

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

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	RECOMMENDATIONS AND SUMMARY	2
III.	ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES.....	5
IV.	GENERAL ECONOMIC CONDITIONS	8
V.	PUGET SOUND ENERGY’S OPERATIONS AND RISKS	16
VI.	CAPITAL STRUCTURES, COSTS OF DEBT	22
VII.	SELECTION OF PROXY GROUP.....	29
VIII.	DISCOUNTED CASH FLOW (DCF) ANALYSIS.....	30
IX.	CAPITAL ASSET PRICING MODEL (CAPM) ANALYSIS	38
X.	COMPARABLE EARNINGS (CE) ANALYSIS	43
XI.	RISK PREMIUM (RP) ANALYSIS	49
XII.	RETURN ON EQUITY RECOMMENDATION	53
XIII.	TOTAL COST OF CAPITAL RECOMMENDATIONS.....	54
XIV.	COMMENTS ON COMPANY TESTIMONY	55

LIST OF EXHIBITS

Exh. DCP-2	Background and Experience Profile
Exh. DCP-3	PSE Total Costs of Capital
Exh. DCP-4	Economic Indicators
Exh. DCP-5	PSE History of Credit Ratings
Exh. DCP-6	PSE Capital Structure Ratios
Exh. DCP-7	Proxy Companies - Average Common Equity Ratios
Exh. DCP-8	Proxy Companies - Basis for Selection
Exh. DCP-9	Proxy Companies - DCF Cost Rates
Exh. DCP-10	Standard & Poor's 500 ROE and 20-Year Treasury Bond Returns
Exh. DCP-11	Proxy Companies - CAPM Cost Rates
Exh. DCP-12	Proxy Companies - ROE and M/B
Exh. DCP-13	Standard & Poor's 500 ROE and M/B
Exh. DCP-14	Risk Indicators
Exh. DCP-15	Risk Premium Analysis
Exh. DCP-16	PSE response to UTC Staff Data Request No. 8
Exh. DCP-17	PSE response to UTC Staff Data Request No. 2
Exh. DCP-18	PSE response to UTC Staff Data Request No. 18
Exh. DCP-19	PSE response to UTC Staff Data Request No. 16

I. INTRODUCTION

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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

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

3

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

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

12

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

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

18

19 **II. RECOMMENDATIONS AND SUMMARY**

20

21 **Q. What are your COC recommendations in this proceeding?**

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

Item	Percent	Cost	Weighted Cost ¹
<u>December 31, 2023</u>			
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%
<u>December 31, 2024</u>			
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%
<u>December 31, 2025</u>			
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
<u>December 31, 2023</u>			
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%
<u>December 31, 2024</u>			
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%
<u>December 31, 2025</u>			
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-ICT at 22, Table 7; 24, Table 8; and 26-27, Table 9.

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

3 A. The first major difference between my COC analyses and those of PSE is the appropriate
4 capital structure to be used in calculating the COC for each year of the MYRP. PSE
5 proposes use of a set of capital structures incorporating 49.0 percent common equity in
6 2023, 49.5 percent equity in 2024, and 50.0 percent equity in 2025.³ These differ from the
7 capital structures the Commission approved in the recent proceedings of PSE, where the
8 Commission has consistently adopted a capital structure with 48.5 percent common
9 equity and 51.5 percent debt.⁴ I use the 48.5 percent common equity ratio from the
10 previously-adopted capital structures, which I believe remains the proper capital structure
11 for the Company. I also use a set of capital structures for each year of the MYRP, with
12 each year's capital structure containing 48.5 percent common equity.

13 The second major difference between my COC analyses and those of PSE lies in
14 our respective recommendations on the return on equity (ROE) for PSE. I recommend a
15 9.25 percent ROE while PSE requests a 9.90 percent ROE.⁵ I employ four recognized
16 methodologies to estimate PSE's ROE, each of which I apply to a proxy group of electric
17 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.

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

8
9 **III. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES**

10
11 **Q. What are the primary economic and legal principles that establish the standards for**
12 **determining a fair rate of return for a regulated utility?**

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

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

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

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

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

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

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

1 to profits such as are realized or anticipated in highly profitable enterprises
2 or speculative ventures. The return should be reasonably sufficient to
3 assure confidence in the financial soundness of the utility, and should be
4 adequate, under efficient and economical management, to maintain and
5 support its credit and enable it to raise the money necessary for the proper
6 discharge of its public duties. A rate of return may be reasonable at one
7 time, and become too high or too low by changes affecting opportunities
8 for investment, the money market, and business conditions generally.⁶
9

10
11 It is generally understood that the *Bluefield* decision established the following
12 parameters for a fair rate of return: comparable earnings, financial integrity, and capital
13 attraction. The opinion also notes that required returns change over time, and that there is
14 an underlying assumption that the utility be operated efficiently.

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

17 The rate-making process under the [Natural Gas] Act, i.e., the fixing of
18 'just and reasonable' rates, involves a balancing of the investor and
19 consumer interests . . . From the investor or company point of view it is
20 important that there be enough revenue not only for operating expenses
21 but also for the capital costs of the business. These include service on the
22 debt and dividends on the stock. By this standard the return to the equity
23 owner should be commensurate with returns on investments in other
24 enterprises having corresponding risks. That return, moreover, should be
25 sufficient to assure confidence in the financial integrity of the enterprise,
26 so as to maintain its credit and to attract capital.⁷
27

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

⁶ *Bluefield*, 262 U.S. at 692.

⁷ *Hope*, 320 U.S. at 603.

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

4
5 **Q. How can the *Bluefield* and *Hope* parameters be employed to estimate the cost of**
6 **capital for a utility?**

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

14
15 **IV. GENERAL ECONOMIC CONDITIONS**

16
17 **Q. Are economic and financial conditions important in determining the COC for a**
18 **public utility?**

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

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

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

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

8

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

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

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

⁸ *Bluefield*, 262 U.S. at 693.

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

3
4 **Q. Please describe the time frames of the five prior business cycles and the beginning of**
5 **the current cycle.**

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

7	Business Cycle	Expansion Period	Contraction Period
8	1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
9	1982-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991
10	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 -	

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

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

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

18
19 **Q. Do you have any general observations concerning the recent trends in economic**
20 **conditions and their impact on capital costs over this broad period?**

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

⁹ Available at: <http://www.nber.org/cycles/cyclesmain.html>.

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

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

Cycle ¹⁰	No. of Months		Real GDP	CPI	A-Rated Utilities
	Exp.	Rec.	Growth		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%

9

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

Year	Authorized Returns on Equity ¹¹			
	Electric		Natural Gas	
	Average	Median	Average	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.

1	2015	9.60%	9.53%	9.60%	9.68%
	2016	9.60%	9.60%	9.53%	9.50%
2	2017	9.68%	9.60%	9.73%	9.60%
	2018	9.56%	9.58%	9.59%	9.60%
3	2019	9.65%	9.65%	9.72%	9.72%
	2020	9.39%	9.45%	9.46%	9.42%
4	2021	9.39%	9.39%	9.56%	9.60%

5
6 **Q. Please describe the two most recent business cycles and their impact on the COC for**
7 **utilities and other enterprises.**

8 A. Since 2008, there have been two significant economic events which have impacted
9 capital costs. First, in 2008 and 2009 the U.S. economy declined significantly, initially as
10 a result of the 2007 collapse of the “sub-prime” mortgage market and the related liquidity
11 crisis in the financial sector of the economy and followed by a significant decline in most
12 sectors of the U.S. and global economies. This decline has been described as the worst
13 financial crisis since the Great Depression of the 1930s and has been referred to as the
14 “Great Recession.” This was both a substantial (in terms of GDP decline) and longer-
15 lasting recession that resulted in unprecedented Federal Reserve System (Federal
16 Reserve) and other governmental actions to stimulate the economy. These actions
17 included the Federal Reserve’s maintenance of the “Fed Funds Rate” at a near-zero level
18 and the purchase of longer-term U.S. Treasury securities¹² in an effort to stimulate the
19 economy through increasing the money supply and lowering interest rates on federal
20 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>.

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

18
19 **Q. Are there any unique aspects of the COVID-19 recession and the subsequent**
20 **recovery and aftermath?**

21 A. Yes, there are several unique aspects of this recession. First, as noted, this was the
22 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>.

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

16 In spite of all these factors, interest rates, while experiencing recent increases,
17 have remained relatively low by historical standards and stock prices reached record
18 levels (prior to the recent declines). These are indicative of a continuing low COC for
19 utilities and other enterprises. I note that PSE's costs of long-term debt have declined in
20 recent years, as its weighted cost of debt has declined from 5.57 percent in 2021¹⁷ 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).

1 percent in 2022.¹⁸ On a longer-term basis, PSE's cost of long-term debt has declined from
2 6.59 percent in 2010 to 5.21 percent in 2021 and is expected to decline further to 5.08
3 percent in 2025.¹⁹

4
5 **Q. What conclusions do you draw from your discussion of economic and financial**
6 **conditions?**

7 A. Recent economic and financial circumstances have differed from any that have prevailed
8 since at least the 1930s. Concurrent with the Great Recession, there was a decline in
9 capital costs and returns which significantly reduced the values of most retirement
10 accounts, investment portfolios, and other assets. One significant aspect of this is a
11 decline in investor expectations of returns even with the return of stock prices to levels
12 achieved prior to the 2008 "crash." The COVID-19 recession and its recovery have seen
13 a continuation of these lower COCs. Specifically, authorized utility ROEs and utility
14 bond interest rates (even reflecting some recent increases) are still at levels well below
15 those prevailing prior to the financial crisis of late 2008 to early 2009 and remain near the
16 lowest levels over most of the past 45 years.

17
18 **Q. How do these economic/financial conditions impact the determination of a ROE for**
19 **regulated utilities?**

20 A. The COC for regulated utilities (including PSE) have declined in recent years. In
21 addition, the results of the traditional ROE models (i.e., DCF, CAPM, CE and RP) are
22 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.

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

3
4 **Q. Do current capital market conditions reflect the impact of recent increases in the
5 rate of inflation and certain interest rates?**

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

14
15 **V. PUGET SOUND ENERGY'S OPERATIONS AND RISKS**

16
17 **Q. Please summarize PSE and its operations.**

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

21

²⁰ This is known as the Efficient Market Hypothesis.

²¹ Available at <https://www.pse.com/about-us>.

1 **Q. Please describe PSE's ownership structure.**

2 A. PSE is a subsidiary of Puget Energy, Inc. (PH), which was formed in 1997 by the merger
3 of Puget Sound Power and Light Company and Washington Energy Company (parent of
4 Washington Natural Gas Co.). PH existed as a publicly-traded entity until 2009, when it
5 was acquired by a group of private investors²² in a leveraged private equity buyout. PH is
6 now a Washington-based holding company whose operations are conducted through PSE.

7
8 **Q. What are the current security ratings of PSE?**

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

10

	<u>Secured</u>	<u>Corp./Issuer</u>
11 Moody's	A2	Baa1
12 Standard & Poor's	A-	BBB

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

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

16
17 **Q. How do the bond ratings of PSE compare to other electric and combination
18 gas/electric utilities?**

19 A. PSE's ratings are generally similar to most electric utilities in the U.S. This is evidenced
20 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 Parcel, Exh. DCP-16 at 1, Attachment A.

1 8 and which indicates that PSE’s ratings are generally similar to those of the group of
2 proxy electric utilities used to develop the ROE recommendations in my testimony.

3
4 **Q. Please briefly describe the “recent legislation in Washington” and explain how this**
5 **impacts the risks and costs of capital for PSE and other Washington utilities.**

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

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

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

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

22 On 3 May 2021, Washington State Governor Jay Inslee signed into law a
23 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.”

1 utilities in the state by paving the way for multi-year rate plans (MYRP)
2 and performance based ratemaking (PBR). The bill could enhance the
3 consistency and predictability of utility regulation and provides credit
4 positive opportunities for Washington’s utilities, including Puget Energy
5 Inc’s (Puget, Baa3, stable) primary subsidiary Puget Sound Energy, Inc.
6 (PSE, Baa1, stable) and Avista Corp. (Avista, Baa2, stable), to reduce
7 regulatory lag and earn returns closer to their authorized returns on equity
8 (ROE). However, improved regulatory and financial outcomes for these
9 utilities remain subject to the bill’s implementation by the Washington
10 Utilities and Transportation Commission (WUTC), the state’s utility
11 regulator.
12

13 The bill requires the WUTC to develop, in collaboration with utilities and
14 other interested stakeholders, a policy statement on alternatives to
15 traditional cost of service rate making, including performance measures,
16 incentives, and penalty mechanisms. The WUTC must provide an update
17 to the relevant legislative committees by 1 January 2022.
18

19 Importantly, beginning 1 January 2022, utilities are required to include a
20 proposal for a MYRP between two and four years in length in every
21 general rate case filing. The bill allows for property that is deemed used
22 and useful as of the rate effective date of the first year of a MYRP to be
23 included in rate base, with the remainder of the rate plan based on
24 forecasted information. This would be a material improvement over the
25 historical test year currently used by utilities in rate cases and help reduce
26 regulatory lag, a credit positive. The terms approved by the WUTC for
27 the first two years of a MYRP are binding, but utilities must update power
28 costs at the beginning of the third year and may file a new multi-year rate
29 plan for the third and fourth rate year, if applicable. In addition, if a utility
30 earns a rate of return 50 basis points higher than authorized, excess
31 revenues must be deferred for customer refund or other uses as determined
32 by the WUTC in a subsequent proceeding.
33

34
35

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

1 efficiency and enhance cash flow and profitability, all while considering
2 customer cost and service.²⁴
3

4 It is apparent from these statements that Moody's considers the recent regulatory
5 mechanisms to be credit supportive, and therefore risk reducing for Washington electric
6 and natural gas utilities.
7

8 **Q. Have Moody's and S&P commented specifically on PSE's expected impact from SB**
9 **5295?**

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

11 The more recently passed SB 5295 (enacted on 3 May 2021) followed the
12 clean energy bill and aims at reforming the regulatory framework for
13 utilities in the state by paving the way for multiyear rate plans (MYRP)
14 and performance based ratemaking (PBR). We view the bill as credit
15 positive as it could enhance the consistency and predictability of utility
16 regulation. Specifically, we view the PBR construct as a credit supportive
17 rate making mechanism because MYRPs with performance targets and the
18 potential to earn performance incentives will work to reduce regulatory
19 lag. It could also aid PSE's renewable transition, improve operational
20 efficiency and enhance cash flow and profitability, all while considering
21 customer cost and service.²⁵
22

23 Moody's also noted:

24
25 Puget Sound Energy, Inc.'s (PSE) credit profile reflects its low risk regulated
26 utility operations with a number of credit supportive cost recovery mechanisms
27 authorized by its primary regulator, the Washington Utilities and Transportation
28 Commission (WUTC).²⁶
29

30 S&P issued similar analyses and statements:
31

32 **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.*

1 **Washington’s SB 5295 includes the mandatory filing of an MYRP that we**
2 **view as credit supportive.** We expect Puget will file its first MYRP in January
3 2022, with new rates effective the following year. Under the new legislation,
4 utilities must file an MYRP between two and four years long. We expect the
5 commission will approve the MYRPs, reducing regulatory lag and cash flow
6 volatility. Furthermore, power costs are trued-up after the second year, improving
7 cash flow predictability. We believe Washington’s new law, predicated on the
8 commission implementing it in a credit supportive way, could improve the
9 regulatory environment.²⁷

10
11 It is correspondingly clear that Moody’s and S&P regard the recent legislation as risk-
12 reducing to PSE.

13
14 **Q. What is the significance of this legislation as it impacts PSE and its ROE in this**
15 **proceeding?**

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

22
23 **Q. How do you propose that PSE’s ratepayers be compensated for this risk transfer?**

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

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.

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

8
9 **VI. CAPITAL STRUCTURES AND COSTS OF DEBT**

10
11 **Q. What is the importance of determining a proper capital structure in a regulatory**
12 **framework?**

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

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

1 values of the capital structure and the rate base are approximately equal, and the former is
2 utilized to finance the latter.

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

8
9 **Q. What are the historic capital structure ratios of PSE?**

10 A. I have examined the historic (2017-2021) capital structure ratios of PSE, which is shown
11 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%

16
17 This indicates that PSE and PH have had equity ratios that have generally been
18 stable over the past five years. In addition, it is apparent that the equity ratios of PSE (on
19 a consolidated basis) are slightly lower than PSE (on a “regulated utility” basis). Finally,
20 it is apparent that the equity ratios of PH (consolidated) are significantly lower than those
21 of PSE.

22
²⁸ The “regulated utility” capital structure of PSE excludes investments in non-utility operations.

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

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

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

8
9 The equity ratios for the proxy group are slightly higher than those of PSE (excluding
10 short-term debt).

11
12 **Q. What have been the average common equity ratios adopted by U.S. State**
13 **Regulatory Commissions in recent years?**

14 A. Over the past several years, the average common equity ratios cited in U.S. state
15 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%

16
17
18
19
20
21 The utility ratios are similar to those of PSE’s common equity ratios. It is
22 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.

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

3
4 **Q. What capital structure has PSE requested in the proceedings?**

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

6

	<u>Dec. 31, 2023</u>	<u>Dec. 31, 2024</u>	<u>Dec. 31, 2025</u>
7 S-T Debt	2.4%	2.4%	1.9%
L-T Debt	48.6%	48.1%	48.1%
8 Common Equity	49.0%	49.5%	50.0%

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

13
14 **Q. What reasons does PSE give to rationalize its request for higher equity ratios than
15 those approved by the Commission in recent years?**

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

22 (1) Implementation of the TCJA;

³⁰ Peterman, Exh. CGP-1CT at 2:4.

³¹ *Id.* at 4:6-22, 5:1-4.

- 1 (2) Current prolonged under-recoveries of investments and costs incurred; and
2 (3) Forecasted cash flow constraints.

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

8
9 **Q. Do you concur with Witness Peterman that these factors justify an increase in PSE’s**
10 **regulatory common equity ratio?**

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

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

³² *Id.* at 4:9-12.

³³ *Id.*

³⁴ Dockets UE-170033 & UG-170034 and UE-190529 & UG-190530.

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

4
5 **Q. What capital structure do you propose to use in these proceedings?**

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

8

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

11

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

14 A. I first note that PSE's actual consolidated capital structure³⁷ as of December 31, 2021,
15 contained 46.9 percent common equity, as shown on Exh. DCP-6, page 2. Thus, my
16 proposed capital structure is similar to the recent actual consolidated capital structure
17 ratios of PSE.

18 Second, Exh. DCP-6 shows that the actual equity ratios of PSE have not increased
19 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.

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

3
4 **Q. What is your understanding of this Commission's recent policy on the proper
5 capital structure to use to determine the COC?**

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

12
13 **Q. Is your recommended capital structure consistent with this policy?**

14 A. Yes. The capital structure that I use is similar to recent actual ratios of PSE, as well as its
15 2021 capital structure, and is consistent with the capital structure of other electric and
16 combination electric/gas utilities. I also believe that the capital structure that I propose
17 provides a "balance of safety and economy" as cited above.

18
19 **Q. What are the cost rates of debt in PSE's applications?**

20 A. PSE proposes the following costs of debt as of December 31, 2023, 2024, and 2025.⁴⁰

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;

- 1 (3) Value Line Safety rank of 1 or 2;
2 (4) S&P and Moody's bond ratings of A or BBB;⁴¹
3 (5) Currently pays dividends; and
4 (6) Not involved in major merger or acquisition.

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

8

9

VIII. DCF ANALYSIS

10

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

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

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

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

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

1
$$K = \frac{D}{P} + g$$

2 where: P = current price

3 D = current dividend rate

4 K = discount rate (cost of capital)

5 g = constant rate of expected growth

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

9

10 **Q. Please explain how you employ the DCF model.**

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

14

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

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

20
$$Yield = \frac{D_0(1 + 0.5g)}{P_0}$$

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

1 The P_0 in my yield calculation is the average of the high and low stock price for
2 each proxy company for the most recent three-month period (March - May 2022). The D_0
3 is the current annualized dividend rate for each proxy company.
4

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

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

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

- 19 1. Years 2017-2021 (5-year average) earnings retention, or fundamental growth
20 (per Value Line);
- 21 2. Five-year average of historic growth in earnings per share (EPS), dividends
22 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:

Proxy Group	Mean	Median	Mean Low ⁴²	Mean High ⁴³	Median Low ⁴⁴	Median High ⁴⁵
	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.

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

5
6 **Q. What do you conclude from your DCF analyses?**

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

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

16

17 **Q. Does PSE witness Bulkley also perform DCF analyses?**

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

20

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

22 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.

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

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

15
16 **Q. Is it appropriate to focus on the highest growth rate, on a company-to company**
17 **basis, to determine the cost of equity for an electric utility such as PSE?**

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

22

⁴⁷ *Id.* at 42:5-7, 44:2-4.

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

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

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

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

18 Fourth, the experience over the past several years should be a clear signal to
19 investors that analysts cannot accurately predict EPS levels. Few, if any, analysts
20 predicted the decline in security prices in the tech market crash of 2000-2002, as well as
21 the financial crisis of 2008 and 2009.⁴⁸ Thus, relying exclusively on forecasted EPS

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

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

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

9
10 **Q. Are you aware of any analyses and comments on the accuracy of analysts'**
11 **forecasts?**

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

17
18 **Q. Has the United States Securities and Exchange Commission issued any reports that**
19 **address the exclusive reliance on analysts' recommendations?**

20 A. Yes. In a 2010 "Investor Alert: Analyzing Analyst Recommendations" the Securities and
21 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>.

1 As a general matter, investors should not rely solely on an analyst's
2 recommendation when deciding whether to buy, hold, or sell a stock.
3 Instead, they should also do their own research – such as reading the
4 prospectus for new companies or for public companies, the quarterly and
5 annual reports filed with the SEC – to confirm whether a particular
6 investment is appropriate for them in light of their individual financial
7 circumstances.
8

9 This SEC “Investor Alert” also cites the potential conflicts of interest that analysts face.

10 This “Investor Alert” thus also calls into question the exclusive reliance on analysts’
11 forecasts, as proposed by Witness Bulkley.

12 13 IX. CAPM ANALYSIS

14
15 **Q. Please describe the theory and methodological basis of the CAPM.**

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

20
21 **Q. How is the CAPM derived?**

22 A. The general form of the CAPM is:

$$23 \quad K = R_f + \beta(R_m - R_f)$$

24 where: K = cost of equity

25 R_f = risk free rate

26 R_m = return on market

27 β = beta

1 $R_m - R_f =$ market risk premium

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

6

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

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

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

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

17

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

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

23

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

2 A. The market risk premium component ($R_m - R_f$) represents the investor-expected premium
3 of common stocks over the risk-free rate, or long-term government bonds. For estimating
4 the market risk premium, I considered alternative measures of returns of the S&P 500 (a
5 broad-based group of large U.S. companies) and 20-year U.S. Treasury bonds (i.e., same
6 timeframe as employed in SBBI⁵¹ source used to develop risk premiums).

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

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

18

	<u>S&P 500</u>	<u>L-T Gov't Bonds</u>	<u>Risk Premium</u>
19 Arithmetic	12.3%	6.0%	6.3%
20 Geometric	10.5%	5.5%	5.0%

21 I conclude from this analysis that the expected risk premium is about 6.3 percent (i.e.,
22 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).

1 and 5.0 percent geometric from SBBI). I believe that a combination of arithmetic and
2 geometric means is appropriate since investors have access to both types of means⁵² and
3 presumably, both types are reflected in investment decisions and thus, stock prices and
4 the ROE.

5
6 **Q. What are your CAPM results?**

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

8

	<u>Mean</u>	<u>Median</u>
9 Proxy Group	8.7%	8.7%

10

11 **Q. What is your conclusion concerning the CAPM ROE?**

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

14
15 **Q. Are you proposing that these CAPM conclusions be given consideration in your
16 ROE recommendations in this proceeding?**

17 A. Yes, I am. Over the past few years, I have not given the CAPM results weight in my final
18 ROE recommendations, including PSE's last rate proceeding.⁵³ As I have noted, recent
19 U.S. Treasury bond yields have been heavily impacted by Federal Reserve monetary
20 policies designed to stimulate the economy from the implications of the Great Recession
21 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.*

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

5
6 **Q. How do your CAPM results compare to the CAPM results of Witness Bulkley?**

7 A. Witness Bulkley’s testimony reaches CAPM conclusions of 9.55 percent to 13.25
8 percent.⁵⁶ These greatly exceed the CAPM results my testimony supports.

9
10 **Q. Do you have any comments concerning Witness Bulkley’s CAPM analyses?**

11 A. Yes, I do. I primarily disagree with Witness Bulkley’s risk premium estimates. I also
12 agree with Witness Bulkley’s use of the “empirical” CAPM (ECAPM).

13
14 **Q. What are your concerns with Witness Bulkley’s market risk premium component?**

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

⁵⁵ Due, in part, to “transition” impacts from COVID-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.

1 Treasury yields. As I note elsewhere in my testimony, the recent yields on U.S. Treasury
2 securities have been impacted by the Federal Reserve monetary policies designed to
3 offset the impacts of the Great Recession and the COVID-19 pandemic. As a result, these
4 yields should not be used to develop a risk premium and doing so results in inflated risk
5 premiums. This is further reflected in the market risk premium results (e.g., 11.001
6 percent) which are well above the historic levels of risk premiums between the 1926-
7 2021 returns on the S&P 500 and long-term U.S. Treasury bonds, as I described above.

8
9 **Q. Why is it improper to use an ECAPM for public utilities?**

10 A. The ECAPM is improper to use for PSE because it “adjusts” each proxy company’s
11 actual beta by assigning only 75 percent weight to the actual beta and “assumes” a beta of
12 1.0 with the remaining 25 percent weight. As a result, the ECAPM does not use the actual
13 betas of the proxy companies, but rather calculates hypothetical betas that are upward
14 biased due to the fact that electric utility betas are below 1.0. In contrast, the traditional
15 CAPM directly recognizes and quantifies the risk of individual companies through the
16 use of the beta coefficient. As such, each proxy company’s risk and beta are identified
17 and used in the calculation of its CAPM ROE.

18
19 **X. CE ANALYSIS**

20
21 **Q. Please describe the basis of the CE methodology.**

22 A. The CE method is derived from the “corresponding risk” concept discussed in the
23 *Bluefield* and *Hope* cases. This method is thus based upon the economic concept of

1 opportunity cost. As previously noted, the ROE is an opportunity cost: the prospective
2 return available to investors from alternative investments of similar risk.

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

7 The CE method normally examines the experienced and/or projected return on
8 book common equity. The logic for examining returns on book equity follows from the
9 use of original cost rate base regulation for public utilities, which uses a utility's book
10 common equity to determine the COC. This COC is, in turn, used as the fair rate of return
11 which is then applied (multiplied) to the book value of rate base to establish the dollar
12 level of capital costs to be recovered by the utility. This technique is thus consistent with
13 the rate base-rate of return methodology used to set utility rates.

14
15 **Q. How do you apply the CE methodology in your analysis of PSE's ROE?**

16 A. I apply the CE methodology by examining realized ROEs for the group of proxy utilities,
17 as well as unregulated companies. My CE analysis also uses prospective ROEs and thus
18 is not backward looking. I evaluate investor acceptance of these returns by reference to
19 the resulting market-to-book ratios (M/Bs). In this manner it is possible to assess the
20 degree to which a given level of ROE equates to the COC. It is generally recognized for
21 utilities that an M/B of greater than one (i.e., 100 percent) reflects a situation where a
22 company is able to attract new equity capital without dilution (i.e., above book value). As
23 a result, one objective of a fair ROE is the maintenance of stock prices at or above book

1 value. There is no regulatory obligation to set rates designed to maintain an M/B
2 significantly above one.

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

10
11 **Q. What time periods do you examine in your CE analysis?**

12 A. My CE analysis considers the experienced ROEs and M/Bs of the proxy group of utilities
13 for the period 2002-2021 (i.e., the last 20 years). The CE analysis requires that I examine
14 a relatively long period of time in order to determine trends in earnings over at least a full
15 business cycle. Further, in estimating a fair level of return for a future period, it is
16 important to examine earnings over a diverse period of time in order to avoid any undue
17 influence from unusual or abnormal conditions that may occur in a single year or shorter
18 period. Therefore, in forming my judgment of the current cost of equity, I focused on two
19 historic periods: 2009-2020 (the most recent business cycle) and 2002-2008 (the prior
20 business cycle). I have also considered ROEs for 2021 and projected ROEs for 2022,
21 2023 and 2025-2027 (the current business cycle).

1 **Q. Please describe your CE analysis.**

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

5 Exh. DCP-12 shows the ROEs and M/Bs for the group of proxy utilities. These
6 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

19 These results indicate that historic ROEs of 9.0 percent to 9.5 percent have been adequate
20 to produce M/Bs of 145 percent to 159 percent for the proxy group of utilities.

21 Furthermore, current period ROEs (including estimates for future years) for 2021, 2022,
22 2023, and 2025-2027 are within a range of 9.0 percent to 10.2 percent for the proxy
23 group, with the projected years showing ROEs in the lower portion of this range. These
24 relate to 2021 M/Bs of 150 percent or greater.

25

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

27 A. Yes. As an alternative, I also examine the S&P 500. This is a well-recognized group of
28 firms that is widely utilized in the investment community and is indicative of the
29 competitive sector of the economy. Exh. DCP-13 presents the earned ROEs and M/Bs for

1 the S&P 500 over the past twenty years (i.e., 2002-2021). As this schedule indicates, over
2 the two business cycle periods, this group's average ROEs ranged from 12.4 percent to
3 14.0 percent, with average M/Bs ranging between 275 percent and 279 percent.
4

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

6 A. The recent ROEs of the proxy utilities and S&P 500 can be viewed as an indication of the
7 level of return realized and expected in the regulated and competitive sectors of the
8 economy. In order to apply these returns to the ROE for the proxy utilities, however, it is
9 necessary to compare the risk levels of the utilities and the competitive companies. I do
10 this in Exh. DCP-14, which compares several risk indicators for the S&P 500 and the
11 utility group. The information in this exhibit indicates that the S&P 500 is riskier than the
12 proxy group.
13

14 **Q. What ROE is indicated by your CE analysis?**

15 A. Based on recent ROEs and M/Bs, my CE analysis indicates that the ROE for the proxy
16 utilities is no more than 9.0 percent to 10.0 percent (9.5 percent mid-point). Recent ROEs
17 of 9.0 percent to 9.5 percent have resulted in M/Bs of 145 percent and over. Current and
18 prospective ROEs of 9.0 percent to 10.2 percent have been accompanied by M/Bs over
19 150 percent. As a result, it is apparent that authorized returns below this level would
20 continue to result in M/Bs of well above 100 percent. As I indicated earlier, the fact that
21 M/Bs substantially exceed 100 percent indicates that historic and prospective ROEs of
22 9.5 percent reflect earning levels that are well above the actual cost of equity for those
23 regulated companies. I also note that a company whose stock sells above book value can

1 attract capital in a way that enhances the book value of existing stockholders, thus
2 creating a favorable environment for financial integrity. Finally, I note that my 9.0
3 percent to 10.0 percent CE recommendation generally reflects the actual and prospective
4 ROEs for my proxy group. I have made no adjustments to these return levels to reflect
5 the high M/Bs.

6
7 **Q. Please now turn to Witness Bulkley's Expected Earnings Approach, and summarize**
8 **the use of this methodology and conclusions.**

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

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

15
16 **Q. Do you have any criticisms of Witness Bulkley's Expected Earnings Approach and**
17 **related conclusions?**

18 A. Yes. It is inappropriate to focus only on expected ROE without any reference to how such
19 returns are accepted by investors. A more appropriate analysis of expected returns on
20 equity is done in conjunction with M/Bs. I reviewed Witness Bulkley's Expected
21 Earnings Approach by evaluating the investor acceptance of these cited ROEs by
22 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.

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

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

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

14 15 **XI. RISK PREMIUM ANALYSIS**

16
17 **Q. What are your responses to Witness Bulkley's bond yield plus risk premium**
18 **analysis?**

19 A. Witness Bulkley's risk premium approach compares the allowed ROEs for electric
20 utilities and 30-Year U.S. Government Bond yields over the period 1992 to October
21 2021. Witness Bulkley then applies a regression result to various projected levels of 30-

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

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

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

14
15 **Q. Have you performed an independent RP analysis in order to avoid the deficiencies**
16 **in Witness Bulkley's RP analyses?**

17 A. Yes, I have. As noted above, Witness Bulkley's RP analyses consider the authorized
18 ROEs of electric utilities dating back to 1992. As I have indicated in my testimony, this
19 period has experienced significant declines in interest rates, which is another component
20 of this RP analysis. Witness Bulkley attempts to "correct" for changes in interest rates by
21 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.

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

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

12
13 **Q. Please describe your RP analysis.**

14 A. I have compared the levels of single-A and triple-B utility bond yields with the
15 authorized ROEs of electric utilities that were decided in the period 2012 through 2021. I
16 focus on the period since 2012 since the prevailing interest rates on single-A and triple-B
17 bonds was approximately 4 percent during most of this period, or similar to the current
18 level of interest rates. I show two sets of periods: the period 2012-2019 (when average
19 single-A and triple-B utility interest rates were approximately 4 percent), and 2012-2021
20 (which adds the two most recent years to the earlier period). I note that the inclusion of
21 2020 and 2021 risk premiums are impacted by the COVID-19 pandemic and are not
22 consistent with the 2012-2019 years. These are shown on Exh. DCP-15.

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

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

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

12
13 **Q. What are the results of your calculations?**

14 **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%

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

7
8 **Q. What is the appropriate RP ROE at the present time?**

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

18 I conclude from this that the proper RP derived ROE for PSE is within a range of
19 9.45 percent to 9.95 percent, with a mid-point of 9.7 percent.

20
21 **XII. RETURN ON EQUITY RECOMMENDATION**

22
23 **Q. Please summarize the results of your four ROE analyses.**

1 A. My four ROE analyses produced the following results:

	<u>Mid-Point</u>	<u>Range</u>
3 DCF	8.75%	8.7-8.8%
CAPM	8.7%	8.7%
4 CE	9.5%	9.0-10.0%
5 RP	9.7%	9.45-9.95%

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

14 **XIII. TOTAL COST OF CAPITAL**

16 **Q. What are the total COCs for PSE?**

17 A. Exh. DCP-3 reflects the total COCs for PSE using my proposed capital structures and
18 embedded costs of debt, as well as my ROE recommendations. The resulting COCs are a
19 range of 6.93 percent to 7.17 percent (7.05 percent with 9.25 percent ROE) for the period
20 ending December 31, 2023, a range of 6.95 percent to 7.19 percent (7.07 percent with
21 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.

1 to 7.23 percent (7.10 percent with 9.25 percent ROE) for the period ending December 31,
2 2025.

3
4 **XIV. COMMENTS ON COMPANY TESTIMONY**

5
6 **Q. What ROE is PSE requesting in this proceeding?**

7 A. PSE is requesting a 9.90 percent ROE. This 9.90 percent ROE (range of 9.75 percent to
8 10.50 percent) is sponsored by Witness Bulkley.⁶³

9
10 **Q. What are your disagreements with Witness Bulkley's ROE methodologies and**
11 **recommendations?**

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

15
16 **Q. On pages 58-87 of Witness Bulkley's testimony, Witness Bulkley cites "several**
17 **additional business and financial risk factors that must be taken into consideration**
18 **when determining where PSE's cost of equity falls within the range of results**
19 **produced by the proxy group."**⁶⁴ **Do you have any responses to this assertion?**

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

22

⁶³ Bulkley, Exh. AEB-1T at 3:19-21, 4:1-5.

⁶⁴ *Id.* at 58:16-19.

- 1 1) Capital Expenditures;
- 2 2) Regulatory Risk; and,
- 3 3) Washington Clean Energy Transformation Act (CETA).

4 However, each of these factors is considered by the rating agencies in their assignment of
5 credit ratings to PSE, thus Witness Bulkley's consideration of these factors is redundant.

6 PSE has generally similar credit ratings, reflecting similar risk, compared to the typical
7 electric utility, including Witness Bulkley's proxy group, as is shown on Exh. DCP-8.

8 Stated differently, PSE is perceived to have similar total risks than the typical electric
9 utility, including Witness Bulkley's proxy group, in spite of the existence of Witness
10 Bulkley's risk "factors." The risk "factors" are already "baked into the cake."

11 Consequently, there is no justification for providing PSE a higher return on equity
12 relative to that of other similar electric utilities.

13
14 **Q. Do you have any additional comments about PSE's COC requests in these**
15 **proceedings?**

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

1 percent.⁶⁵ In contrast, PSE is requesting that its ROE be increased from 9.4 percent to 9.9
2 percent and is requesting that its common equity ratio be increase from 48.5 percent to
3 49.0 percent (2023), 49.5 percent (2024), and 50.0 percent (2025). I note that PSE has
4 had an authorized ROE of 9.4 percent since 2020⁶⁶ and an authorized common equity
5 ratio of 48.5 percent since 2017.⁶⁷ PSE's requests thus are inconsistent with the reduced
6 risk associated with the MYRP and PBR regulatory mechanisms that are being
7 implemented in these proceedings.

8
9 **Q. Does this conclude your testimony?**

10 **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.