As a result, my recommendation should be considered conservative.

Q. Does PSE witness Bulkley also perform DCF analyses?

A. Yes. Witness Bulkley cites DCF results within a broad range of 8.46 percent to 10.15 percent.[46]

Q. What are your disagreements with Witness Bulkley's DCF analyses?

A. Witness Bulkley's constant growth DCF analyses are based on 30-day, 90-day, and 180-

[46] Bulkley, Exh. AEB-1T at 45, Figure 8.

day average stock prices for the periods ending September 30, 2021, annualized dividends per share as of September 30, 2021, and the average of Value Line, Yahoo Finance, and Zack's EPS projections. The DCF analyses are applied to a proxy group of thirteen combination electric/gas utilities.[47]

Witness Bulkley's constant growth DCF analyses are shown on Exh. AEB-4. It is apparent from a review of this exhibit that the "Low DCF ROE" for each proxy company reflects the dividend yield and the lowest of the three growth rates considered. The "Mean DCF ROE" considers the average of all three growth rates and the "High DCF ROE" only considers the highest growth rate for each company. Stated differently, the "High DCF" result considers only the highest of the three growth rates for each individual company and ignores the other two growth rates for that company. Thus, the "Mean High DCF" result for one proxy company may reflect only the Zacks EPS Growth, while the "Mean High DCF" result for another proxy company may reflect only the Value Line growth result.

Q. Is it appropriate to focus on the highest growth rate, on a company-to company basis, to determine the cost of equity for an electric utility such as PSE?

A. No. It is neither realistic nor appropriate to focus on a single growth rate for each proxy company in a DCF context, especially when one "cherry picks" the highest growth rate for each company from among the different growth rate indicators that reflect the highest growth rate for each company.

[47] *Id*. at 42:5-7, 44:2-4.

Q. Why do you believe it is improper to rely exclusively on EPS forecasts in a DCF analysis?

A. There are several reasons why it is not appropriate to rely exclusively on analysts' forecasts in a DCF context. First, it is not realistic to believe that investors rely exclusively on a single factor, such as analysts' EPS forecasts, in making their investment decisions. Investors have an abundance of available information to assist them in evaluating stocks; EPS forecasts are only one of many such statistics.

Second, Value Line – one of Witness Bulkley's sources of EPS projections – publishes both historic and forecasted data, as well as ratios, for a large array of financial indicators for publicly-traded companies. Presumably, all types of information are published for the consideration of its subscribers/investors. Yet Witness Bulkley primarily considers only one factor, the forecast version of EPS, in the analyses.

Third, the vast majority of information available to investors, by both individual companies in the form of annual reports and offering circulars, and by investment publications such as Value Line, is historic data. It is neither realistic nor logical to maintain that investors only consider projected (estimated) data to the exclusion of historic (actual) data.

Fourth, the experience over the past several years should be a clear signal to investors that analysts cannot accurately predict EPS levels. Few, if any, analysts predicted the decline in security prices in the tech market crash of 2000-2002, as well as the financial crisis of 2008 and 2009.[48] Thus, relying exclusively on forecasted EPS

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[48] As demonstration of this, see "Security Analysts and their Recommendations", (http://thismatter.com/money/stocks/valuation/security-analysts.htm).

levels, while ignoring historic EPS levels and other indicators, cannot and will not produce accurate results.

In summary, investors are now very much aware of recent inabilities of security analysts to accurately predict EPS growth. These problems clearly call into question the reliance on analysts' forecasts of EPS as the only source of growth in a DCF context. As a result, the landscape has changed in recent years and investors have ample reasons to doubt the reliability of such forecasts at the present time. In light of the above, it is problematic to rely exclusively on such forecasts in determining the ROE for PSE.

Q. Are you aware of any analyses and comments on the accuracy of analysts' forecasts?

A. Yes, I am. A 2010 study by McKinsey & Company, titled, "Equity Analysts: Still Too Bullish"[49] concludes that "after almost a decade of stricter regulation, analysts' earnings forecasts continue to be excessively optimistic." The significance of this study, as well as the points I raised previously, is that investors should be hesitant to rely exclusively on analysts' forecasts in making investment decisions.

Q. Has the United States Securities and Exchange Commission issued any reports that address the exclusive reliance on analysts' recommendations?

A. Yes. In a 2010 "Investor Alert: Analyzing Analyst Recommendations" the Securities and Exchange Commission (SEC)[50] made the following statement:

[49] McKinsey & Company, McKinsey on Finance "Equity Analysts: Still Too Bullish", No. 35, Spring 2010.
[50] http://www.sec.gov/investor/pubs/Analysts.htm.

> As a general matter, investors should not rely solely on an analyst's recommendation when deciding whether to buy, hold, or sell a stock. Instead, they should also do their own research – such as reading the prospectus for new companies or for public companies, the quarterly and annual reports filed with the SEC – to confirm whether a particular investment is appropriate for them in light of their individual financial circumstances.

This SEC "Investor Alert" also cites the potential conflicts of interest that analysts face. This "Investor Alert" thus also calls into question the exclusive reliance on analysts' forecasts, as proposed by Witness Bulkley.

IX. CAPM ANALYSIS

Q. Please describe the theory and methodological basis of the CAPM.

A. CAPM was developed in the 1960s and 1970s as an extension of modern portfolio theory, which studies the relationships among risk, diversification, and expected returns. The CAPM describes and measures the relationship between a security's investment risk and its market rate of return.

Q. How is the CAPM derived?

A. The general form of the CAPM is:

$$K = R_f + \beta(R_m - R_f)$$

where: K = cost of equity

R_f = risk free rate

R_m = return on market

β = beta

$$R_m - R_f = \text{market risk premium}$$

The CAPM is a variant of the RP method. I believe the CAPM is generally superior to the simple RP method because the CAPM specifically recognizes the risk of a particular company or industry (i.e., beta), whereas the simple RP method assumes the same ROE for all companies exhibiting similar bond ratings or other characteristics.

Q. What do you use for the risk-free rate?

A. The first input of the CAPM is the risk-free rate (R_f). The risk-free rate reflects the level of return that can be achieved without accepting any risk.

In CAPM applications, the risk-free rate is generally recognized by use of U.S. Treasury securities. Two general types of U.S. Treasury securities are often utilized as the R_f component, short-term U.S. Treasury bills and long-term U.S. Treasury bonds.

I have performed CAPM calculations using the three-month average yield (March – May 2022) for 20-year U.S. Treasury bonds. I use the yields on long-term Treasury bonds since this matches the long-term perspective of ROE analyses. Over this three-month period, these bonds had an average yield of 2.92 percent.

Q. What is beta and what betas do you employ in your CAPM?

A. Beta is a measure of the relative volatility (and thus risk) of a particular stock in relation to the overall market. Betas less than 1.0 are considered less risky than the market, whereas betas greater than 1 are riskier. Utility stocks traditionally have had betas below 1. I utilize the most recent Value Line betas for each company in the proxy group.

Q. How do you estimate the market risk premium component?

A. The market risk premium component (R_m-R_f) represents the investor-expected premium of common stocks over the risk-free rate, or long-term government bonds. For estimating the market risk premium, I considered alternative measures of returns of the S&P 500 (a broad-based group of large U.S. companies) and 20-year U.S. Treasury bonds (i.e., same timeframe as employed in SBBI[51] source used to develop risk premiums).

First, I compared the actual annual returns on equity of the S&P 500 with the actual annual income returns of U.S. Treasury bonds. Exh. DCP-10 shows the ROE for the S&P 500 for the period 1978-2021 (all available years reported by S&P). This schedule also indicates the annual yields on 20-year U.S. Treasury bonds and the annual differentials (i.e., risk premiums) between the S&P 500 and U.S. Treasury 20-year bonds. Based upon these returns, I conclude that the risk premium from this analysis is 7.5 percent.

I next considered the total returns (i.e., dividends/interest plus capital gains/losses) for the S&P 500 group as well as for long-term government bonds, as tabulated by SBBI, using both arithmetic and geometric means. I considered the total returns for the entire 1926-2021 period reported by this source, which are as follows:

	S&P 500	L-T Gov't Bonds	Risk Premium
Arithmetic	12.3%	6.0%	6.3%
Geometric	10.5%	5.5%	5.0%

I conclude from this analysis that the expected risk premium is about 6.3 percent (i.e., average of all three risk premiums: 7.5 percent from Exh. DCP-10; 6.3 percent arithmetic

[51] "U.S. Capital Markets Performance by Asset Class 1926-2021, 2022 SBBI Yearbook, Stocks, Bonds, Bills and Inflation", published by Kroll (formerly Duff & Phelps, Morningstar, and Ibbotson Associates).

and 5.0 percent geometric from SBBI). I believe that a combination of arithmetic and geometric means is appropriate since investors have access to both types of means[52] and presumably, both types are reflected in investment decisions and thus, stock prices and the ROE.

Q. What are your CAPM results?

A. Exh. DCP-11 shows my CAPM calculations. The results are:

	Mean	Median
Proxy Group	8.7%	8.7%

Q. What is your conclusion concerning the CAPM ROE?

A. The CAPM results collectively indicate a ROE of 8.7 percent for the group of proxy utilities. I conclude that an appropriate CAPM ROE estimation for PSE is 8.7 percent.

Q. Are you proposing that these CAPM conclusions be given consideration in your ROE recommendations in this proceeding?

A. Yes, I am. Over the past few years, I have not given the CAPM results weight in my final ROE recommendations, including PSE's last rate proceeding.[53] As I have noted, recent U.S. Treasury bond yields have been heavily impacted by Federal Reserve monetary policies designed to stimulate the economy from the implications of the Great Recession and the COVID-19 pandemic.[54] In recent months, the Federal Reserve has somewhat

[52] For example, Value Line uses compound (i.e., geometric) growth rates in its projection. In addition, mutual funds report growth rates on a compound basis.
[53] See, e.g., UE-190529 & UG-190530, Parcell, Exh. DCP-1T at 39.
[54] *Id*.

reversed this monetary policy strategy, partly in response to the increase in inflation rates,[55] such that yields on U.S. Treasury bonds now more accurately reflect the "market" cost of federal debt. As a result, I now believe that CAPM ROE results should receive weight in the ROE determination for utilities, including PSE.

Q. How do your CAPM results compare to the CAPM results of Witness Bulkley?

A. Witness Bulkley's testimony reaches CAPM conclusions of 9.55 percent to 13.25 percent.[56] These greatly exceed the CAPM results my testimony supports.

Q. Do you have any comments concerning Witness Bulkley's CAPM analyses?

A. Yes, I do. I primarily disagree with Witness Bulkley's risk premium estimates. I also agree with Witness Bulkley's use of the "empirical" CAPM (ECAPM).

Q. What are your concerns with Witness Bulkley's market risk premium component?

A. Witness Bulkley computes a set of market risk premiums (e.g., 11.00 percent using "current" risk-free rate) by calculating a constant growth DCF for the S&P 500 companies (using EPS forecasts as the growth component) of 12.97 percent and comparing this to three sets of yields on 30-year U.S. Treasury securities.[57] I have previously indicated that the similar DCF methodology overstates the COC. In addition, use of U.S. Treasury securities as the baseline for the market risk premium is improper due to the effects of the Federal Reserve's policies and the related impact on U.S.

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[55] Due, in part, to "transition" impacts from COVOD-19 shut-down, "supply-chain" effects, and the impact of the Russia-Ukraine conflict.
[56] Bulkley, Exh. AEB-1T at 51, Figure 10.
[57] Bulkley, Exh. AEB-5.

Treasury yields. As I note elsewhere in my testimony, the recent yields on U.S. Treasury securities have been impacted by the Federal Reserve monetary policies designed to offset the impacts of the Great Recession and the COVID-19 pandemic. As a result, these yields should not be used to develop a risk premium and doing so results in inflated risk premiums. This is further reflected in the market risk premium results (e.g., 11.001 percent) which are well above the historic levels of risk premiums between the 1926-2021 returns on the S&P 500 and long-term U.S. Treasury bonds, as I described above.

Q. Why is it improper to use an ECAPM for public utilities?

A. The ECAPM is improper to use for PSE because it "adjusts" each proxy company's actual beta by assigning only 75 percent weight to the actual beta and "assumes" a beta of 1.0 with the remaining 25 percent weight. As a result, the ECAPM does not use the actual betas of the proxy companies, but rather calculates hypothetical betas that are upward biased due to the fact that electric utility betas are below 1.0. In contrast, the traditional CAPM directly recognizes and quantifies the risk of individual companies through the use of the beta coefficient. As such, each proxy company's risk and beta are identified and used in the calculation of its CAPM ROE.

X. CE ANALYSIS

Q. Please describe the basis of the CE methodology.

A. The CE method is derived from the "corresponding risk" concept discussed in the *Bluefield* and *Hope* cases. This method is thus based upon the economic concept of opportunity cost. As previously noted, the ROE is an opportunity cost: the prospective return available to investors from alternative investments of similar risk.

The CE method is designed to measure the returns expected to be earned on the original cost book value of similar risk enterprises. Thus, it provides a direct measure of the fair return since it translates into practice the competitive principle upon which regulation rests.

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, which uses a utility's book common equity to determine the COC. This COC 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.

Q. How do you apply the CE methodology in your analysis of PSE's ROE?

A. I apply the CE methodology by examining realized ROEs for the group of proxy utilities, as well as unregulated companies. My CE analysis also uses prospective ROEs and thus is not backward looking. I evaluate 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 ROE 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 ROE 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.

I further note that my CE analysis is based upon market data (through the use of M/Bs) and is thus essentially a market test. Given that public utilities have their rates set based upon the book value of their assets (i.e., rate base) and capital structure (i.e., COC), when a utility's stock price exceeds its book value (i.e., M/B greater than 1) this indicates that investors consider its current and prospective earnings as adequate. As a result, my CE analysis is not subject to the criticisms occasionally made by some who maintain that past earned returns do not represent the COC.

Q. What time periods do you examine in your CE analysis?

A. My CE analysis considers the experienced ROEs and M/Bs of the proxy group of utilities for the period 2002-2021 (i.e., the last 20 years). The CE analysis requires that I examine a relatively long period of time in order to determine trends in earnings over at least a full business cycle. Further, in estimating a fair level of return for a future period, it is important to examine earnings over a diverse period of time in order to avoid any undue influence from unusual or abnormal conditions that may occur in a single year or shorter period. Therefore, in forming my judgment of the current cost of equity, I focused on two historic periods: 2009-2020 (the most recent business cycle) and 2002-2008 (the prior business cycle). I have also considered ROEs for 2021 and projected ROEs for 2022, 2023 and 2025-2027 (the current business cycle).

Q. Please describe your CE analysis.

A. Exh. DCP-12 and Exh. DCP-13 contain summaries of experienced ROEs and M/Bs for the group of proxy companies as well as unregulated entities, while Exh. DCP-14 presents a risk comparison of utilities versus unregulated firms.

Exh. DCP-12 shows the ROEs and M/Bs for the group of proxy utilities. These can be summarized as follows:

	Proxy Group
Historic Periods ROE	
Mean	9.0-9.2%
Median	9.1-9.5%
Historic M/B	
Mean	150-159%
Median	145-153%
Current Period ROE	
Mean	9.4-10.2%
Median	9.0

These results indicate that historic ROEs of 9.0 percent to 9.5 percent have been adequate to produce M/Bs of 145 percent to 159 percent for the proxy group of utilities. Furthermore, current period ROEs (including estimates for future years) for 2021, 2022, 2023, and 2025-2027 are within a range of 9.0 percent to 10.2 percent for the proxy group, with the projected years showing ROEs in the lower portion of this range. These relate to 2021 M/Bs of 150 percent or greater.

Q. Do you also review the earnings of unregulated firms?

A. Yes. As an alternative, I also examine the S&P 500. This is a well-recognized group of firms that is widely utilized in the investment community and is indicative of the competitive sector of the economy. Exh. DCP-13 presents the earned ROEs and M/Bs for the S&P 500 over the past twenty years (i.e., 2002-2021). As this schedule indicates, over the two business cycle periods, this group's average ROEs ranged from 12.4 percent to 14.0 percent, with average M/Bs ranging between 275 percent and 279 percent.

Q. How can the above information be used to estimate PSE's ROE?

A. The recent ROEs of the proxy utilities and S&P 500 can be viewed as an indication of the level of return realized and expected in the regulated and competitive sectors of the economy. In order to apply these returns to the ROE for the proxy utilities, however, it is necessary to compare the risk levels of the utilities and the competitive companies. I do this in Exh. DCP-14, which compares several risk indicators for the S&P 500 and the utility group. The information in this exhibit indicates that the S&P 500 is riskier than the proxy group.

Q. What ROE is indicated by your CE analysis?

A. Based on recent ROEs and M/Bs, my CE analysis indicates that the ROE for the proxy utilities is no more than 9.0 percent to 10.0 percent (9.5 percent mid-point). Recent ROEs of 9.0 percent to 9.5 percent have resulted in M/Bs of 145 percent and over. Current and prospective ROEs of 9.0 percent to 10.2 percent have been accompanied by M/Bs over 150 percent. As a result, it is apparent that authorized returns below this level would continue to result in M/Bs of well above 100 percent. As I indicated earlier, the fact that M/Bs substantially exceed 100 percent indicates that historic and prospective ROEs of 9.5 percent reflect earning levels that are well above the actual cost of equity for those regulated companies. I also note that a company whose stock sells above book value can attract capital in a way that enhances the book value of existing stockholders, thus creating a favorable environment for financial integrity. Finally, I note that my 9.0 percent to 10.0 percent CE recommendation generally reflects the actual and prospective ROEs for my proxy group. I have made no adjustments to these return levels to reflect the high M/Bs.

Q. Please now turn to Witness Bulkley's Expected Earnings Approach, and summarize the use of this methodology and conclusions.

A. Witness Bulkley's Expected Earnings Approach is a form of the comparable earnings methodology. Witness Bulkley has tabulated Value Line's "expected" return on equity for the proxy group of companies, which is adjusted for a return on average equity (as opposed to Value Line's reporting on year-end equity).

Witness Bulkley's tabulation shows an "Adjusted Return on Common Equity" average of 11.19 percent to 11.25 percent.[58]

Q. Do you have any criticisms of Witness Bulkley's Expected Earnings Approach and related conclusions?

A. Yes. It is inappropriate to focus only on expected ROE without any reference to how such returns are accepted by investors. A more appropriate analysis of expected returns on equity is done in conjunction with M/Bs. I reviewed Witness Bulkley's Expected Earnings Approach by evaluating the investor acceptance of these cited ROEs by reference to the corresponding M/Bs. In this manner, it is possible to assess the degree to

[58] Bulkley, Exh. AEB-1T at 58:2-4.

which a given level of ROE equates to the COC, as I describe previously. Book value is a relevant concept for regulated utilities due to the use of rate-of-return rate-base regulation, which employs book value for both rate base and capital structure. Investors know that utility rates are established based, in part, on book values. Exh. DCP-13 on page 2 shows the 2021 M/Bs of the proxy companies. These are above 150 percent, which indicates that the ROEs are expected to exceed the COC.

Third, it is evident that the expected ROEs for the proxy companies, which are mostly holding companies, are substantially higher than the authorized ROEs for electric utilities.

Witness Bulkley's "Expected Earnings Approach" is thus shown to also overstate the ROE for electric utilities. Witness Bulkley's use of expected ROEs for the proxy companies, without reference or corroboration with either M/Bs or the levels of authorized ROEs, does not provide useful information concerning the ROE for PSE.

XI. RISK PREMIUM ANALYSIS

Q. What are your responses to Witness Bulkley's bond yield plus risk premium analysis?

A. Witness Bulkley's risk premium approach compares the allowed ROEs for electric utilities and 30-Year U.S. Government Bond yields over the period 1992 to October 2021. Witness Bulkley then applies a regression result to various projected levels of 30-

year U.S. Treasury Bonds and correspondingly arrives at a 9.73 percent to 10.13 percent conclusion.[59]

Witness Bulkley's bond yield plus risk premium analysis suffers from the same deficiencies as Witness Bulkley's market risk premium and CAPM analyses. In addition, the use of U.S. Treasury 30-year bond yields to calculate a risk premium, which have recently been impacted by the Federal Reserve policies associated with the Great Recession and COVID-19 recession. The inflates the risk premium conclusions, as noted previously.

In addition, it is not proper to compare utility authorized ROEs in the 1990's with the current time. Current utility rate structures and ROEs reflect a suite of favorable regulatory mechanisms that greatly enhance utilities' ability to recover costs, which are risk-reducing and thus warrants lower required ROEs.[60] Many of these regulatory frameworks were not available in the 1990s, or even the 2000's.

Q. Have you performed an independent RP analysis in order to avoid the deficiencies in Witness Bulkley's RP analyses?

A. Yes, I have. As noted above, Witness Bulkley's RP analyses consider the authorized ROEs of electric utilities dating back to 1992. As I have indicated in my testimony, this period has experienced significant declines in interest rates, which is another component of this RP analysis. Witness Bulkley attempts to "correct" for changes in interest rates by performing a regression analysis that considers only the perceived relationship between

[59] Bulkley, Exh. 1-T at 55:1-8.
[60] See, e.g., Moody's Investors Service, Sector Comments, "US Utility Sector Upgrades Driven by Stable and Transparent Regulatory Frameworks", February 3, 2014.

authorized ROEs, interest rates, and the resulting period RPs. Such an analysis does not recognize any other changes in RPs, such as increased use of regulatory mechanisms (i.e., decoupling, cost recovery mechanisms, etc.). As a result, the regression analysis does not properly capture the current relationship between authorized ROEs and interest rates, as demonstrated above by the fact that the regression-suggested RP and resulting ROEs is not consistent with the recent level of authorized ROEs.

I have accordingly performed a RP analysis that focuses on the most recent ten-year period of authorized ROEs and single-A and triple-B (i.e., PSE's rating categories) utility bond yields. My analysis, by focusing on the current time period, as well as using the yields on public utility bonds, is not subject to the deficiencies in Witness Bulkley's RP analyses.

Q. Please describe your RP analysis.

A. I have compared the levels of single-A and triple-B utility bond yields with the authorized ROEs of electric utilities that were decided in the period 2012 through 2021. I focus on the period since 2012 since the prevailing interest rates on single-A and triple-B bonds was approximately 4 percent during most of this period, or similar to the current level of interest rates. I show two sets of periods: the period 2012-2019 (when average single-A and triple-B utility interest rates were approximately 4 percent), and 2012-2021 (which adds the two most recent years to the earlier period). I note that the inclusion of 2020 and 2021 risk premiums are impacted by the COVID-19 pandemic and are not consistent with the 2012-2019 years. These are shown on Exh. DCP-15.

Also shown in Exh. DCP-15 are the levels of single-A and triple-B utility bonds, with corresponding "lags" between the level of interest rates and the respective commission decisions. Exh. DCP-15 shows a range with no lags and lags of 3 months, 6 months, 9 months, and 12 months.

The purpose of showing the lags is to recognize that authorized ROEs often reflect test period and/or hearing period financial conditions that are not simultaneous with the date of the respective commission's final decision establishing the authorized ROEs.

The data in Exh. DCP-15 shows the annual average authorized ROEs for electric utilities, along with several lagged interest rates, as well as the resulting RPs associated with the first two sets of figures.

Q. What are the results of your calculations?

A. As shown on Exh. DCP-15, the annual and 8-year and 10-year RPs are as follows:

Year	Avg ROE	A-Rated Risk Premiums	Baa-Rated Risk Premiums
2012	10.02%	4.98-5.89%	4.45-5.17%
2013	9.82%	5.34-5.74%	4.84-5.12%
2014	9.76%	5.17-5.48%	4.69-4.96%
2015	9.60%	5.32-5.60%	4.57-4.95%
2016	9.60%	5.36-5.67%	4.36-4.92%
2017	9.68%	5.63-5.75%	5.00-5.30%
2018	9.56%	5.31-5.60%	4.89-5.24%
2019	9.65%	5.34-5.88%	4.88-5.46%
2020	9.39%	5.62-6.07%	5.20-6.00%
2021	9.39%	6.28-6.41%	6.00-6.09%
2012-2021 Avg.	9.65%	5.54-5.73%	4.98-5.20%
2012-2019 Avg.	9.71%	5.43-5.59%	4.84-5.01%

I conclude that a reasonable risk premium for electric utilities is a range of 5.4 percent to 5.6 percent over the prevailing level of single-A utility bond yields. For the triple-B bond yields, the range is 4.8 percent to 5.0 percent. These ranges include the respective ranges for the 2012–2019 period, which is the appropriate time period in terms of matching the level of interest rates to those prevailing at the present time (i.e., utility single-A and triple-B rated bond yields in 4 percent range).

Q. What is the appropriate RP ROE at the present time?

A. I focus on the level of single-A bond and triple-B yields over the most recent three-month period, as I did for dividend yields in my DCF analyses and risk-free rate in my CAPM analyses. As is shown on Exh. DCP-4, over the three-month period March through May of 2022, the average yield of single-A utility bonds is 4.35 percent, and the average yield of triple-B bonds is 4.65 percent. Combining this 4.35 percent single-A bond yield with a RP range of 5.4 percent to 5.6 percent results in a RP ROE of 9.75 percent to 9.95 percent. Likewise, combining the 4.65 percent triple-B utility bond yield with a RP range of 4.8 percent to 5.0 percent results in a RP ROE of 9.45 percent to 9.65 percent. The resulting RP-derived ROE is currently a range of 9.45 percent to 9.95 percent.

I conclude from this that the proper RP derived ROE for PSE is within a range of 9.45 percent to 9.95 percent, with a mid-point of 9.7 percent.

XII. RETURN ON EQUITY RECOMMENDATION

Q. Please summarize the results of your four ROE analyses.

A. My four ROE analyses produced the following results:

	Mid-Point	Range
DCF	8.75%	8.7-8.8%
CAPM	8.7%	8.7%
CE	9.5%	9.0-10.0%
RP	9.7%	9.45-9.95%

These results indicate an overall broad range of 8.7 percent to 10.0 percent, which focuses on the respective high and low individual model results. Using mid-point values, the range is 8.7 percent to 9.7 percent. My specific ROE recommendation is 9.25 percent, which gives consideration to the results of each of the four methodologies.[61] I furthermore recommend a "range of reasonableness" of 9.0 percent to 9.5 percent, which gives more consideration to my DCF and CE results, which I have traditionally focused on in my ROE recommendations.[62]

XIII. TOTAL COST OF CAPITAL

Q. What are the total COCs for PSE?

A. Exh. DCP-3 reflects the total COCs for PSE using my proposed capital structures and embedded costs of debt, as well as my ROE recommendations. The resulting COCs are a range of 6.93 percent to 7.17 percent (7.05 percent with 9.25 percent ROE) for the period ending December 31, 2023, a range of 6.95 percent to 7.19 percent (7.07 percent with 9.25 percent ROE) for the period ending December 31, 2024, and a range of 6.98 percent

[61] For example, the mid-point of the 8.7 percent to 10.0 percent broad range is 9.35 percent, the mid-point of the 8.7 percent to 9.7 percent mid-point range is 9.20 percent, and the average of the mid-points is 9.16 percent.
[62] See, e.g., UE-190529/UG-190530; Parcell, Exh. DCP-1T at 38:15-20.

to 7.23 percent (7.10 percent with 9.25 percent ROE) for the period ending December 31, 2025.

XIV. COMMENTS ON COMPANY TESTIMONY

Q. What ROE is PSE requesting in this proceeding?

A. PSE is requesting a 9.90 percent ROE. This 9.90 percent ROE (range of 9.75 percent to 10.50 percent) is sponsored by Witness Bulkley.[63]

Q. What are your disagreements with Witness Bulkley's ROE methodologies and recommendations?

A. Previous sections of my testimony address Witness Bulkley's DCF, CAPM, CE, and RP analyses. As I indicate, each of these methodologies exceeds the actual required ROE for PSE.

Q. On pages 58-87 of Witness Bulkley's testimony, Witness Bulkley cites "several additional business and financial risk factors that must be taken into consideration when determining where PSE's cost of equity falls within the range of results produced by the proxy group."[64] Do you have any responses to this assertion?

A. Yes, I do. Witness Bulkley contends that several "factors" create more risk for PSE relative to Witness Bulkley's proxy utilities. These include:

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[63] Bulkley, Exh. AEB-1T at 3:19-21, 4:1-5.
[64] *Id.* at 58:16-19.

1) Capital Expenditures;

2) Regulatory Risk; and,

3) Washington Clean Energy Transformation Act (CETA).

However, each of these factors is considered by the rating agencies in their assignment of credit ratings to PSE, thus Witness Bulkley's consideration of these factors is redundant. PSE has generally similar credit ratings, reflecting similar risk, compared to the typical electric utility, including Witness Bulkley's proxy group, as is shown on Exh. DCP-8. Stated differently, PSE is perceived to have similar total risks than the typical electric utility, including Witness Bulkley's proxy group, in spite of the existence of Witness Bulkley's risk "factors." The risk "factors" are already "baked into the cake." Consequently, there is no justification for providing PSE a higher return on equity relative to that of other similar electric utilities.

Q. Do you have any additional comments about PSE's COC requests in these proceedings?

A. Yes, I do. This case represents PSE's initial rate case requests under the new Washington legislation, which permits the Company to file MYRPs and have access to PBR incentives. As I have noted in my testimony, these factors have the effect of reducing the risks of PSE and thus its required ROE. In contrast, PSE has taken the opposite direction and has requested both a higher ROE and a higher common equity ratio in relation to what is currently authorized for the Company. PSE's most recently authorized ROE in Washington is 9.40 percent and its most recently authorized common equity ratio is 48.5

percent.[65] In contrast, PSE is requesting that its ROE be increased from 9.4 percent to 9.9 percent and is requesting that its common equity ratio be increase from 48.5 percent to 49.0 percent (2023), 49.5 percent (2024), and 50.0 percent (2025). I note that PSE has had an authorized ROE of 9.4 percent since 2020[66] and an authorized common equity ratio of 48.5 percent since 2017.[67] PSE's requests thus are inconsistent with the reduced risk associated with the MYRP and PBR regulatory mechanisms that are being implemented in these proceedings.

Q. Does this conclude your testimony?

A. Yes, it does.

[65] *Wash. Utils. & Transp. Comm'n v. Puget Sound Energy*, Dockets UE-190529 & UG-190530, Order 08, 13, ¶ 28, 200 ¶ 737 (Jul. 8, 2020).
[66] *Id*.
[67] Docket UE-170033 & UG-170034. See Parcell, Exh. DCP-19 at 1.