

**EXH. AEB-1T
DOCKETS UE-22 ___/UG-22 ___
2022 PSE GENERAL RATE CASE
WITNESS: ANN E. BULKLEY**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

Docket UE-22 ___

Docket UG-22 ___

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF

ANN E. BULKLEY

ON BEHALF OF PUGET SOUND ENERGY

JANUARY 31, 2022

PUGET SOUND ENERGY

**PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF
ANN E. BULKLEY**

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PUGET SOUND ENERGY

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1 **PUGET SOUND ENERGY**

2 **PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF**
3 **ANN E. BULKLEY**

4 **I. INTRODUCTION AND QUALIFICATIONS**

5 **Q. Please state your name and business address.**

6 A. My name is Ann E. Bulkley. My business address is One Beacon Street, Suite
7 2600, Boston, Massachusetts 02180.

8 **Q. What is your position with The Brattle Group?**

9 A. I am employed by The Brattle Group as a Principal.

10 **Q. On whose behalf are you submitting this direct testimony?**

11 A. I am submitting this direct testimony before the Washington Utilities and
12 Transportation Commission (“Commission”) on behalf of Puget Sound Energy
13 (“PSE” or the “Company”).

14 **Q. Have you prepared an exhibit describing your education, relevant**
15 **employment experience, and other professional qualifications?**

16 A. Yes, I have. It is Exh. AEB-2.

1 **II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY**

2 **Q. What is the purpose of your direct testimony?**

3 A. The purpose of my direct testimony is to present evidence and provide a
4 recommendation regarding the appropriate Return on Equity (“ROE”) for PSE’s
5 electric and natural gas utility operations in Washington and to provide an
6 assessment of its proposed capital structure to be used for ratemaking purposes.¹
7 My analyses and recommendations are supported by the data presented in Exh.
8 AEB-3 through Exh. AEB-12, which were prepared by me or under my direction.

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

11 A. As discussed in more detail in Section VII, I applied the Constant Growth and
12 Projected forms of the Discounted Cash Flow (“DCF”) model, the Capital Asset
13 Pricing Model (“CAPM”), the Empirical CAPM (“ECAPM”), the Risk Premium
14 Approach, and the Expected Earnings Analysis. My recommendation also takes
15 into consideration: (1) PSE’s capital expenditure requirements; (2) the regulatory
16 environment in which PSE operates; (3) PSE’s capital investment plans over the
17 near- and long-term; and (4) and the effects of federal tax reform on the cash flow
18 metrics of utilities. Finally, I considered PSE’s proposed capital structure as
19 compared to the capital structures of the proxy companies.² While I did not make

¹ Throughout my direct testimony, I interchangeably use the terms “ROE” and “cost of equity.”

² The selection and purpose of developing a group of comparable companies will be discussed in detail in Section VI of my direct testimony.

1 any specific adjustments to my ROE estimates for any of these factors, I did take
2 them into consideration in aggregate when determining where the PSE's ROE
3 falls within the range of analytical results.

4 **Q. How is the remainder of your direct testimony organized?**

5 A. Section III provides a summary of my analyses and conclusions. Section IV
6 reviews the regulatory guidelines pertinent to the development of the cost of
7 capital. Section V discusses current and projected capital market conditions and
8 the effect of those conditions on PSE's cost of equity in Washington. Section VI
9 explains my selection of a proxy group of electric utilities. Section VII describes
10 my analyses and the analytical basis for the recommendation of the appropriate
11 ROE for PSE. Section VIII provides a discussion of specific regulatory, business,
12 and financial risks that have a direct bearing on the ROE to be authorized for PSE
13 in this case. Section IX assesses the proposed capital structure of PSE as
14 compared with the capital structures of the utility operating subsidiaries of the
15 proxy group companies. Section X presents my conclusions and recommendations
16 for the market cost of equity.

17 **III. SUMMARY OF ANALYSES AND CONCLUSIONS**

18 **Q. What is your recommended ROE for PSE?**

19 A. Based on the analytical results presented in Figure 1 below, and considering the
20 level of regulatory, business, and financial risk faced by PSE's electric and natural
21 gas operations in Washington relative to the proxy group, I believe an ROE range

1 from 9.75 to 10.50 percent is reasonable. This recommendation reflects the range
2 of results for the proxy group companies, the relative risk of PSE's electric and
3 natural gas operations in Washington as compared to the proxy group, and current
4 capital market conditions. Within that range, the Company is requesting a return
5 of 9.90 percent, which is reasonable.

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

8 A. In developing my recommended ROE for PSE, I considered the following:

- 9 • The *Hope* and *Bluefield* decisions that established the standards for
10 determining a fair and reasonable allowed ROE, including consistency of
11 the allowed return with other businesses having similar risk, adequacy of
12 the return to provide access to capital and support credit quality, and that
13 result must lead to just and reasonable rates;³
- 14 • The effect of current and projected capital market conditions on investors'
15 return requirements;
- 16 • The results of several analytical approaches that provide a range of
17 estimates of the cost of equity for PSE; and
- 18 • PSE's regulatory, business, and financial risks relative to the proxy group
19 of comparable companies and the implications of those risks.

20 **Q. Please explain how you considered those factors.**

21 A. I relied on several analytical approaches to estimate PSE's cost of equity based on
22 a proxy group of publicly traded companies. As shown in Figure 1, those ROE
23 estimation models produce a wide range of results. My conclusion about where

³ *Fed. Power Comm'n v. Hope Nat. Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n of W. Va.*, 262 U.S. 679 (1923).

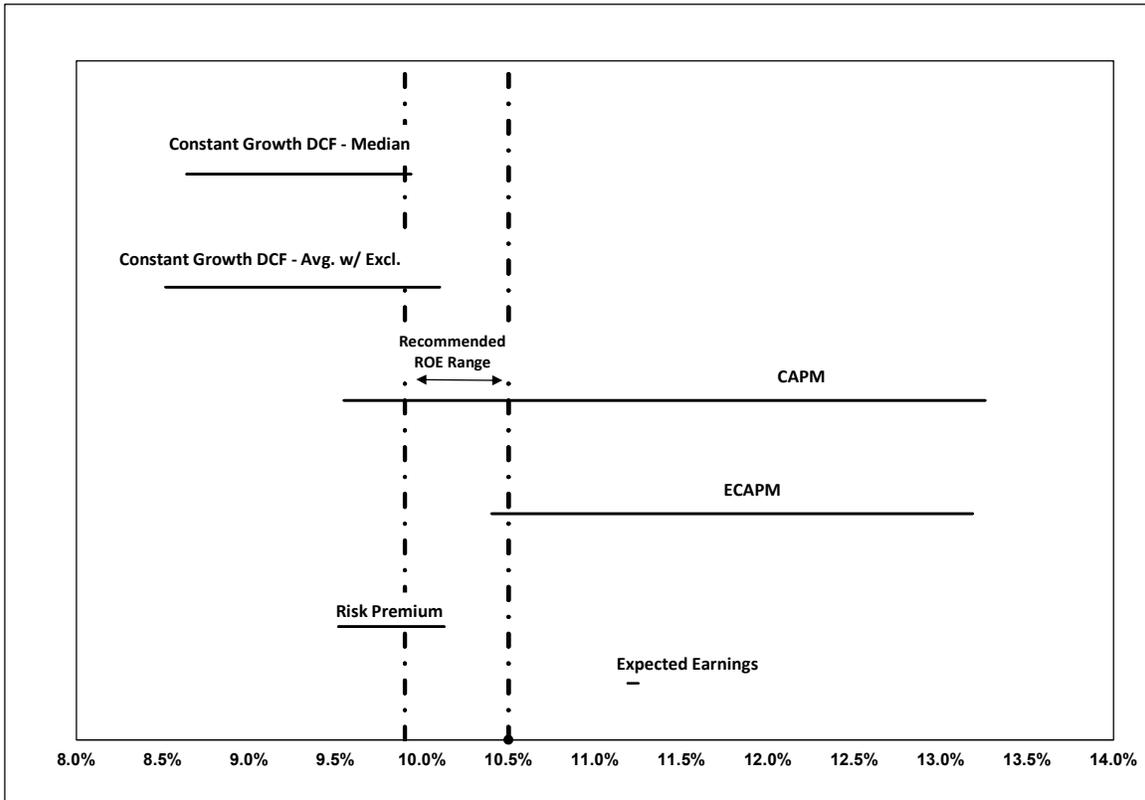
1 within that range of results PSE's ROE falls is based on PSE's business and
2 financial risk relative to the proxy group. Although the companies in my proxy
3 group are generally comparable to PSE, each company is unique, and no two
4 companies have the exact same business and financial risk profiles. Accordingly,
5 I selected a proxy group with similar, but not the same risk profiles; and I adjusted
6 the results of my analysis either upwards or downwards within the reasonable
7 range of results to account for any residual differences in risk.

8 **Q. Please summarize the results of the ROE estimation models that you**
9 **considered to establish the range of ROEs for PSE.**

10 A. Figure 1 summarizes the range of results produced by the Constant Growth DCF,
11 Projected DCF, CAPM, ECAPM, Risk Premium, and Expected Earnings
12 analyses.

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Figure 1: Summary of Cost of Equity Analytical Results



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As shown on Figure 1 the range of the Constant Growth DCF model results is wide, particularly in relation to the results of the other methodologies. While it is common to consider multiple models to estimate the cost of equity, it is particularly important when the range of results is wide.

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Furthermore, as shown in Exh. AEB-4, the median low Constant Growth DCF results for the proxy group, range from 8.74 to 8.82 percent for the 30-, 90-, and 180-day assumption.⁴ Thus, the Constant Growth DCF results are below the

⁴ My DCF models generated a median low, median, and median high result. The median low result is the median of the proxy group DCF results calculated using the lowest earnings growth rate for each company from Value Line, Yahoo! Finance, or Zacks. The median high is calculated using the highest projected earnings growth rate for each company from the same sources.

1 majority of the authorized ROE for vertically integrated electric utilities or natural
2 gas utilities in the U.S. since at least 1980. Therefore, I conclude that the median
3 low DCF results do not provide a sufficient risk premium to compensate equity
4 investors for the residual risks of ownership, including the risk that they have the
5 lowest claim on the assets and income of PSE.⁵ In addition to the median results, I
6 also present mean results that exclude outlier results below a lower threshold of
7 7.00 percent. As shown in Exh. AEB-4, the mean results excluding outliers are
8 within the range established by the median results and therefore confirm the
9 median Constant Growth DCF results.

10 My ROE recommendation considers the range of results set by the median and
11 median-high results of the DCF model, the forward-looking CAPM and ECAPM
12 analyses, a Bond Yield plus Risk Premium analysis, and an Expected Earnings
13 analysis. I also consider company-specific risk factors and current and prospective
14 capital market conditions.

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

17 A. As discussed in the Prefiled Direct Testimony of Kazi K. Hasan, Exh. KKH-1T,
18 PSE proposes an equity ratio of 49.00 percent in the initial rate year increasing to
19 50.00 percent in the final year of the multi-year rate plan. Based on the analysis
20 presented in Section IX of my testimony, I conclude that PSE's initial proposed

⁵ Regulatory Research Associates, *Rate Case History January 1, 1980 – September 30, 2021* (Sept. 30, 2021).

1 equity ratio and the stepped changes in the equity ratio over the term of the multi-
2 year rate plan to 50.00 percent has greater risk (more leverage) than the proxy
3 group. To make this determination, I reviewed the capital structures of the utility
4 subsidiaries of the proxy companies. As shown in Exh. AEB-12, the results of that
5 analysis demonstrate that the current average equity ratios for the utility operating
6 companies of the proxy group range from 46.32 percent to 61.87 percent with an
7 average of 54.58 percent. Comparing the Company's proposal to the current
8 equity ratios for the proxy group demonstrates that PSE's proposed capital
9 structure will include more leverage and therefore greater financial risk than the
10 proxy group, on average. Moreover, PSE's proposed equity ratio is conservative
11 considering that federal tax reform legislation has had a negative effect on the
12 cash flows and credit metrics of regulated utilities.

13 Furthermore, a fundamental aspect of the financial regulation of utilities is
14 assuring that the subject utility has a reasonable opportunity to earn a return on
15 capital consistent with the return available on investments of similar risk. While
16 this principle is most often discussed in terms of the allowed ROE, it is equally
17 applicable to all aspects of overall Rate of Return ("ROR"). The equity return, the
18 product of the ROE and the equity ratio, (*i.e.*, the Weighted Return on Equity
19 ("WROE")), ultimately defines the return to shareholders and the product of the
20 cost of debt and the debt ratio helps a company meet its debt obligations.

21 Therefore, it is necessary to consider both the rates that are applied to debt and
22 equity and the composition of the capital structure to determine the
23 reasonableness of the ROR. Taken together, PSE's proposed common equity ratio

1 range, which is proposed to begin at 49.00 percent equity in the first year of the
2 multi-year rate plan and increase to 50.00 percent in the last year of the multi-year
3 rate plan and its requested ROE of 9.90 percent, results in a WROE range of 4.85
4 percent to 4.95 percent. This reasonably balances the interests of customers and
5 shareholders by enabling PSE to maintain its financial integrity and therefore its
6 ability to attract capital at reasonable terms and conditions under a variety of
7 economic and financial market conditions.

8 IV. REGULATORY GUIDELINES

9 **Q. Please describe the guiding principles used in establishing the cost of capital**
10 **for a regulated utility.**

11 A. The United States Supreme Court's precedent in the *Hope* and *Bluefield* cases
12 established the standards for determining the fairness or reasonableness of a
13 utility's allowed ROE. Among the standards established by the Court in those
14 cases are: (1) consistency with other businesses having similar or comparable
15 risks; (2) adequacy of the return to support credit quality and access to capital;
16 and (3) that the result, as opposed to the methodology employed, is the controlling
17 factor in arriving at just and reasonable rates.⁶

⁶ *Hope*, 320 U.S. 591, 603 (1944); *Bluefield*, 262 U.S. 679, 692-93 (1923).

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

3 A. Yes, it has. In Docket UE-121697 *et al.*, the Commission stated that:

4 [T]he authorized return should be sufficient: (1) to maintain
5 financial integrity; (2) to attract capital under reasonable terms; and
6 (3) to provide returns commensurate with those investors could earn
7 by investing in other enterprises of comparable risk.⁷

8 Further, in Dockets UE-170485 and UG-170486, Avista Corporation’s (“Avista”)
9 2017 rate case, the Commission stated that:

10 The Commission’s final determination of an acceptable ROE
11 recognizes fully the guiding principles of regulatory ratemaking that
12 require us to reach an end result that yields fair, just, reasonable, and
13 sufficient rates.⁸

14 This guidance is in accordance with the *Hope* and *Bluefield* decisions and the
15 principles that I employed to estimate the ROE for PSE, including the principle
16 that an allowed rate of return must be sufficient to enable regulated companies
17 like PSE to attract capital on reasonable terms.

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

20 A. An ROE that is adequate to attract capital at reasonable terms enables a utility to
21 continue to provide safe and reliable service while maintaining its financial
22 integrity. To the extent the utility is provided the opportunity to earn its market-

⁷ *WUTC v. Puget Sound Energy*, Docket UE-121697/UG-121705, Order 15 ¶ 38 (June 29, 2015).

⁸ *WUTC v. Avista Corp.*, Dockets UE-170485/UG-170486, Order 07 ¶ 59 (April 26, 2018) (hereinafter “Avista Order 07”).

1 based cost of capital, customers receive the benefit of access to capital on
2 reasonable terms and therefore neither customers nor shareholders are
3 disadvantaged.

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

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

15 **Q. What are your conclusions regarding regulatory guidelines?**

16 A. The ratemaking process is premised on the principle that for investors and
17 companies to commit the capital needed to provide safe and reliable utility
18 services, a utility must have the opportunity to recover the return of, and the
19 market-required return on, its invested capital. Because utility operations are
20 capital-intensive, regulatory decisions should enable the utility to attract capital at

1 reasonable terms under a variety of economic and financial market conditions;
2 doing so balances the long-term interests of the utility and its customers.

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

14 **V. CAPITAL MARKET CONDITIONS**

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

16 A. The ROE estimation models rely on market data that are either specific to the
17 proxy group, in the case of the DCF model, or to the expectations of market risk,
18 in the case of the CAPM. The results of the ROE estimation models can be
19 affected by prevailing market conditions at the time the analysis is performed.
20 While the ROE that is established in a rate proceeding is intended to be forward-
21 looking, the analyst uses current and projected market data, specifically stock

1 prices, dividends, growth rates and interest rates in the ROE estimation models to
2 estimate the required return for the subject company.

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

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

14 A. The cost of equity for regulated utility companies is being affected by several
15 factors in the current and prospective capital markets, including: (1) the dramatic
16 shifts in market conditions during 2020, the economic recovery in 2021 and the
17 expectations for 2022, and the effect of these changes on the assumptions used in
18 the ROE estimation models; and (2) effects of federal tax reform on utility cash
19 flows. In this section, I discuss each of these factors and how it affects the models
20 used to estimate the cost of equity for regulated utilities.

1 **Q. Have state regulatory commissions considered market events and the utility’s**
2 **ability to attract capital in determining the equity return?**

3 A. Yes. In its recent decision in the Avista case, this Commission noted that it is
4 important to consider the cost of capital evidence as well as other relevant factors
5 including the state of the economy, investment cycles, and other policy principles
6 in setting the appropriate return on equity.⁹

7 In addition, in a case for Consumers Energy Company, the Michigan Public
8 Service Commission (“Michigan PSC”) noted that it is important to consider how
9 a utility’s access to capital could be affected in the near-term as a result of market
10 reactions to global events like those that have occurred in the recent past.¹⁰

11 Specifically, the Michigan PSC noted that:

12 In setting the ROE at 9.90%, the Commission believes there is an
13 opportunity for the company to earn a fair return during this period
14 of atypical market conditions. This decision also reinforces the
15 belief, as stated in the Commission’s March 29 order, “that
16 customers do not benefit from a lower ROE if it means the utility
17 has difficulty accessing capital at attractive terms and in a timely
18 manner.” These conditions still hold true based on the evidence in
19 the instant case. The fact that other utilities have been able to access
20 capital despite lower ROEs, as argued by many intervenors, is also
21 a relevant consideration. It is also important to consider how
22 extreme market reactions to global events, as have occurred in the
23 recent past, may impact how easily capital will be able to be
24 accessed during the future test period should an unforeseen market
25 shock occur. The Commission will continue to monitor a variety of
26 market factors in future rate cases to gauge whether volatility and

⁹ *WUTC v. Avista Corp.*, Dockets UE-200900, *et al.*, Order 08/05 ¶ 97 (Sept. 27, 2021).

¹⁰ *In the Matter of the Application of Consumers Energy Company*, Case No. U-20697, Order at 165 (Dec. 17, 2020) (emphasis added).

1 uncertainty continue to be prevalent issues that merit more
2 consideration in setting the ROE.¹¹

3 The Michigan PSC references “global events” and the overall effect the events
4 could have on the ability of a utility to access capital. Consistent with the
5 Michigan PSC’s views, it is important to consider current market conditions and
6 the impact of those conditions on the access to and cost of capital, and to position
7 utilities to be able to maintain access in rapidly changing market conditions.

8 **A. Economic Recovery and Performance of the Utility Sector**

9 **Q. Do recent economic projections indicate the expectation for a strong**
10 **economic recovery in 2022?**

11 A. Yes. The Federal Open Market Committee (“FOMC”) is composed of twelve
12 members including the Board of Governors of the Federal Reserve system and
13 presidents of the Federal Reserve Banks. The FOMC reviews economic and
14 financial conditions, determines the appropriate stance for monetary policy and
15 assess the risks to its long-run goals of price stability and economic growth. The
16 FOMC issued its Summary of Economic Projections in September 2021, where
17 the FOMC’s median projection for GDP growth from Q4 2020 to Q4 2021 is 5.9
18 percent.¹² The Congressional Budget Office (“CBO”) issued an update to its
19 outlook on economic conditions on July 1, 2021. In that report, the CBO projected

¹¹ *Id.* at 165-66 (emphasis added).

¹² Federal Open Market Committee, *Summary of Economic Projections*, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM (Sept. 22, 2021), <https://www.federalreserve.gov/monetarypolicy/fomcproptabl20210922.htm>.

1 strong GDP growth for 2021 and significant strength in overall economic
2 conditions:

- 3 • Real GDP growth of 7.4 percent, which is a significant change from the
4 negative 2.4 percent growth rate in 2020;
- 5 • Inflation indicators at or above the 2.0 percent threshold in 2021 and
6 continuing through 2031;
- 7 • Labor force expected to be restored to pre-pandemic levels in 2022; and
- 8 • Interest rates on federal borrowing increasing through 2031.¹³

9 Finally, investors expect increased inflation levels to persist into 2022. Goldman
10 Sachs forecasts consumer price inflation excluding food and energy costs to still
11 be above 4 percent when the Federal Reserve ends their tapering of bond
12 purchases in 2022, which Goldman Sachs expects will result in the Federal
13 Reserve increasing the Federal Funds rate twice in 2022.¹⁴ Similarly, respondents
14 to the recent CNBC Fed Survey indicated that CPI is expected to rise 3.5 percent
15 in 2022, which is an increase from the September Survey of 3.00 percent, and the
16 yield on the 10-Treasury bond is expected to increase to 2.2 percent.¹⁵ U.S. bond
17 yields have rebounded considerably in the past year, with the 30-day average
18 yield on the 30-year Treasury bond at 1.97 percent as of November 30, 2021.

¹³ Congressional Budget Office, *An Update to the Budget and Economic Outlook: 2021 to 2031* (July 2021), <https://www.cbo.gov/system/files/2021-07/57218-Outlook.pdf>.

¹⁴ Simon Kennedy, *Goldman Now Sees Fed Hiking Rates in July as Inflation Lingers* (Oct. 29, 2021), <https://www.bloomberg.com/news/articles/2021-10-30/goldman-now-sees-fed-hiking-rates-in-july-as-inflation-lingers>.

¹⁵ Steve Liesman, *Investors Expect a Faster Pace for Fed Rate Hikes, CNBC Survey Shows* (Nov. 2, 2021), <https://www.cnbc.com/2021/11/02/investors-expect-a-faster-pace-for-fed-rate-hikes-cnbc-survey-shows.html>.

1 These trends indicate strong economic recovery over the next year, with robust
2 consumer spending expected.

3 **Q. Please summarize the recent monetary policy of the Federal Reserve.**

4 A. In response to the COVID-19 pandemic, the Federal Reserve has in the past year:

- 5 • decreased the Federal Funds rate twice in March 2020, resulting in a target
6 range of 0.00 percent to 0.25 percent;
- 7 • increased its holdings of both Treasury and mortgaged-back securities;
- 8 • started expansive programs to support credit to large employers—the
9 Primary Market Corporate Credit Facility to provide liquidity for new
10 issuances of corporate bond, and the Secondary Market Corporate Credit
11 Facility to provide liquidity for outstanding corporate debt issuances; and
- 12 • supported the flow of credit to consumers and businesses through the
13 Term Asset-Backed Securities Loan Facility.

14 In addition, Congress also passed the Coronavirus Aid, Relief, and Economic
15 Security (“CARES”) Act in March 2020, the Consolidated Appropriations Act,
16 2021 in December 2020 and the American Rescue Plan Act in March 2021, which
17 included \$2.2. trillion, \$900 billion and \$1.9 trillion, respectively, in fiscal
18 stimulus aimed at also mitigating the economic effects of COVID-19. These
19 expansive monetary and fiscal programs mitigated the economic effects of the
20 COVID-19 pandemic and are currently providing additional support as the
21 economy recovers from the COVID-19 recession.

1 **Q. Are there indications the Federal Reserve will start to slowly end some of the**
2 **accommodative policy tools that were used to support the economy during**
3 **COVID-19?**

4 A. Yes. At its November 2, 2021, meeting, the Federal Reserve noted that given the
5 substantial improvement in the economy, it plans to begin reducing asset
6 purchases of Treasuries by \$10 billion and mortgage-backed securities by \$5
7 billion on a monthly basis starting in November.¹⁶ This follows several Federal
8 Reserve statements that demonstrate the intention to end accommodative policies.
9 Moreover, at the September 22, 2021, meeting, half of the 18 members of the
10 Federal Reserve’s FOMC forecasted one increase in the federal funds rate by the
11 end of 2022 with a median federal funds rate projection of 1.0 percent by 2023
12 (*i.e.*, three to four increases in the federal funds rate).¹⁷

13 Further, on June 2, 2021, the Federal Reserve announced that it plans to start
14 selling the corporate bonds and exchange-traded funds (“ETF”) that it purchased
15 to support the corporate bond market during the COVID-19 pandemic.¹⁸ The
16 process will be gradual, but the Federal Reserve expected to the complete the sale
17 of its corporate bond holdings by the end of 2021.

¹⁶ Federal Reserve, *Federal Reserve issues FOMC statement*, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM (Nov. 3, 2021), <https://www.federalreserve.gov/newsevents/pressreleases/monetary20211103a.htm>.

¹⁷ Federal Open Market Committee, *supra* note 12.

¹⁸ Alexandra Scaggs, *The Federal Reserve Is Going to Sell Its Corporate Bond Portfolio. What It Means* (June, 3, 2021), www.barrons.com/articles/federal-reserve-corporate-bond-portfolio-51622679701.

1 **Q. What effect, if any, will the Federal Reserve’s recent accommodative**
2 **monetary policy have on long-term interest rates over the near-term?**

3 A. The Federal Reserve has acknowledged that it will keep the federal funds rate
4 near zero for at least the next year with, as noted above, the possibility of a rate
5 increase at the end of 2022. The goal of the accommodative monetary policy is to
6 achieve the Federal Reserve’s dual mandate of maximum employment and stable
7 prices. However, while the current accommodative monetary policy will keep
8 short-term interest rates low for at least the next year, it does not have a direct
9 effect on long-term interest rates. Long-term interest rates can increase even
10 though monetary policy is accommodative. In fact, one of the leading indicators
11 used by investors to determine what stage of the business cycle the economy is in
12 is to review the yield curve, which shows the difference between long-term and
13 short-term interest rates. A flat or inverted yield curve is when long-term interest
14 rates are equivalent to or less than short-term interest rates and usually occurs
15 prior to a recession. Conversely, a steepening yield curve is when the difference
16 between long-term interest rates and short-term interest rates is increasing and
17 indicates that the economy is entering a period of economic expansion and
18 inflation following a recession.¹⁹

¹⁹ Fidelity Learning Center, *What is a yield curve*, <https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-yield-curve>.

1 **Q. Have you reviewed the yield curve to determine investors' expectations**
2 **regarding the economy over the near-term?**

3 A. Yes, I have. I reviewed the yield curve, calculated as the difference between the
4 yield on the 10-year Treasury bond and the yield on the 2-year Treasury bond
5 from January 2015 through August 2021. I selected the 10-year Treasury bond
6 yield to represent long-term interest rates and the yield on the 2-year Treasury
7 bond to represent short-term interest rates. As shown in Figure 2, the yield curve
8 has been steepening, with the spread increasing to approximately 160 basis points
9 in April 2021, which is a level not seen since the middle of 2015. The spread has
10 decreased slightly since August 2021 and was 91 basis points as of November 30,
11 2021. Over the near and long-term, long-term interest rates are still expected to
12 continue to increase and thus the yield curve would continue to steepen.²⁰ The
13 steepening of the yield curve indicates that investors expect economic growth and
14 inflation to increase in the near-term, and as a result they are rotating out of long-
15 term government bonds to avoid being locked into to low interest rates for the
16 long-term. The steep yield curve signals that higher yields are required by
17 investors to invest in long-term government bonds.

²⁰ See Stephanie Landsman, *Inflation Breakout Will Drive 10-Year Treasury Yields above 2% in Coming Months, Wells Fargo Predicts* (June 18, 2021), www.cnbc.com/2021/06/18/inflation-breakout-will-soon-drive-10-year-yields-above-2percent-wells-fargo.html; Patti Domm, *The Mystifying Bond Market Behavior Could Last All Summer* (July 17, 2021), www.cnbc.com/2021/07/16/the-mystifying-bond-market-behavior-could-last-all-summer.html.

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**Figure 2: 10-year Treasury Bond Yield Minus 2-year Treasury Bond Yield –
January 2015 – November 2021²¹**



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4 **Q. What have equity analysts said about long-term government bond yields?**

5 A. Several equity analysts have noted that they expect economic conditions to
6 continue to improve and thus the yields on long-term government bonds to
7 continue to increase through the end of 2021 and into 2022. For example,
8 Bloomberg recently noted that forecasters were projecting the yield on the 10-
9 year Treasury bond will increase to approximately 1.8 percent by the end of

²¹ Federal Reserve Bank of St. Louis, *10-Year Treasury Constant Maturity Minus 2-Year Treasury Constant Maturity (T10Y2Y)*, FRED (last visited Sept. 30, 2021), <https://fred.stlouisfed.org/series/T10Y2Y>.

1 2021.²² Similarly, strategists at CitiGroup Inc. recently noted that they expect the
2 yield of the 10-year Treasury bond to increase to two percent in 2022.²³

3 In terms of equity recommendations considering the expected increase in long-
4 term government bond yields, investment manager Federated Hermes, Inc. prefers
5 cyclical industries such as financials and industrials. When cyclical stocks are
6 favored, historically the utility sector underperforms.

7 We like financials and industrials and materials and small cap and
8 yes, international stocks in that environment.... But I think the
9 overall equity index will have every ability to move higher in that
10 pro-cyclical, higher inflationary environment just like it did last
11 September through April.²⁴

12 **Q. Have you considered any additional indicators which may imply long-term**
13 **interest rates are expected to increase?**

14 A. Yes, I have. I considered the net position of commercials (*i.e.*, banks) in U.S.
15 Treasury bond futures contracts as reported in the Commitment of Traders
16 (“COT”) Report produced by the Commodity Futures Trading Commission
17 (“CFTC”). A net position is defined as the total number of long positions in a
18 futures contract minus the total number of short positions in a futures contract. A
19 long position means that an investor agrees to purchase an asset in the future at a
20 specified price today and therefore profits if the price of the underlying asset

²² Ksenia Galouchko, *Citi Cuts Tech-Heavy U.S. Stocks on Treasury Yield Surge Call* (Aug. 4, 2021), <https://www.bloomberg.com/news/articles/2021-08-04/citi-cuts-tech-heavy-u-s-stocks-on-treasury-yield-surge-call>.

²³ *Id.*

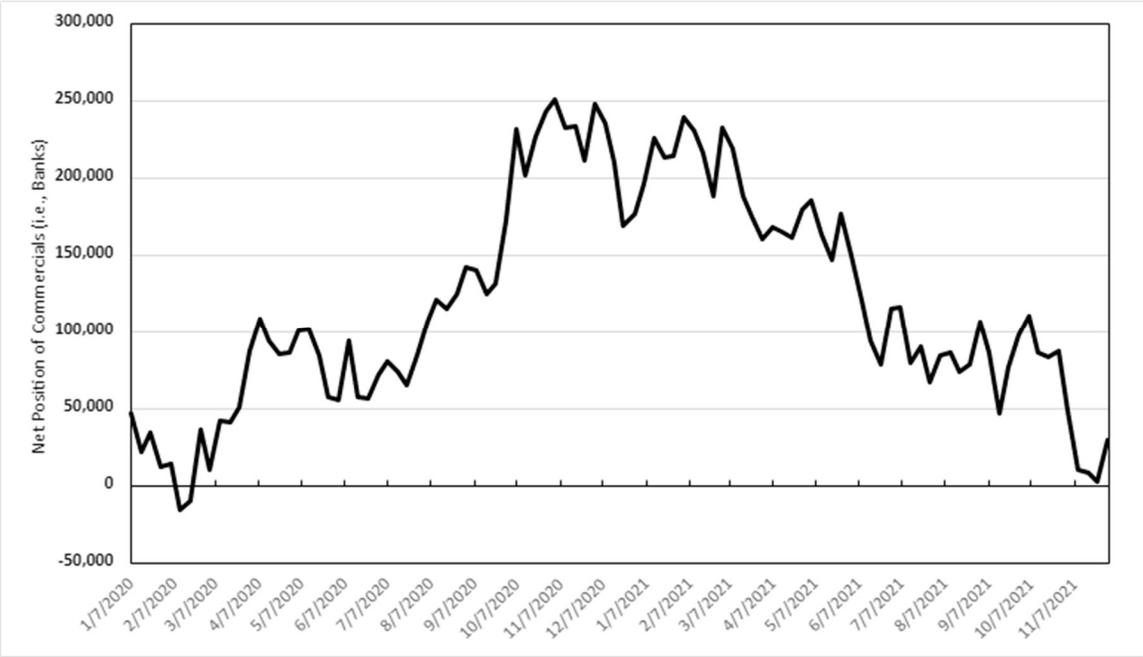
²⁴ Lizzy Gurdus, *Citi Calls for 10-Year at 2%. Here Are Ways to Play a High-Rate Environment* (Aug. 5, 2021), www.cnbc.com/2021/08/05/citi-calls-for-10-year-at-2percent-here-are-ways-to-play-a-high-rate-environment.html.

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increases. Conversely, short position is when an investor agrees to sell an asset at a time in the future at a specified price today and profits if the price of the asset declines. Therefore, if banks are increasing the number of short positions and thus have a declining net position, the banks are assuming that the price of the asset will decline. As shown in Figure 3, the net position of banks in U.S. Treasury bonds has been decreasing since the end of 2020. Therefore, banks are forecasting a decrease in the price of long-term government bonds and thus the yields (which are inversely related to the price) to increase over the near-term.

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Figure 3: Commitment of Traders Report – Net Position of Commercials (i.e., Banks) in U.S. Treasury Bond Futures Contracts²⁵



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²⁵ Commitment of Traders Report, COMMODITY FUTURES TRADING COMMISSION (last visited August 31, 2021), <https://www.cftc.gov/MarketReports/CommitmentsofTraders/HistoricalCompressed/index.htm>.

1 **Q. How do equity analysts expect the utilities sector to perform in an increasing**
2 **interest rate environment?**

3 A. Equity analysts project that utilities are expected to continue to underperform the
4 broader market as interest rates increase. For example, in a recent article, Barron's
5 conducted its Big Money poll of professional investors regarding the outlook for
6 the next twelve months. Approximately 60 percent of respondents projected the
7 yield on the 10-year Treasury bond will be 2.00 percent or greater at the end of
8 the next twelve months which is an increase from the current 30-day average 10-
9 year Treasury bond yield as of September 30, 2021, of 1.35 percent.²⁶

10 Furthermore, the professional investors surveyed by Barron's selected the utility
11 sector as the sector that will perform the worst over the next twelve months
12 indicating they are projecting that utilities will underperform the broader market
13 in 2022.

14 Other equity analysts concur with this conclusion. Fidelity recently recommended
15 underweighting the utility sector and noted that "[w]eak fundamentals and high
16 valuations could be headwinds for utilities and real estate, especially if rates
17 increase."²⁷ In its 2021 Midyear Outlook, Well Fargo classified the utility sector
18 as "most unfavorable" as economic growth continues to rebound.²⁸ Finally,

²⁶ Nicholas Jasinski, *Stocks Are Still the Place to Be, Our Exclusive Big Money Poll Finds* (Oct. 16, 2021), <https://www.barrons.com/articles/stock-market-covid-economy-outlook-51634312012?mod=hpsubnav&tesla=y>.

²⁷ Fidelity, *Q4 2021 sector scorecard* (Oct. 27, 2021), <https://www.fidelity.com/viewpoints/investing-ideas/quarterly-sector-update>.

²⁸ Well Fargo Investment Institute, *2021 Midyear Outlook: Fuel for Growth*, at 6-7 (June 2021), <https://www.caudronmegaryblackburn.com/mediahandler/media/390298/2021%20Midyear%20Outlook.pdf>.

1 Charles Schwab has classified the utilities sector overall as “Underperform,”
2 noting negatives for the sector that include “interest rates are expected to recover
3 from recent decline” and “economic recovery makes the sector less attractive,
4 relative to other sectors.”²⁹

5 **Q. How has the utility sector performed historically during periods where the**
6 **yield curve is steepening, and the economy is in the early stage of the business**
7 **cycle?**

8 A. In a recent report, Fidelity noted that the utility sector has historically been one of
9 the worst performing sectors during the early phase of the business cycle with a
10 geometric average return of -10.5 percent.³⁰ This conclusion is further supported
11 by studies conducted by both Goldman Sachs and Deutsche Bank that examined
12 the sensitivity of share prices of different industries to changes in interest rates
13 over the past five years. Both Goldman Sachs and Deutsche Bank found that
14 utilities had one of the strongest negative relationships with bond yields (i.e.,
15 increases in bond yields resulted in the decline of utility share prices).³¹ This is
16 important because if the utility sector underperforms over the near term, and
17 prices of utility stocks decline, then the DCF model, which relies on historical

²⁹ David Kastner, *Schwab Sector Insights: A view on 11 Equity Sectors*, (Sept. 30, 2021),
<https://www.schwab.com/resource-center/insights/content/schwab-sector-insights-view-on-11-equity-sectors>.

³⁰ Fidelity Investments, *The Business Cycle Approach to Equity Sector Investing*, at 5 (2020),
https://www.fidelity.com/webcontent/ap101883-markets_sectors-content/21.01.0/business_cycle/Business_Cycle_Sector_Approach_2020.pdf.

³¹ Justina Lee, *Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks* (Mar. 11, 2021),
www.bloomberg.com/news/articles/2021-03-11/wall-street-is-rethinking-the-treasury-threat-to-big-tech-stocks.

1 averages of share prices, is likely to understate the cost of equity for the Company
2 over the near term or the period that Company's rates will be in effect.

3 **Q. Why do utilities historically underperform in the early stage of the business**
4 **cycle?**

5 A. Utilities are considered a defensive sector and are therefore affected less by
6 changes in the business cycle relative to other market sectors since consumers
7 need energy during all phases of the business cycle.³² Therefore, utilities tend to
8 perform well during periods of uncertainty where the prospect of slowing
9 economic growth increases. As Fidelity noted, historically utilities outperform the
10 market in latter and recession phases of the business cycle. This relationship
11 mostly held during the past few years as the share prices of utilities were bid up to
12 unsustainable levels as investors responded to economic uncertainty due to the
13 trade war between the U.S. and China and ultimately the COVID-19 pandemic.

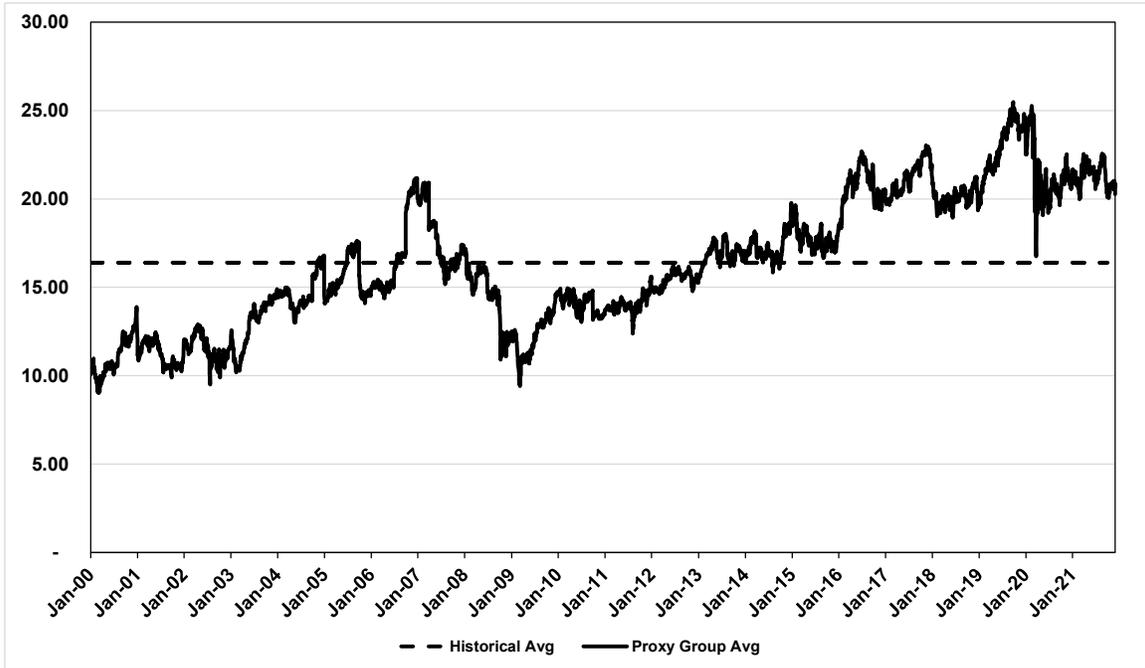
14 **Q. How do the recent valuations of utilities compare to historical averages?**

15 A. The utility sector's valuations remain above the long-term historical average. As
16 shown in Figure 4, the price-to-earnings ("P/E") ratio of the proxy group is
17 currently approximately 20.27, or above the long-term average of the proxy group
18 over this period of approximately 16.40. It is not reasonable to expect the proxy

³² Fidelity Investments, *supra* note 30.

1 group utilities to maintain P/E ratios that are above long-term averages over the
2 long term.

3 **Figure 4: P/E Ratios of Proxy Group Relative to the Long-Term Average, January**
4 **2000 – November 2021³³**



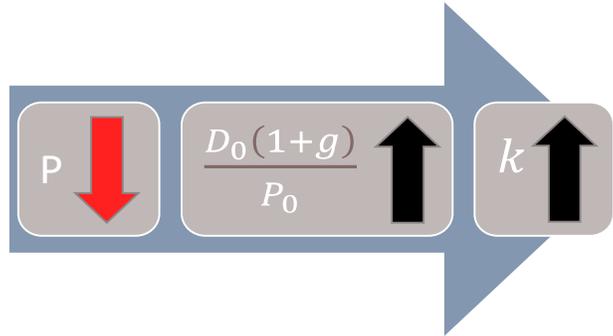
5
6 **Q. What is the effect of market conditions on the DCF model?**

7 A. If the utility sector underperforms over the near term as expected, and prices of
8 utility stocks decline, then the DCF model, which relies on historical averages of
9 share prices, is likely to understate the cost of equity. For example, Figure 5
10 below summarizes the effect of a decline in share price on the dividend yield and
11 thus the cost of equity estimate of the Constant Growth DCF model.

³³ P/E ratio data for each proxy group company was obtained from Bloomberg Professional (Oct. 5, 2021).

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Figure 5: The Effect of a decline in Stock Prices on the Constant Growth DCF model



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A decline in stock prices will increase the dividend yields and thus the estimate of the ROE produced by the Constant Growth DCF model. Therefore, this expected change in market conditions supports consideration of the range of ROE results produced by the mean to mean-high DCF results since the mean DCF results would likely understate the cost of equity during the period that the Company's rates will be in effect. Moreover, prospective market conditions warrant consideration of other ROE estimation models such as the CAPM, ECAPM and Risk Premium, which may better reflect expected market conditions. For example, two out of three inputs to the CAPM (i.e., the market risk premium and risk-free rate) are forward-looking.

14

B. Inflation

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Q. Has inflation increased as predicted by the steepening of the yield curve?

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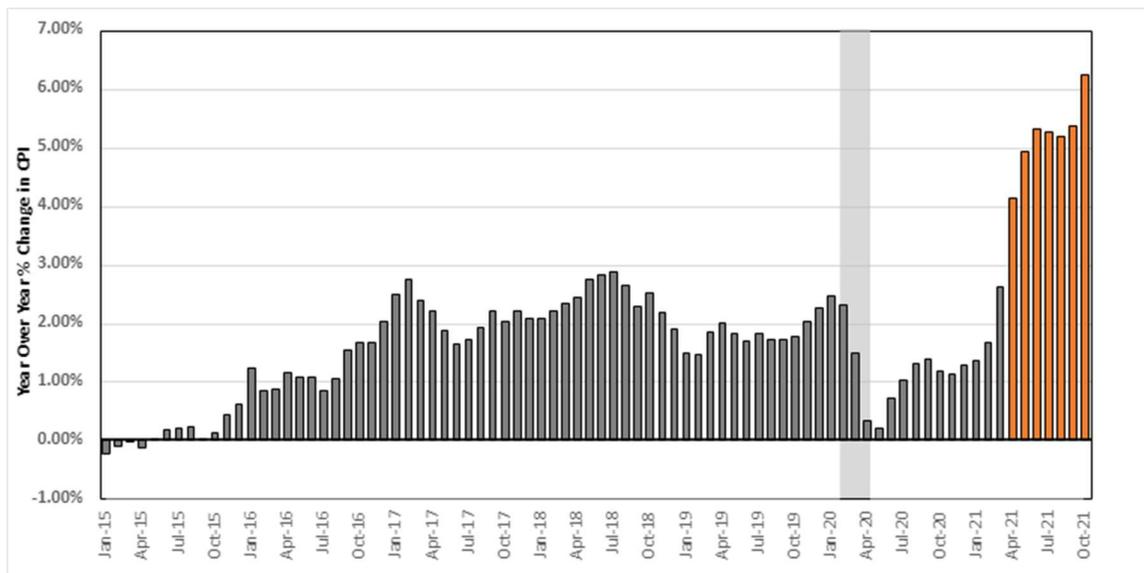
A. Yes, it has. As shown in Figure 6, the year over year (“YOY”) change in the Consumer Price Index (“CPI”) published by the Bureau of Labor statistics has increased steadily in 2021 rising from 1.37 percent in January to 6.24 percent in

17

18

1 October. The 6.24 percent YOY change in the CPI in October 2021 is
 2 significantly greater than any level seen since January 2015. Therefore, inflation
 3 has increased as predicted by the steeping of the yield curve. If inflation continues
 4 to increase as expected, then long-term interest rates will also increase as
 5 investors require higher yields to compensate for the increased risk of inflation.

6 **Figure 6: Consumer Price Index – YOY Percent Change**
 7 **January 2015 - October 2021³⁴**



8
 9 **Q. Why is inflation a concern for PSE?**

10 A. As discussed in the Prefiled Direct Testimony of Todd A. Shipman, Exh. TAS-
 11 1T, the risk of elevated inflation makes flexibility in the Company’s proposed
 12 multi-year rate plan important. While regulatory lag is of concern under moderate
 13 inflation, continued inflation at the high levels experienced currently can result in

³⁴ Bureau of Labor Statistics, *Consumer Price Index, Series ID CUSR0000SA0* (last accessed Dec. 31, 2021) <https://www.bls.gov/cpi/>. Shaded area indicates the COVID-19 pandemic recession).

1 an erosion of a utility’s credit quality because utilities do not have the ability to
2 pass increased costs through between rate cases. Coupled with high capital
3 spending, inflationary pressures outpace the ability of a utility to reflect current
4 costs in rates and will affect credit metrics.³⁵

5 **Q. Is the inflation that is currently being experienced likely to be transitory?**

6 A. That remains unclear. The supply chain issues that include the process of moving
7 goods and services from production to consumption has been affected by
8 transportation and employment concerns. It is uncertain how long it will take to
9 resolve both of these issues. Core inflation was measured to be 4.56 percent for
10 the 12-months ended October 2021, which is well above the Federal Reserve’s
11 2.00 percent target. Further measures of expected inflation suggest that inflation is
12 increasing. For example, the University of Michigan undertakes a consumer
13 survey that tracks consumer sentiment. The consumer perspective captured by
14 that survey was that inflation has been increasing substantially since December
15 2020.

16 **C. Tax Reform**

17 **Q. How has tax reform affected cash flow and credit quality?**

18 A. The Tax Cuts and Jobs Act (“TCJA”) that was enacted in 2017 reduced utilities’
19 financial flexibility through the loss of bonus depreciation and the return of

³⁵ Prefiled Direct Testimony of Todd A. Shipman, Exh. TAS-1T.

1 accumulated deferred income taxes. In 2018 when the TCJA was passed, credit
2 rating agencies initially revised the outlook on utilities. Since that time, Moody's
3 has downgraded the credit ratings of 39 utilities related in part to the TCJA.

4 Further, tax reform continues to present challenges for utilities, resulting in a
5 permanent change in the cash flow metrics of utilities. Credit rating agencies have
6 recognized the change in metrics and have proposed increasing ROEs and the use
7 of thicker equity ratios to help improve credit metrics.

8 **Q. How has tax reform affected the Company's credit metrics?**

9 A. As discussed by Shipman, Exh. TAS-1T, the Company's weak credit metrics are
10 the result of the cash-flow shortfalls arising from tax reform. Specifically, as
11 discussed in the Prefiled Direct Testimony of Matthew R. Marcellia, Exh. MRM-
12 1T, the TCJA has reduced the Company's cash flows annually by approximately
13 \$149 million,³⁶ which Mr. Shipman notes is one of the most important cash flow
14 credit metrics.³⁷

³⁶ Prefiled Direct Testimony of Matthew R. Marcellia, Exh. MRM-1T.

³⁷ Shipman, Exh. TAS-1T.

1 **D. Conclusion**

2 **Q. What are your conclusions regarding the effect of current market conditions**
3 **on the cost of equity for the Company?**

4 A. The important conclusions regarding capital market conditions are:

- 5 • As markets continue to rebound from the uncertainty and volatility that
6 characterized capital markets in 2020 and interest rates continue to
7 increase from the market lows in August 2020, it is reasonable that equity
8 investors would require a higher return on equity to compensate for the
9 additional risk associated with owning common stock. Likewise, if electric
10 utilities continue to underperform the broader market, as expected by
11 analysts, this will indicate additional risk associated with these
12 investments;
- 13 • Investors' current expectations regarding the economy highlights the
14 importance of using forward-looking inputs in the models used to estimate
15 the cost of equity. Current utility valuations are still well above the long-
16 term average. The current high valuations result in low dividend yields for
17 utilities, which means that DCF models using recent historical data likely
18 underestimate investors' required return over the period that rates will be
19 in effect;
- 20 • Expectations of higher inflation increases the risk of regulatory lag for the
21 Company and likely affects its ability to earn its authorized ROE; and
- 22 • Credit rating agencies have demonstrated concern about the cash flow
23 metrics of utilities generally and PSE specifically, related to the negative
24 effects of both current market conditions and the tax reform, which
25 increases investor risk expectations for utilities. Therefore, it is
26 increasingly important to consider a rate of return and capital structure that
27 support the Company's cash flow metrics to enable PSE to attract capital
28 at reasonable terms during the period that the Company's resulting rates
29 will be in effect.

1 **VI. PROXY GROUP SELECTION**

2 **Q. Why have you used a group of proxy companies to estimate the cost of equity**
3 **for PSE?**

4 A. In this proceeding, I am estimating the cost of equity for PSE, which is a
5 combination electric and natural gas utility company that is not itself publicly
6 traded. Because the cost of equity is a market-based concept and given that PSE’s
7 utility operations do not make up the entirety of a publicly traded entity, it is
8 necessary to establish a group of companies that is both publicly traded and
9 comparable to PSE in certain fundamental business and financial respects to serve
10 as its “proxy” in the ROE estimation process.

11 Even if PSE were a publicly traded entity, it is possible that transitory events
12 could bias its market value over a given period. A significant benefit of using a
13 proxy group is that it moderates the effects of unusual events that may be
14 associated with any one company. The proxy companies used in my analyses all
15 possess a set of operating and risk characteristics that are substantially
16 comparable to PSE, and thus provide a reasonable basis to derive an estimate of
17 the appropriate ROE for PSE.

18 **Q. Please provide a brief profile of PSE.**

19 A. PSE is a regulated electric and natural gas utility that is a subsidiary of Puget
20 Energy, Inc., located in Bellevue, Washington. PSE provides electric utility
21 service to approximately 1.19 million residential, commercial and industrial

1 customers and natural gas distribution service to 856,000 customers in
2 Washington.³⁸ As of December 31, 2020, approximately 70 percent of PSE's
3 assets were used to serve electric customers and the remaining 30 percent to serve
4 natural gas customers.³⁹ Approximately 50 percent of the Company's generation
5 was from company-controlled resources while the remainder was contracted
6 resources and non-firm energy purchases.⁴⁰ Approximately 22.8 percent of PSE's
7 peak power resources are from hydroelectric generating sources, 42 percent from
8 natural gas/oil fired facilities, 16.8 percent from wind generation and 8.0 percent
9 from coal.⁴¹ PSE currently has an investment grade long-term rating of BBB
10 (Outlook: Stable) from S&P and Baa1 from Moody's.⁴²

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

12 A. Since PSE is a combination electric and natural gas company, I began with the
13 groups companies that Value Line classifies as Electric Utilities and Natural Gas
14 Distribution Utilities and applied the following screening criteria to select
15 companies that:

- 16 • pay consistent quarterly cash dividends, because companies that do not
- 17 cannot be analyzed using the Constant Growth DCF model;
- 18 • have investment grade long-term issuer ratings from S&P and/or
- 19 Moody's;
- 20 • are covered by at least two utility industry analysts;

³⁸ Puget Energy Inc., Annual Report (Form 10-K) (Dec. 31, 2020), at 7.

³⁹ *Id.* at 8.

⁴⁰ *Id.* at 13.

⁴¹ *Id.* at 15. The fuel sources for the remainder of the generation resources are not identified.

⁴² S&P Capital IQ, October 4, 2021.

- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;
- own electric and natural gas distribution utility assets;
- include generation assets in rate base;
- derive less than 50.00 percent of their generation from nuclear operations;
- derive at least 30 percent of generation from company-owned generation;
- derive more than 60.00 percent of regulated operating income from regulated electric operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

Q. What is the composition of your proxy group?

A. The screening criteria discussed above is shown in Exh. AEB-3 and resulted in a proxy group consisting of the companies shown in Figure 7 below.

Figure 7: Proxy Group

Company	Ticker
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
Avista Corporation	AVA
Black Hills Corporation	BKH
CMS Energy Corporation	CMS
Duke Energy Corporation	DUK
MGE Energy, Inc.	MGEE
NextEra Energy, Inc.	NEE
NiSource Inc.	NI
NorthWestern Corporation	NWE
Southern Company	SO
Wisconsin Energy Corporation	WEC
Xcel Energy Inc.	XEL

1 **VII. COST OF EQUITY ESTIMATION**

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

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

8 **Q. How is the required ROE determined?**

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

17 **Q. What methods did you use to determine PSE's ROE?**

18 A. I considered the results of the Constant Growth DCF model, the CAPM and
19 ECAPM models, the Bond Yield Plus Risk Premium methodology, and an
20 Expected Earnings analysis. As discussed in more detail below, a reasonable ROE

1 estimate appropriately considers alternative methodologies and the reasonableness
2 of their individual and collective results.

3 **A. Importance of Multiple Analytical Approaches**

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

5 A. Because the cost of equity is not directly observable, it must be estimated based
6 on both quantitative and qualitative information. When faced with the task of
7 estimating the cost of equity, analysts and investors are inclined to gather and
8 evaluate as much relevant data as can reasonably be analyzed. Several models
9 have been developed to estimate the cost of equity, and I use multiple approaches
10 to estimate the cost of equity. As a practical matter, however, all the models
11 available for estimating the cost of equity are subject to limiting assumptions or
12 other methodological constraints. Consequently, many well-regarded finance texts
13 recommend using multiple approaches when estimating the cost of equity. For
14 example, Copeland, Koller, and Murrin suggest using the CAPM and Arbitrage
15 Pricing Theory model,⁴³ while Brigham and Gapenski recommend the CAPM,
16 DCF, and Bond Yield Plus Risk Premium approaches.⁴⁴

⁴³ TOM COPELAND, TIM KOLLER, & JACK MURRIN, VALUATION: MEASURING AND MANAGING THE VALUE OF COMPANIES 214 (3rd ed., McKinsey & Company 2000).

⁴⁴ EUGENE BRIGHAM & LOUIS GAPENSKI, FINANCIAL MANAGEMENT: THEORY AND PRACTICE 341 (7th ed., Dryden Press 1994).

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

3 A. Yes. As I explain above, low interest rates and the effects of the investor “flight to
4 quality” can be seen in high utility share valuations, relative to historical levels
5 and relative to the broader market. Higher utility stock valuations produce lower
6 dividend yields and result in lower cost of equity estimates from a DCF analysis.
7 Low interest rates also affect the CAPM in two ways: (1) the risk-free rate is
8 lower, and (2) because the market risk premium is a function of interest rates,
9 (*i.e.*, it is the return on the broad stock market less the risk-free interest rate), the
10 risk premium should move higher when interest rates are lower. Therefore, it is
11 important to use multiple analytical approaches to moderate the impact that the
12 current low interest rate environment is having on the ROE estimates for the
13 proxy group and, where possible, consider using projected market data in the
14 models to estimate the return for the forward-looking period.

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

17 A. Yes. It is my understanding that the Commission has repeatedly emphasized that
18 it places value on each of the methodologies used to calculate the cost of equity
19 and does not find it appropriate to select a single method as being the most
20 accurate or instructive.⁴⁵ The Commission has explained that “[f]inancial

⁴⁵ *WUTC v. PacifiCorp*, Docket UE-130043, Order 05, n. 89 (Dec. 4, 2013); *see also WUTC v. Puget Sound Energy*, Dockets UE-190529, *et al.*, Final Order 08/05/03 ¶¶ 102-104 (July 8, 2020).

1 circumstances are constantly shifting and changing, and we welcome a robust and
2 diverse record of evidence based on a variety of analytics and cost of capital
3 methodologies.”⁴⁶ In Avista’s 2017 rate case, the Commission considered
4 multiple models including the DCF, CAPM, Risk Premium and Comparable
5 Earnings analyses.⁴⁷ However, the Commission relied on the results of the DCF,
6 Risk Premium, and Comparable Earnings analyses to develop the range of
7 reasonable returns excluding the results of the CAPM due to the wide range of
8 results presented and the result of one DCF analysis that the Commission viewed
9 as too low and anomalous.⁴⁸

10 In the decision in Avista’s 2020 rate proceeding, the Commission noted that in
11 addition to considering the range of model results presented in the case, it was
12 necessary to consider other relevant information and to exercise their own
13 informed judgement to establish the ROE.

14 The Commission has explained at length previously, and with
15 respect to expert witnesses who appear before us, that we must
16 exercise our own informed judgment when reviewing the subjective
17 and judgment-based models relied upon by the cost of capital
18 experts and when weighing their diverse and wide-ranging
19 testimonies and recommendations. We must evaluate all cost of
20 capital evidence offered and consider other relevant principles and
21 factors such as the general state of the economy, investment cycles
22 in the industry, and the principle of gradualism to determine,
23 consistent with the public interest, a reasonable range of returns and

⁴⁶ *WUTC v. PacifiCorp*, Docket UE-100749, Order 06 ¶ 91 (Mar. 25, 2011); *see also WUTC v. Puget Sound Energy*, Dockets UE-190529, *et al.*, Final Order 08/05/03 ¶¶ 102-104 (July 8, 2020).

⁴⁷ Avista Order 07 ¶¶ 60-66.

⁴⁸ *Id.* The Commission confirmed consideration of all models in PSE’s last rate proceeding (Dockets UE-190529, *et al.*, Final Order 08/05/03 ¶102).

1 what specific ROE within that range is appropriate for determining
2 Avista's revenue requirement.⁴⁹

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

4 A. Recent market data that is used as the basis for the assumptions for both models
5 have been affected by market conditions. As a result, relying exclusively on
6 historical assumptions in these models, without considering whether these
7 assumptions are consistent with investors' future expectations, will underestimate
8 the cost of equity that investors would require over the period that the rates in this
9 case are to be in effect. In this instance, relying on the historically low dividend
10 yields that are not expected to continue over the period that the new rates will be
11 in effect will underestimate the ROE for PSE.

12 Furthermore, as discussed in Section V above, long-term interest rates have
13 increased since August 2020 and this trend is expected to continue over the near-
14 term as the economy enters the recovery phase of the business cycle. Therefore,
15 the use of current averages of Treasury bond yields as the estimate of the risk-free
16 rate in the CAPM is not appropriate because recent market conditions are not
17 expected to continue over the long-term. Instead, analysts should rely on
18 projected yields of Treasury bonds in the CAPM. The projected Treasury bond
19 yields results in CAPM estimates that are more reflective of the market conditions
20 that investors expect during the period that the Company's rates will be in effect.

⁴⁹ *WUTC v. Avista Corp.*, Dockets UE-200900, *et al.*, Order 08/05 ¶ 97 (Sept. 27, 2021).

1 **B. Constant Growth DCF Model**

2 **Q. Please describe the DCF approach.**

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

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

6
7 Where P_0 represents the current stock price, $D_1 \dots D_\infty$ are all expected future
8 dividends, and k is the discount rate, or required ROE. Equation [1] is a standard
9 present value calculation that can be simplified and rearranged into the following
10 form:

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

11
12 Equation [2] is often referred to as the Constant Growth DCF model in which the
13 first term is the expected dividend yield and the second term is the expected long-
14 term growth rate.

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

16 A. The Constant Growth DCF model requires the following four assumptions: (1) a
17 constant growth rate for earnings and dividends; (2) a stable dividend payout
18 ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than the

1 expected growth rate.⁵⁰ To the extent that any of these assumptions is violated,
2 considered judgment and/or specific adjustments should be applied to the results.

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

5 A. The dividend yield in my Constant Growth DCF model is based on the proxy
6 companies' current annualized dividend and average closing stock prices over the
7 30-, 90-, and 180-trading days ended September 30, 2021.

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

9 A. In my Constant Growth DCF model, I use an average of recent trading days to
10 calculate the term P_0 in the DCF model so that the ROE is not skewed by
11 anomalous events that may affect stock prices on any given trading day. The
12 averaging period should also be reasonably representative of expected capital
13 market conditions over the long term. However, the averaging periods that I use
14 rely on historical data that are not consistent with the forward-looking market
15 expectations. Therefore, the results of my Constant Growth DCF model using
16 historical data are currently underestimating the forward-looking cost of equity.
17 As a result, I place more weight on the mean to mean-high results produced by
18 my Constant Growth DCF model.

⁵⁰ SHANNON PRATT & ROGER GRABOWSKI, COST OF CAPITAL IN LITIGATION: APPLICATIONS AND
EXAMPLES 252-54 (2011).

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

3 A. Yes, I did. Because utility companies tend to increase their quarterly dividends at
4 different times throughout the year, it is reasonable to assume that dividend
5 increases will be evenly distributed over calendar quarters. Given that assumption,
6 it is reasonable to apply one-half of the expected annual dividend growth rate for
7 purposes of calculating the expected dividend yield component of the DCF model.
8 This adjustment sets the expected first-year dividend yield, on average,
9 representative of the coming twelve-month period, and does not overstate the
10 aggregated dividends to be paid during that time.

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

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

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

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

5 **C. Discounted Cash Flow Model Results**

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

8 A. I calculated the low result for my DCF models using the minimum growth rate
9 (*i.e.*, the lowest of the First Call, Zacks, and Value Line earnings growth rates) for
10 each of the proxy group companies. Thus, the low result reflects the minimum
11 DCF result for the proxy group. I used a similar approach to calculate the high
12 results, using the highest growth rate for each proxy group company. The mean
13 results were calculated using the average growth rates from all sources.

14 **Q. What were the results of your DCF analyses?**

15 A. Figure 8 summarizes the results of my DCF analyses. Exh. AEB-4 shows the
16 result of the DCF model. As shown in Figure 8, the mean DCF results using
17 average growth rates range from 9.32 percent to 9.39 percent and the results using
18 consensus high growth rates are in the range of 10.07 percent to 10.15 percent.

1 **Figure 8: Constant Growth Discounted Cash Flow Results**

Constant Growth DCF - Average w/ Exclusions			
	Mean Low	Mean	Mean High
30-Day Average	8.52%	9.39%	10.15%
90-Day Average	8.46%	9.33%	10.09%
180-Day Average	8.57%	9.32%	10.07%

2
3 **Q. What are your conclusions about the results of the DCF models?**

4 A. As discussed previously, one primary assumption of the Constant Growth DCF
5 model is a constant P/E ratio. That assumption is heavily influenced by the market
6 price of utility stocks. Since utility stocks are expected to underperform the
7 broader market over the near-term as interest rates increase, it is important to
8 consider the results of the DCF models with caution. This means that the results
9 of the current DCF models are below where they would otherwise be under more
10 normal market conditions. Therefore, while I have given weight to the results of
11 the Constant Growth DCF model, my recommendation also gives weight to the
12 results of other ROE estimation models.

13 **D. CAPM Analysis**

14 **Q. Please briefly describe the CAPM.**

15 A. The CAPM is a risk premium approach that estimates the cost of equity for a
16 given security as a function of a risk-free return plus a risk premium to
17 compensate investors for the non-diversifiable, systematic risk of that security.
18 Systematic risk is the risk inherent in the entire market or market segment—which
19 cannot be diversified away using a portfolio of assets. Unsystematic risk is the

1 risk of a specific company that can, theoretically, be mitigated through portfolio
2 diversification.

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

$$5 \quad K_e = r_f + \beta(r_m - r_f) \quad [3]$$

6 Where:

- 7 • K_e = the required market ROE;
- 8 • β = Beta coefficient of an individual security;
- 9 • r_f = the risk-free rate of return; and
- 10 • r_m = the required return on the market.

11 In this specification, the term $(r_m - r_f)$ represents the market risk premium.

12 According to the theory underlying the CAPM, because unsystematic risk can be
13 diversified away, investors should only be concerned with systematic or non-
14 diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

$$15 \quad \beta = \frac{\text{Covariance}(r_e, r_m)}{\text{Variance}(r_m)} \quad [4]$$

16 The variance of the market return (*i.e.*, Variance (r_m)) is a measure of the
17 uncertainty of the general market, and the covariance between the return on a
18 specific security and the general market (*i.e.*, Covariance (r_e, r_m)) reflects the
19 extent to which the return on that security will respond to a given change in the

1 general market return. Thus, Beta represents the risk of the security relative to the
2 general market.

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

4 A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-
5 day average yield on 30-year U.S. Treasury bonds, which is 1.97 percent;⁵¹ (2) the
6 average projected 30-year U.S. Treasury bond yield for the first quarter of 2022
7 through the first quarter of 2023, which is 2.46 percent;⁵² and (3) the average
8 projected 30-year U.S. Treasury bond yield for 2023 through 2027, which is 3.40
9 percent.⁵³

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

11 A. Yes. Based on current market conditions, I place more weight on the results of the
12 projected yields on the 30-year Treasury bonds, since these results reflect
13 investors' forward-looking expectations over the period when PSE's rates will be
14 in effect.⁵⁴

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

16 A. As shown on Exh. AEB-5, I used the Beta coefficients for the proxy group
17 companies as reported by Bloomberg and Value Line. The Beta coefficients
18 reported by Bloomberg were calculated using ten years of weekly returns relative

⁵¹ Bloomberg Professional (Nov. 30, 2021).

⁵² WOLTERS KLUWER, BLUE CHIP FINANCIAL FORECASTS, Vol. 40, No. 12, 2 (Dec. 1, 2021).

⁵³ *Id.* at 14.

⁵⁴ WOLTERS KLUWER, BLUE CHIP FINANCIAL FORECASTS, Vol. 39, No. 12, 14 (Dec. 1, 2020).

1 to the S&P 500 Index. Value Line’s calculation is based on five years of weekly
2 returns relative to the New York Stock Exchange Composite Index. The use of
3 these two periods provides a shorter and longer-term view of Beta.

4 Additionally, as shown in Exh. AEB-5, I also considered an additional CAPM
5 analysis which relies on the long-term average utility Beta coefficient for the
6 companies in my proxy group. The long-term average utility Beta coefficient was
7 calculated as an average of the Value Line Beta coefficients for the companies in
8 my proxy group from 2011 through 2020, as shown on Exh. AEB-6.

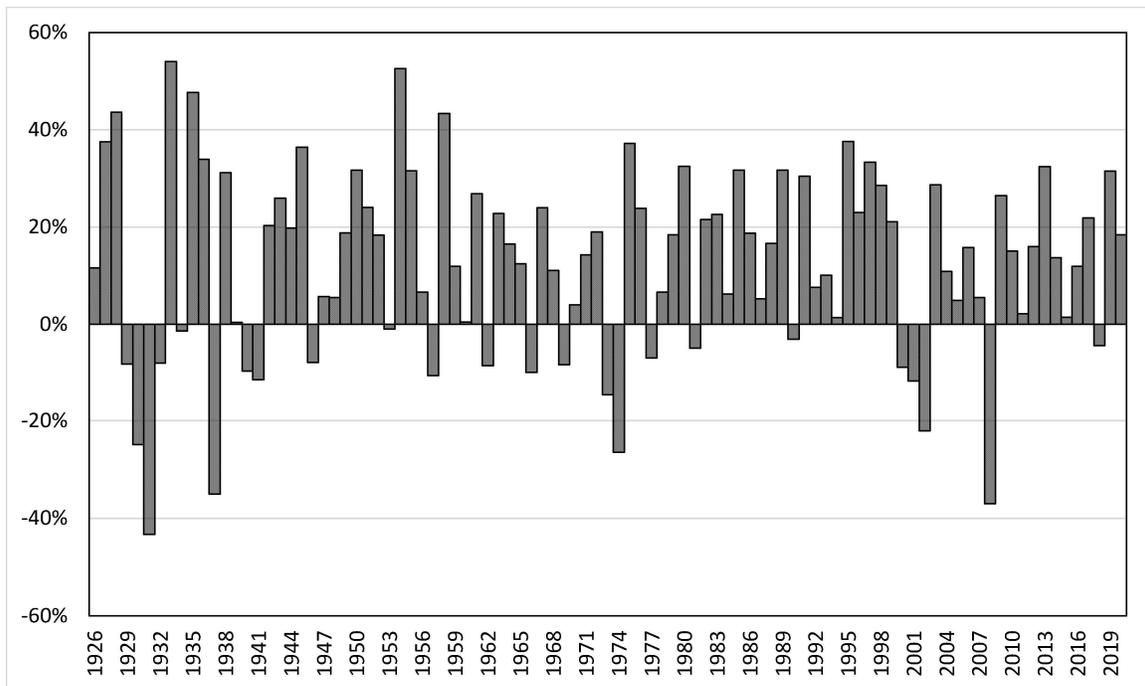
9 **Q. How did you estimate the market risk premium in the CAPM?**

10 A. I estimated the Market Risk Premium (“MRP”) as the difference between the
11 implied expected equity market return and the risk-free rate. The expected return
12 on the S&P 500 Index is calculated using the Constant Growth DCF model
13 discussed earlier in my testimony for the companies in the S&P 500 Index for
14 which dividend yields and Value Line long-term earnings projections are
15 available. Based on an estimated market capitalization-weighted dividend yield of
16 1.58 percent and a weighted long-term growth rate of 11.31 percent, the estimated
17 required market return for the S&P 500 Index is 12.97 percent, as shown on Exh.
18 AEB-7. The implied market risk premium over the current 30-day average of the
19 30-year U.S. Treasury bond yield, and projected yields on the 30-year U.S.
20 Treasury bond, ranges from 9.57 percent to 11.00 percent.

1 **Q. How does the current expected market return compare to observed historical**
2 **market returns?**

3 A. Given the range of annual equity returns that have been observed over the past
4 century (shown in Figure 9), a current expected return of 12.97 percent is not
5 unreasonable. In 49 out of the past 94 years (more than 50 percent of
6 observations), the realized equity return was at least 12.97 percent or greater.

7 **Figure 9: Realized U.S. equity market returns (1926-2020)⁵⁵**



⁵⁵ Depicts total annual returns on large company stocks, as reported in the 2021 Duff and Phelps SBBI Yearbook.

1 **Q. Did you consider another form of the CAPM in your analysis?**

2 A. Yes. I have also considered the results of an ECAPM or alternatively referred to
3 as the Zero-Beta CAPM⁵⁶ in estimating the cost of equity for PSE. The ECAPM
4 calculates the product of the adjusted Beta coefficient and the market risk
5 premium and applies a weight of 75.00 percent to that result. The model then
6 applies a 25.00 percent weight to the market risk premium, without any effect
7 from the Beta coefficient. The results of the two calculations are summed, along
8 with the risk-free rate, to produce the ECAPM result, as noted in Equation [5]
9 below:

$$10 \quad k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

11 Where:

- 12 • k_e = the required market ROE;
- 13 • β = Adjusted Beta coefficient of an individual security;
- 14 • r_f = the risk-free rate of return; and
- 15 • r_m = the required return on the market as a whole.

16 In essence, the Empirical form of the CAPM addresses the tendency of the
17 “traditional” CAPM to underestimate the cost of equity for companies with low
18 Beta coefficients such as regulated utilities. In that regard, the ECAPM is not
19 redundant to the use of adjusted Betas; rather, it recognizes the results of
20 academic research indicating that the risk-return relationship is different (in

⁵⁶ See, e.g., ROGER A. MORIN, NEW REGULATORY FINANCE 189 (2006).

1 essence, flatter) than estimated by the CAPM, and that the CAPM underestimates
2 the “alpha,” or the constant return term.⁵⁷

3 As with the CAPM, my application of the ECAPM uses the forward-looking
4 market risk premium estimates, the three yields on 30-year Treasury securities
5 noted earlier as the risk-free rate, and the Bloomberg, Value Line, and long-term
6 average Beta coefficients.

7 **Q. What are the results of your CAPM analyses?**

8 A. As shown in Figure 10 and Exh. AEB-5, my traditional CAPM analysis produces
9 a range of returns from 9.56 percent to 11.72 percent. The ECAPM analysis
10 results range from 10.41 percent to 12.03 percent.

11 **Figure 10: CAPM Results**

	Current Risk Free Rate (1.97%)	Q1 2022 – Q1 2023 Projected Risk-Free Rate (2.46%)	2023-2027 Projected Risk-Free Rate (3.40%)
CAPM			
Value Line Beta	11.53%	11.60%	11.72%
Bloomberg Beta	13.26%	13.25%	13.22%
Long-term Avg. Beta	9.55%	9.70%	9.99%
ECAPM			
Value Line Beta	11.89%	11.94%	12.03%
Bloomberg Beta	13.19%	13.18%	13.16%
Long-term Avg. Beta	10.40%	10.52%	10.74%

12

⁵⁷ *Id.* at 191.

1 **E. Bond Yield Plus Risk Premium Analysis**

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

3 A. In general terms, this approach is based on the fundamental principle that equity
4 investors bear the residual risk associated with equity ownership and therefore
5 require a premium over the return they would have earned as a bondholder. That
6 is, because returns to equity holders have greater risk than returns to bondholders,
7 equity investors must be compensated to bear that risk. Risk premium approaches,
8 therefore, estimate the cost of equity as the sum of the equity risk premium and
9 the yield on a particular class of bonds. Because PSE is a combined company, I
10 conducted two analyses. The first relies on actual authorized returns for electric
11 utility companies as the historical measure of the cost of equity to determine the
12 risk premium and the second analysis uses authorized returns for natural gas
13 utilities as the historical measure of the cost of equity.

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

16 A. Yes. It is important to recognize both academic literature and market evidence
17 indicating that the equity risk premium (as used in this approach) is inversely
18 related to the level of interest rates. That is, as interest rates increase (decrease),
19 the equity risk premium decreases (increases). Consequently, it is also important
20 to develop an analysis that: (1) reflects the inverse relationship between interest
21 rates and the equity risk premium; and (2) relies on recent and expected market
22 conditions. Such an analysis can be developed based on a regression of the risk

1 premium as a function of U.S. Treasury bond yields. Thus, if authorized ROEs for
2 electric utilities serve as the measure of required equity returns and the yield on
3 the long-term U.S. Treasury bond serves as the relevant measure of interest rates,
4 the risk premium simply would be the difference between those two points.⁵⁸

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

6 A. Yes. Investors are aware of ROE awards in other jurisdictions, and they consider
7 those awards as a benchmark for a reasonable level of equity return for utilities of
8 comparable risk operating in other jurisdictions. Because my Bond Yield Plus
9 Risk Premium analysis is based on authorized ROEs for utility companies relative
10 to corresponding Treasury yields, it provides relevant information to assess the
11 return expectations of investors.

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

13 A. As shown in Figure 11 below and Exh. AEB-8, from 1992 through November
14 2021, there was a strong negative relationship between risk premia and interest
15 rates. To estimate that relationship, I conducted a regression analysis using the
16 following equation:

17
$$RP = a + b(T) [6]$$

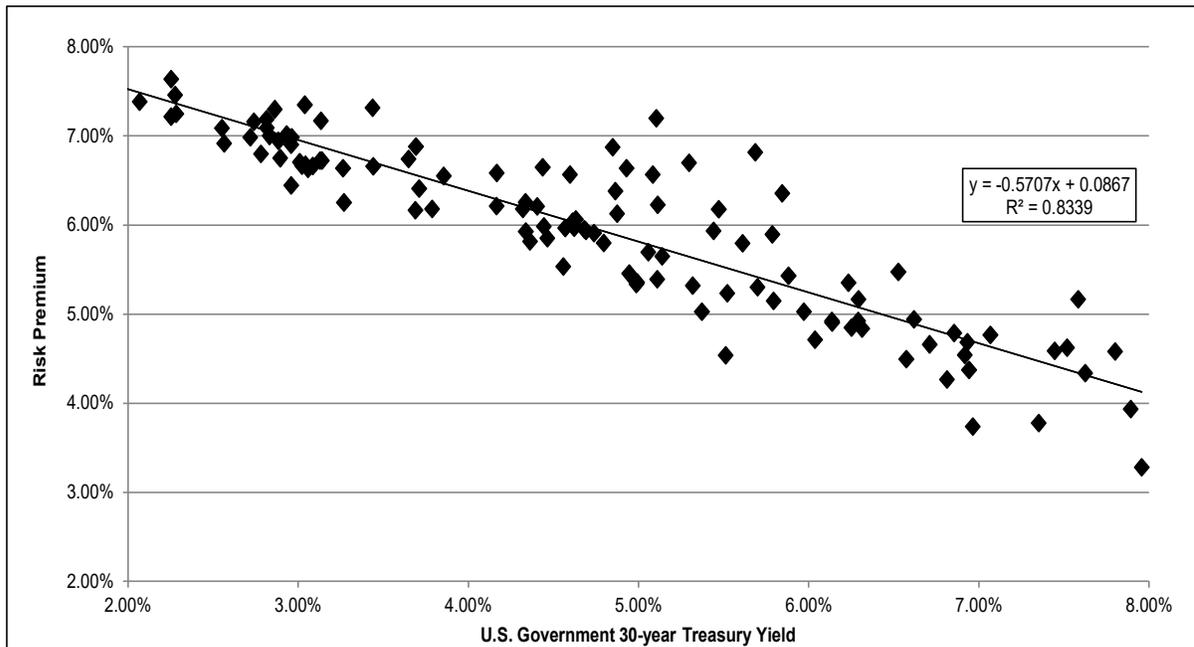
⁵⁸ See, e.g., S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, 19:2
MANAGERIAL & DECISION ECON. 127, 127-35 (Mar. 1998) (using a methodology similar to the regression
approach described below, including using allowed ROEs as the relevant data source, and came to similar
conclusions regarding the inverse relationship between risk premia and interest rates); see also Robert S.
Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, FIN. MGMT.,
Spring 1986, at 66.

1 Where:

- 2 • RP = Risk Premium (difference between allowed ROEs and the yield on
- 3 30-year U.S. Treasury bonds);
- 4 • a = intercept term;
- 5 • b = slope term; and
- 6 • T = 30-year U.S. Treasury bond yield.

7 Data regarding allowed ROEs were derived from 666 integrated electric utility
8 rate cases from 1992 through September 2021 as reported by Regulatory Research
9 Associates (“RRA”).⁵⁹ This equation’s coefficients were statistically significant at
10 the 99.00 percent level.

11 **Figure 11: Risk Premium Results**



⁵⁹ Regulatory Research Associates, Authorized Return on Equity data January 1, 1992 through September 30, 2021. This analysis began with a total of 1,321 cases and was screened to eliminate limited issue rider cases, transmission-only cases, distribution cases and cases that were silent with respect to the authorized ROE. After applying those screening criteria, the analysis was based on data for 666 cases.

1 As shown on Exh. AEB-8, based on the current 30-day average of the 30-year
2 U.S. Treasury bond yield (*i.e.*, 1.97 percent), the risk premium would be 7.55
3 percent, resulting in an estimated ROE of 9.52 percent. Based on the near-term
4 (Q1 2022 – Q1 2023) projections of the 30-year U.S. Treasury bond yield (*i.e.*,
5 2.46 percent), the risk premium would be 7.27 percent, resulting in an estimated
6 ROE of 9.73 percent. Based on longer-term (2023 – 2027) projections of the 30-
7 year U.S. Treasury bond yield (*i.e.*, 3.40 percent), the risk premium would be 6.73
8 percent, resulting in an estimated ROE of 10.13 percent.

9 **Q. What were the results of your analysis using authorized returns for natural**
10 **gas utilities as the estimate of the market-required return?**

11 A. As shown in Exh. AEB-8, the range of returns was from 9.37 percent to 9.97
12 percent using the same three estimates of the yield on the 30-year Treasury bond
13 relied upon in the analysis previously discussed using the authorized ROEs for the
14 electric utilities.

15 **Q. How did the results of the Bond Yield Risk Premium inform your**
16 **recommended ROE for PSE?**

17 A. I have considered the results of the Bond Yield Risk Premium analysis in setting
18 my recommended ROE for PSE. As noted above, investors consider the ROE
19 award of a company when assessing the risk of that company as compared to
20 utilities of comparable risk operating in other jurisdictions. The Risk Premium
21 analysis considers this comparison by estimating the return expectations of

1 investors based on the current and past ROE awards of electric and natural gas
2 utilities across the U.S.

3 **F. Expected Earnings Analysis**

4 **Q. Have you considered any additional analysis to estimate the cost of equity for**
5 **PSE?**

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

8 **Q. What is an Expected Earnings Analysis?**

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

1 **Q. Has the Commission recently considered the results of an Expected Earnings**
2 **Analysis?**

3 A. Yes. In Avista's 2017 rate case, the Commission considered the results of the
4 Comparable Earnings analysis in establishing the authorized ROE.⁶⁰ The
5 Commission noted that it tends to place more weight on the results of the DCF,
6 CAPM, and Risk Premium analyses; however, given the wide range of CAPM
7 results presented by the ROE witnesses in that case, the Commission decided to
8 apply weight to the results of the Comparable Earnings analysis.⁶¹ Specifically,
9 the Commission stated the following:

10 Finally, as additional data points for our consideration of
11 establishing Avista's ROE, we note that two witness, Mr.
12 McKenzie for Avista and Mr. Parcell for Staff, employ the
13 CE approach to two proxy groups of companies. The
14 respective mid-points of each witnesses' CE analysis are
15 10.5 and 9.5 percent, respectively, with an average of 10.0
16 percent. Although we generally do not apply material
17 weight to the CE method, having stronger reliance on the
18 DCF, CAPM and RP methods, we are inclined to include
19 the CE method here given the anomalous CAPM results
20 described previously.⁶²

21 **Q. How did you develop the Expected Earnings Approach?**

22 A. I relied primarily on the projected ROE capital for the proxy companies as
23 reported by Value Line for the period from 2024-2026. However, I adjusted those
24 projected ROEs to account for the fact that the ROEs reported by Value Line are

⁶⁰ The Expected Earnings analysis is a form of the Comparable Earnings analysis that relies exclusively on forward-looking projections.

⁶¹ Avista Order 07 ¶ 65.

⁶² *Id.*

1 calculated on the basis of common shares outstanding at the end of the period, as
2 opposed to average shares outstanding over the period. As shown in Exh. AEB-9,
3 the Expected Earnings analysis results in a mean of 11.19 percent and a median of
4 11.25 percent.

5 **VIII. REGULATORY AND BUSINESS RISKS**

6 **Q. Do the DCF, CAPM, Risk Premium, and Expected Earnings results for the**
7 **proxy group, taken alone, provide an appropriate estimate of the cost of**
8 **equity for PSE?**

9 A. No. These results provide only a range of the appropriate estimate of PSE's cost
10 of equity based on the proxy group of comparable companies. Although, as
11 discussed above, while the companies in my proxy group are generally
12 comparable to PSE, each company is unique, and no two companies have the
13 exact business and financial risk profiles. Therefore, it is important to compare the
14 business and financial risks of PSE's operations to the proxy group to determine if
15 the results of my analysis should be adjusted within the reasonable range of
16 results to account for differences in risk between PSE and the proxy group. As a
17 result, I consider several additional business and financial risk factors that must be
18 taken into consideration when determining where PSE's cost of equity falls within
19 the range of results produced by the proxy group.

1 **A. Capital Expenditures**

2 **Q. Please summarize PSE’s capital expenditure requirements.**

3 A. PSE’s current projections for 2022 through 2026 include approximately \$6.2
4 billion in capital investments for the period.⁶³ Based on PSE’s net utility plant of
5 approximately \$9.4 billion as of June 30, 2021,⁶⁴ the \$6.2 billion anticipated
6 capital expenditures are approximately 66.04 percent of PSE’s net utility plant as
7 of June 30, 2021. As discussed in Hasan, Exh. KKH-1T, these investments are
8 required to maintain existing assets, to acquire resources that meet the Clean
9 Energy Transformation Act (“CETA”) requirements and to modify PSE’s
10 transmission and distribution grids to accommodate new CETA-qualifying
11 resources. In addition, PSE’s investments are part of its commitment to
12 decarbonize its footprint to help achieve customers achieve carbon reduction
13 goals, as described in Hasan, Exh. KKH-1T, at 2.

14 **Q. How is PSE’s risk profile affected by its capital expenditure requirements?**

15 A. As with any utility facing increased capital expenditure requirements, PSE’s risk
16 profile may be adversely affected in two significant and related ways: (1) the
17 heightened level of investment increases the risk of under recovery or delayed
18 recovery of the invested capital; and (2) an inadequate return would put
19 downward pressure on key credit metrics.

⁶³ Prefiled Direct Testimony of Joshua A. Kensok, Exh. JAK-1, at Table 2.

⁶⁴ Prefiled Direct Testimony of Susan E. Free, Exh. SEF-5, at 2; Free, Exh. SEF-10, at 1.

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

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

7 When applicable, a jurisdiction's willingness to support large capital
8 projects with cash during construction is an important aspect of our
9 analysis. This is especially true when the project represents a major
10 addition to rate base and entails long lead times and technological
11 risks that make it susceptible to construction delays. Broad support
12 for all capital spending is the most credit-sustaining. Support for
13 only specific types of capital spending, such as specific
14 environmental projects or system integrity plans, is less so, but still
15 favorable for creditors. Allowance of a cash return on construction
16 work-in-progress or similar ratemaking methods historically were
17 extraordinary measures for use in unusual circumstances, but when
18 construction costs are rising, cash flow support could be crucial to
19 maintain credit quality through the spending program. Even more
20 favorable are those jurisdictions that present an opportunity for a
21 higher return on capital projects as an incentive to investors.⁶⁵

22 Therefore, to the extent that PSE's rates do not permit the opportunity to recover
23 its full cost of doing business, PSE will face increased recovery risk and thus
24 increased pressure on its credit metrics as discussed in Shipman, Exh. TAS-1T.

⁶⁵ S&P Global Ratings, *Assessing U.S. Investor-Owned Utility Regulatory Environments* (Aug. 10, 2016), at 7.

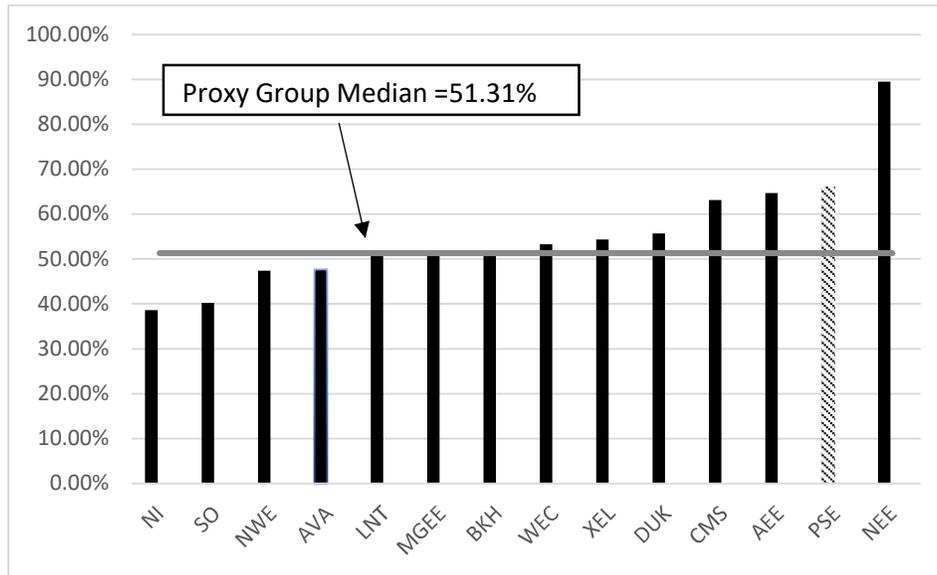
1 **Q. How do PSE's capital expenditure requirements compare to those of the**
2 **proxy group companies?**

3 A. As shown in Exh. AEB-10, I calculated the ratio of expected capital expenditures
4 to net utility plant for PSE and each of the companies in the proxy group by
5 dividing each company's five-year projected capital expenditures by its total net
6 utility plant.⁶⁶ As shown in Exh. AEB-10 (*see* also Figure 12 below), PSE's ratio
7 of capital expenditures as a percentage of net utility plant of approximately 66
8 percent is approximately 30 percent more than the median for the proxy group
9 companies of 51.31 percent. As discussed previously, the amount of capital
10 investment that is projected is elevated above a normal capital investment plan for
11 PSE due to the need to meet the requirements of the CETA legislation. The risks
12 associated with the implementation of CETA are discussed in more detail in
13 Section VII.C of my testimony. However, the incremental risk associated with the
14 Company's capital investment plan indicates greater risk relative to the companies
15 in the proxy group.

⁶⁶ Based on data available, net utility plant for the proxy group companies is as of December 31, 2020.

1

Figure 12: Comparison of Capital Expenditures – Proxy Group Companies



2

3

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

6 A. No. While there are several legislative requirements to allow for the deferral of
 7 costs that are prudently incurred, such as the costs of power plants that meet
 8 greenhouse gas emission reduction standards, CETA/CEIP costs and
 9 decommissioning and remediation of costs associated with coal-fired generation
 10 resources, there are no recovery mechanisms that provide for the recovery of
 11 these costs between rate proceedings. Therefore, PSE still depends on rate case
 12 filings for all capital cost recovery. Increased capital expenditure programs like
 13 PSE’s often receive cost recovery through infrastructure and capital trackers in
 14 other jurisdictions. As shown in Exh. AEB-11, 47.95 percent of the proxy group
 15 utilities recover costs through capital tracking mechanisms. In this case, PSE is

1 requesting a multi-year rate plan that will provide more timely recovery of these
2 types of investments over the three-year rate plan. As discussed in Hasan, Exh.
3 KKH-1T, the inclusion of used and useful property in rates at the start of the
4 multi-year rate plan and during each year of the rate plan will (1) allow PSE an
5 opportunity to earn its return throughout the multi-year rate plan, (2) provide PSE
6 the ability to fund critical operational programs for the benefits of customers and
7 (3) enable PSE to maintain the credit profile required by the rating agencies, its
8 financial liquidity, and its access to debt capital markets.

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

11 A. PSE's capital expenditure requirements as a percentage of net utility plant are
12 significant over the next several years and will require regulatory support in order
13 to meet the Company's commitment to CETA through its investment plans.

14 **B. Regulatory Risk**

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

17 A. The ratemaking process is premised on the principle that, for investors and
18 companies to commit the capital needed to provide safe and reliable utility
19 service, the subject utility must have the opportunity to recover the return of, and
20 the market-required return on, invested capital. Regulatory authorities recognize
21 that because utility operations are capital intensive, regulatory decisions should

1 enable the utility to attract capital at reasonable terms; doing so balances the long-
2 term interests of investors and customers. Utilities must finance their operations
3 and require the opportunity to earn a reasonable return on their invested capital to
4 maintain their financial profiles. PSE is no exception. In that respect, the
5 regulatory environment is one of the most important factors considered in both
6 debt and equity investors' risk assessments.

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

16 Equity investors require that the authorized return be adequate to provide a risk-
17 comparable return on the equity portion of the utility's capital investments.

18 Because equity investors are the residual claimants on the utility's cash flows
19 (which is to say that the equity return is subordinate to interest payments), they
20 are particularly concerned with the strength of regulatory support and its effect on
21 future cash flows.

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

3 A. Both S&P and Moody's consider the overall regulatory framework in establishing
4 credit ratings. Moody's assigns regulatory risk a weighting of 80 percent for
5 business risk for regulated utilities.⁶⁷ S&P also identifies the regulatory
6 framework as an important factor in credit ratings for regulated utilities, assigning
7 a weighting of 60 percent.⁶⁸

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

10 A. The regulatory environment can significantly affect both the access to and cost of
11 capital in several ways. First, the proportion and cost of debt capital available to
12 utility companies are influenced by the rating agencies' assessment of the
13 regulatory environment. As noted by Moody's, "[f]or rate regulated utilities,
14 which typically operate as a monopoly, the regulatory environment and how the
15 utility adapts to that environment are the most important credit considerations."⁶⁹
16 Moody's further highlighted the relevance of a stable and predictable regulatory
17 environment to a utility's credit quality, noting: "[b]roadly speaking, the
18 Regulatory Framework is the foundation for how all the decisions that affect

⁶⁷ Moody's Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities*, (Sept. 10, 2020), at 4.

⁶⁸ S&P Global, *Criteria | Corporates | General: Corporate Methodology* (May 27, 2021), at 22.

⁶⁹ Moody's Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities* (June 23, 2017), at 6.

1 utilities are made (including the setting of rates), as well as the predictability and
2 consistency of decision-making provided by that foundation.”⁷⁰

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

6 A. Yes. I have evaluated the regulatory framework in Washington on five factors that
7 are important in terms of providing a regulated utility an opportunity to earn its
8 authorized ROE. These are: (1) fuel cost recovery; (2) test year convention (*i.e.*,
9 forecast vs. historical); (3) method for determining rate base (*i.e.*, average vs.
10 year-end); (4) use of revenue decoupling mechanisms or other clauses; and (5)
11 prevalence of capital cost recovery between rate cases. The results of this
12 regulatory risk assessment are shown in Exh. AEB-11 and are summarized below.

13 **1. Implementation of a Multi-Year Rate Plan**

14 **Q. Please summarize the Company’s Multi-Year Rate Plan.**

15 A. The Company is proposing a three-year rate plan with calculations shown over six
16 time periods, that include expected changes of costs and capital investment over
17 the multi-year rate plan. The test year for the multi-year rate plan ended June 30,
18 2021, with traditional pro forma adjustments through December 31, 2021, that
19 will be updated to actual data through September 30, 2021. Initial rates will
20 include forecasted plant additions and retirements through December 31, 2022,

⁷⁰ *Id.*

1 and forecasted plant additions through 2023 with a rate base reflected on an
2 average of the monthly averages basis. The Company is proposing that rates will
3 be in effect as of January 1, 2023. The three rate years are from 2023 through
4 2025. The details of the Company's proposal are discussed in the Prefiled Direct
5 Testimony of Susan E. Free, Exh. SEF-1T.

6 **Q. What are the benefits of a multi-year rate plan?**

7 A. As discussed in more detail in Free, Exh. SEF-1T, and Hasan, Exh. KKH-1T, the
8 multi-year rate plan is expected to mitigate some of the risk related to regulatory
9 lag, cash flow volatility, as well as provide some predictability in the revenue
10 requirement over the term of the rate plan. Increasing the Company's financial
11 health is critical to help overcome the challenges that the Company faces in
12 achieving its Beyond Net Zero initiative, which is aligned with the State's CETA
13 goals.

14 **Q. How does the use of a multi-year rate plan help mitigate losses and avoid
15 regulatory lag?**

16 A. Mitigation of regulatory lag will be important to improve PSE's financial health,
17 which deteriorated as a result of the COVID-19 pandemic and the outcome of the
18 Company's last rate case. The use of a multi-year rate plan will provide the ability
19 to include in rates all used and useful property that has been placed into service in
20 each year of the multi-year rate plan, which mitigates regulatory lag and improves
21 cash flow metrics.

1 **Q. Does the inclusion of capital investment in each year of the rate plan**
2 **eliminate regulatory lag?**

3 A. No, it does not. As discussed in Section V of my testimony, recently and
4 projected into the near future, inflation has been significantly higher than the
5 Federal Reserve's target rate of 2.00 percent. Inflation affects the costs of capital
6 investments and the ongoing operating costs of the company. While companies
7 can offset a moderate amount of inflation with productivity and growth, it is not
8 reasonable to expect that inflation in the 5 to 6 percent range, as is currently being
9 experienced, can be offset with these measures. For example, the operating and
10 maintenance costs that are included in the test year ending June 30, 2021. As I
11 noted earlier in my testimony, year over year core inflation as of the end of
12 October 2021 was 4.56 percent. Rates are proposed to be in effect as of January 1,
13 2023. Therefore, if inflation were to continue at the current level, the operating
14 costs that are included in rates would be fifteen months old and likely would be
15 more than 5 percent below the actual required operating costs when rates become
16 effective. While it is possible that productivity can offset some moderate amount
17 of inflation, it is unreasonable to expect that efficiency gains could overcome a 5
18 percent increase in cost levels.

19 **Q. What is the likely risk of a multi-year rate plan if the current levels of**
20 **inflation are not addressed?**

21 A. Without an adjustment mechanism that provides for the opportunity to reset costs
22 for excessive inflation at the beginning of each rate period within the multi-year

1 rate plan, the Company will not have a reasonable opportunity to earn its
2 authorized ROE.

3 **Q. How do the credit rating agencies view the use of multi-year rate plans?**

4 A. The credit ratings agencies see the use of multi-year rate plan as a potential
5 improvement in the regulatory environment, but one that depends on how the
6 regulatory body implements the multi-year rate plan; a multi-year rate plan can
7 improve or exacerbate regulatory lag, as described in Shipman, Exh.TAS-1T. In
8 its recent credit opinion on Puget Energy, Inc., Moody’s noted that the recent
9 passage of SB 5295, which follows the clean energy bill seeks to reform the
10 regulatory framework, including multi-year rate plans and Performance Based
11 Ratemaking (“PBR”). Moody’s noted that this type of reform was credit positive,
12 but recognize that the Company is dependent on the support of the Commission:

13 We view the bills as credit positive as they could enhance the
14 consistency and predictability of utility regulation if implemented.
15 Specifically, we view the PBR construct as a credit supportive rate
16 making mechanism because multi-year rate plans with performance
17 targets and the potential to earn performance incentives could
18 reduce regulatory lag. It could also aide PSE’s renewable transition,
19 improve operational efficiency and enhance cash flow and
20 profitability, all while considering customer cost and service.
21 Nevertheless, the extent to which the new law will enhance the
22 Washington regulatory framework and improve utility financial
23 performance is subject to WUTC decisions, which have been
24 historically inconsistent.⁷¹

⁷¹ Moody’s Investor Services, *Credit Opinion: Puget Energy, Inc.* (Aug. 26, 2021), at 4.

1 Consistent with its outlook on PSE, S&P moved Washington into the middle of
2 its assessments of regulatory jurisdictions in its latest review, noting the role of
3 the multiyear rate plan:

4 We revised our regulatory jurisdiction assessment on Washington
5 state to very credit supportive from more credit supportive. This
6 reflected our view that the Washington regulatory construct has
7 strengthened. Gov. Jay Inslee recently signed Senate Bill (SB) 5295
8 into law. It includes the mandatory filing of multiyear rate plans and
9 performance-based rate making that we view as credit supportive.
10 We expect the multiyear rate plans will enable utilities to reduce
11 regulatory lag and smooth cash flow volatility. Utilities now must
12 file a multiyear rate plan that is in place from two to four years.
13 Furthermore, power costs may be trued-up after the second year,
14 improving cash flow predictability. We view this as a more credit
15 supportive tariff-setting design. Recoverability of operating and
16 capital costs could improve long-term capital attraction.⁷²

17 **Q. Is the use of a multi-year rate plan consistent with the approach used by the**
18 **proxy group companies?**

19 A. Yes. Approximately 50 percent of the operating companies held by the proxy
20 group provide service in jurisdictions that use a fully or partially forecast test
21 year.

22 **Q. What are your conclusions regarding the multi-year rate plan proposed by**
23 **the Company?**

24 A. The implementation of a multi-year rate plan that allows the inclusion of capital
25 investments that are used and useful as of the beginning of the rate period makes
26 the Company's overall operating risk profile more comparable to the proxy group

⁷² S&P, *Updated Views On North American Regulatory Jurisdictions* (June 29, 2021).

1 companies. However, absent a mechanism to adjust for excessive inflation, even
2 though the multi-year rate plan reduces regulatory lag with respect to the recovery
3 on and of capital investment, there is significant risk that the Company will not
4 have the ability to earn its authorized ROE.

5 **2. Fuel Cost Recovery - Power Cost Adjustment Mechanism**

6 **Q. Please summarize PSE’s fuel cost recovery mechanism.**

7 A. The Power Cost Adjustment (“PCA”) is a mechanism that accounts for
8 differences between PSE’s actual power costs and power costs that are included in
9 rates. As discussed in Hasan, Exh. KKH-1T, the PCA does not permit the
10 recovery of all power supply costs incurred on behalf of customers. Rather, the
11 PCA apportions variations in power costs between shareholders and customers.
12 Specifically, PSE’s current PCA provides for the deferral of power costs that vary
13 from the power cost baseline levels that are based on normalized assumptions
14 about weather and hydroelectric conditions. Excess costs or savings are
15 apportioned between customers and shareholders according to the following
16 schedule:

- 17 • Over/under collection up to \$17 million are born by shareholders;
- 18 • Between \$17 million and \$40 million, the Company is apportioned 35
19 percent of the over collected and 50 percent of the under collected and the
20 remainder is assigned to customers; and
- 21 • Over \$40 million, the company is apportioned 10 percent of the over or
22 under collection and the remainder is assigned to customers.⁷³

⁷³ Puget Energy Inc., Annual Report (Form 10-K) (Dec. 31, 2020), at 11.

1 As a result, the PCA does not fully mitigate the power cost risk for PSE.⁷⁴ This is
2 an important difference in the risk born by PSE as compared to the proxy group
3 companies because fuel and purchased power costs typically account for 50-60
4 percent of the total operating costs for a regulated utility.

5 **Q. How does the recovery that is provided through the PCA compare with the**
6 **PCAs that have been implemented by the electric operating utilities of the**
7 **proxy group companies?**

8 A. As shown in Exh. AEB-11, 94.52 percent of the operating companies held by my
9 proxy group are allowed to pass through fuel costs and purchased power costs
10 directly to customers, without deadbands and sharing bands. PSE's PCA is only 4
11 of 59 mechanisms that is structured such that any variation in power supply costs
12 are shared between customers and shareholders. While traditional fuel cost
13 recovery mechanisms allow all variances between projected fuel costs and actual
14 fuel costs to be recovered from or refunded to customers, PSE's PCA has a
15 deadband of \$17 million for power cost variances and asymmetrical tiered sharing
16 bands that further reduce actual recovery of net power costs.⁷⁵ Moreover,
17 according to SNL Financial, there are only seven states (*i.e.*, Idaho, Missouri,
18 Montana, Oregon, Vermont, Washington and Wyoming) that have fuel cost
19 recovery mechanisms with sharing bands.⁷⁶ The remaining 43 states either have

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ SNL Financial, Commission Profiles as of October 17, 2021. PacifiCorp and Avista also have sharing bands on fuel cost recovery in Washington.

1 restructured and the electric utilities do not own generation or have fuel cost
2 recovery mechanisms with a true-up between actual and forecasted fuel costs.

3 **Q. Are you aware that the Company is proposing to adjust the PCA to mitigate**
4 **its exposure to the volatility of power costs?**

5 A. Yes, I am. The Company's proposal would allow for more timely changes in the
6 variable power supply costs that are included in the PCA. This proposal will
7 decrease the regulatory lag associated with recovering power supply costs and
8 will be more comparable to the recovery that is authorized for the proxy group
9 companies. Finally, the reduction in regulatory lag will better support the
10 Company's credit metrics and credit profile.

11 **3. Mitigation of Volumetric Risk**

12 **Q. Does PSE have any protection against volumetric risk?**

13 A. Yes. While the Company does have a decoupling mechanism, in its last rate
14 proceeding, the Commission extended the electric decoupling deferral to mitigate
15 the rate increase in response to the economic instability created by the
16 pandemic.⁷⁷

⁷⁷ *WUTC v. Puget Sound Energy*, Dockets UE-190529, *et al.*, Final Order 08/05/03 ¶¶ 26, 662 (July 8, 2020).

1 **Q. How does the Company’s volumetric risk compare to the proxy companies?**

2 A. Approximately 45 percent of the companies in the proxy group have some form
3 of decoupling mechanism.⁷⁸ Therefore, if the Commission were to continue the
4 decoupling mechanism, PSE’s risk associated with volume is generally consistent
5 with the proxy group companies.

6 **4. Cost Recovery**

7 **Q. Please summarize the concerns with PSE’s ability to recover cost.**

8 A. In the Company’s last rate proceeding, the Commission deferred a number of
9 costs, including distribution upgrades to the Tacoma Liquefied Natural Gas Plant.
10 The Company is seeking to recover these costs in its multi-year rate plan
11 proposal. In addition, the Commission extended the amortization of certain
12 regulatory assets and extended the deferral of the electric decoupling adjustment
13 and the PGA. These extensions in cost recovery were implemented to mitigate the
14 revenue requirement increases for customers due to the COVID-19 pandemic.

15 While it was important for the Commission to recognize and address the unique
16 circumstances of the pandemic in the Company’s last rate proceeding, it is also
17 necessary to provide the Company with the ability to recover these costs in the
18 current proceeding, especially with recognition of the deterioration in the
19 Company’s financial health that followed the decision in the last rate case and the
20 additional capital investments that are necessary to meet the Beyond Net Zero

⁷⁸ Bulkley, Exh. AEB-11.

1 goals established by the Company and the CETA requirements set by the state. In
2 order to support these initiatives, it will be necessary to establish a capital
3 structure and rate of return that restore the cash flow metrics of the company and
4 improve its credit ratings to provide a reasonable opportunity to access capital on
5 favorable terms.

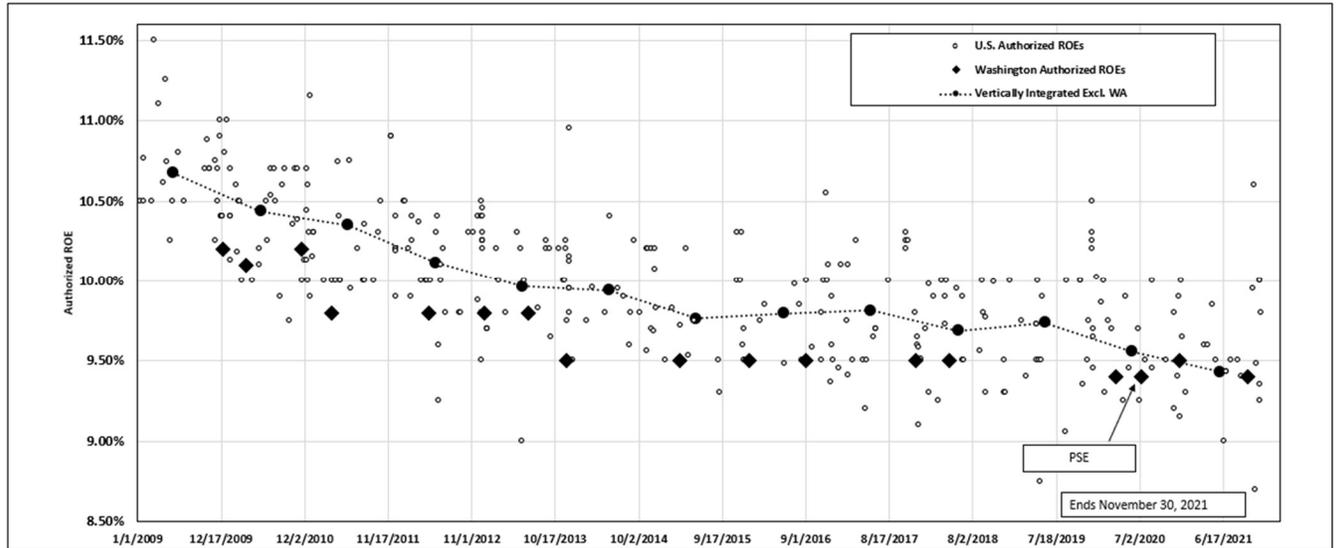
6 **5. Regulatory Supportiveness**

7 **Q. How do recent returns in Washington compare to the authorized returns in**
8 **other jurisdictions?**

9 A. As noted in RRA's evaluation above, the authorized ROEs for electric and natural
10 gas utilities in Washington, while partially the result of settlement agreements
11 approved by the Commission, have been below the average authorized ROEs for
12 electric and natural gas utilities across the U.S. Figure 13 below shows the
13 authorized returns for vertically integrated electric utilities in other jurisdictions
14 since January 2009, and the returns authorized in Washington for electric
15 companies. As shown in Figure 13, the authorized returns for electric utilities in
16 Washington have been at the low end of the range produced by the authorized
17 ROEs from other state jurisdictions for 2009 through November 2021.

1

Figure 13: Comparison of Washington and U.S. Authorized Electric Returns⁷⁹



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Q. Is there any reason that the Commission should be concerned about authorizing equity returns that are at the low end of the range established by other state regulatory jurisdictions?

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A. Yes. Credit rating agencies take the authorized ROE into consideration in the overall risk analysis of a company. Therefore, to the extent that the returns in a jurisdiction are lower than the returns that have been authorized more broadly, credit rating agencies will consider this in the overall risk assessment of the regulatory jurisdiction in which the company operates. For example, following the Company’s last rate proceeding, Moody’s issued a report indicating that the rate case outcome was credit negative based on the Commission’s extension of the amortization on certain regulatory assets for both the electric and natural gas

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⁷⁹ Regulatory Research Associates, Authorized ROE data January 1, 2009, through September 30, 2021.

1 utility operations as well as the below industry average authorized ROE and
2 equity ratio.⁸⁰

3 In August 2021 Moody's issued a full credit opinion on Puget Energy, Inc., which
4 continued to acknowledge the weakened financial profile of PSE due to the 2020
5 rate case decision. Moody's stable outlook for the parent company is based on the
6 expectation that regulatory support for the utility will improve as the state's
7 economy recovers. Further, Moody's detailed the following credit considerations:

- 8 • Both Puget and PSE's financial metrics have weakened as a result of cash
9 flow loss attributable to tax reform, changes in the utility's rate plan, and
10 significant capital expenditures;
- 11 • Puget's capital expenditures are significant. Moody's expects funding
12 internally and with a balanced mix of debt and equity;
- 13 • With the passage of CETA, Moody's expects to see more credit supportive
14 regulatory environment and outcomes. If supportive positions in the
15 legislation are implemented CETA could be credit positive; and
- 16 • Moody's expects management to mitigate negative cash flow impact of
17 2020 rate case outcome through reductions in O&M, capital investment,
18 and dividend reductions.

19 Further, Moody's noted that PSE's regulatory outcomes have recently been
20 inconsistent and less supportive. Further Moody's indicated that the outcome of
21 PSE's next regulatory proceeding will be important to the Company's credit
22 profile going forward and that Puget's credit metrics will be above 13 percent in
23 2022 and beyond.⁸¹

⁸⁰ Moody's Investor Service, *Puget Sound Energy's rate case outcome is credit negative* (July 17, 2020) (issuer comment).

⁸¹ Moody's Investor Service, *Credit Opinion: Puget Energy, Inc.* (Aug. 2021), at 1-3.

1 **Q. Has Standard & Poor's also identified its expectations regarding regulatory**
2 **management?**

3 A. Yes. While S&P's overall assessment was that the company has a stable customer
4 base which is supportive of credit quality, S&P noted that the company has been
5 susceptible to regulatory lag and unfavorable regulatory decisions, which has
6 affected their view on the overall management of regulatory risk and places PSE's
7 business profile ranking at the lower end of the range for the excellent business
8 risk category.⁸²

9 **Q. How should the Commission use the credit rating agency assessments in their**
10 **determination of the ROE for PSE?**

11 A. It is important for the Commission to recognize the importance that credit rating
12 agencies place on regulatory supportiveness in the determination of the overall
13 credit rating of a utility. While credit rating agencies opinions are developed with
14 the goal of evaluating the credit worthiness of a company to meet their debt
15 obligations, these financial assessments are equally important to consider when
16 evaluating the overall risk to an equity holder. Since equity is the last claimant in
17 the event of the dissolution of a company, it is important to recognize that the risk
18 to equity is greater than the risk to the debt holder. Therefore, when the rating
19 agencies identify a weak financial position from the perspective of the repayment
20 of debt it is important to recognize the greater risk to equity.

⁸² S&P Global Ratings, *Ratings Direct: Puget Energy* (Mar. 24, 2021), at 5-6.

1 **Q. What consideration should the Commission provide to authorized ROEs in**
2 **other jurisdictions in determining the ROE for PSE?**

3 A. As discussed above, the companies in the proxy group operate in multiple
4 jurisdictions across the U.S. Since PSE must compete directly for capital with
5 investments of similar risk, it is appropriate to review the authorized ROEs in
6 other jurisdictions. The comparison is important because investors are considering
7 the authorized returns across the U.S. and are likely to invest equity in those
8 utilities with the highest returns. Furthermore, investors are also likely to consider
9 business and financial risks for a company like PSE which faces increased risk as
10 a result of its capital expenditure plan and limited cost recovery mechanisms.
11 Therefore, authorizing an ROE for PSE that is equivalent to the average
12 authorized ROE for other vertically integrated electric utilities is not sufficient to
13 compensate investors for the added risk of PSE. As such, it is important that the
14 Commission consider, as I have in my recommendation, the additional risk of
15 PSE and place the authorized ROE for PSE towards the high end of authorized
16 ROEs for other vertically integrated electric utilities.

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

19 A. As discussed throughout this section of my testimony, both Moody's and S&P
20 have identified the supportiveness of the regulatory environment as an important
21 consideration in developing their overall credit ratings for regulated utilities. RRA
22 notes that Washington has been more restrictive than other commissions on

1 certain factors. While I recognize that under the multi-year rate plan, the test year
2 and capital cost recovery will be addressed through the inclusion of the
3 Company's assets by and during each rate period, there remain additional factors
4 that increase the risk of the Company. For instance, the Commission does not
5 permit full cost recovery through fuel cost recovery mechanisms. Additionally,
6 authorized ROEs in Washington have been below the average authorized ROEs
7 for electric and gas utilities across the U.S. The capital expenditure requirements
8 that result from CETA and decarbonization goals need to be implemented at a
9 time when the Company's credit metrics and financial health have been
10 deteriorated by the effects of the last rate proceeding, which was viewed
11 negatively by rating agencies and the negative effects of tax reform on the
12 Company's credit metrics, further stressing the metrics that are used to establish
13 credit ratings. For these reasons, I conclude that the authorized ROE for PSE
14 should be higher than the proxy group mean.

15 **C. Washington Clean Energy Transformation Act**

16 **Q. What is your understanding of the effect of CETA on PSE's operations?**

17 A. In May 2019 Washington State passed CETA, which requires all electric utilities
18 to eliminate coal-fired generation from their allocation of electricity by December
19 31, 2025, to be carbon-neutral by January 1, 2030, through a combination of non-
20 emitting electric and renewable generation, and/or alternative compliance options,
21 and by 2045 requires that 100 percent of electric generation come from non-
22 emitting and renewable resources. The investor-owned electric utilities in the state

1 are required to develop implementation plans every four years, action plans, and
2 interim targets to meet the standards between 2030 and 2045. Failure to meet
3 these requirements and investor-owned utilities must pay an administrative
4 penalty in the amount of one hundred dollars, times generation specific
5 multipliers, for every megawatt-hour of electricity generation that does not come
6 from non-emitting electric generation or a renewable resource.⁸³

7 **Q. Has the Company developed plans to meet these targets?**

8 A. Yes. The Company has demonstrated its commitment to meeting these public
9 policy goals. In January 2021, the Company announced its “Pathway to Beyond
10 Net Zero” which is a goal to reduce its carbon equivalent emissions to zero and to
11 go beyond net zero using the Company’s energy resources to help customers and
12 communities reduce their carbon impacts. As of that time, PSE was the largest
13 producer of renewable energy in the state, a leader in wind generation adoption,
14 and the fourth largest utility generator of wind power in the U.S.⁸⁴ Further, the
15 Company has developed low-income clean energy programs, was a founding
16 member of the Renewable Hydrogen Alliance to explore the use of hydrogen as a
17 replacement to fossil gas and has supported state-wide initiatives and regulations
18 aimed at carbon reduction.

⁸³ RCW 19.405.090(1).

⁸⁴ Puget Sound Energy, *Pathway to Beyond Net Zero by 2045* (Jan. 2021), at 4.

1 **Q. Has PSE’s need to diversify its generation portfolio over the near and long-**
2 **term increased its risk?**

3 A. Yes. In April 2021 the Company completed its Integrated Resource Plan included
4 a time horizon from 2022 through 2045. The IRP provides the Company’s first
5 Clean Energy Action Plan (“CEAP”) that includes significant demand side
6 resources, investment in approximately 1,400 MW of distributed energy
7 resources, and incremental investment in approximately 1,900 MW of renewable
8 resource additions over the next ten years.⁸⁵

9 **Q. How does PSE’s CEAP affect its business risk?**

10 A. PSE’s plan includes significant investment in distributed resources, as well as new
11 renewable resources. This significant investment in distributed and renewable
12 energy will require continued access to capital markets, which highlights the
13 importance of granting PSE an allowed ROE and equity ratio that is sufficient to
14 attract capital at reasonable terms. Further, as noted previously, while the credit
15 rating agencies have indicated that CETA could be credit positive, that outcome
16 assumes that there will be sufficient regulatory support and the implementation of
17 the regulatory reforms such as multi-year rate plan and PBR to achieve the state’s
18 clean energy objectives. To the extent that there is insufficient regulatory support,
19 it is likely that credit rating agencies would view CETA and the Company’s

⁸⁵ Puget Sound Energy, 2021 PSE Integrated Resource Plan (April 2021), at 2-6 (Figure 2-1).

1 CEAP as credit negative, which would likely affect both the cost of debt and
2 equity.

3 **Q. How does the business risk of vertically integrated electric utilities compare**
4 **to the business risk of other regulated utilities?**

5 A. According to Moody's, generation ownership causes vertically integrated electric
6 utilities to have higher business risk than either electric transmission and
7 distribution companies, or natural gas distribution or transportation companies.⁸⁶
8 As a result of this higher business risk, integrated electric utilities typically
9 require a higher ROE or percentage of equity in the capital structure than other
10 electric or gas utilities.

11 **Q. What are your conclusions regarding the perceived risks related PSE's**
12 **CEAP?**

13 A. PSE has demonstrated strong support for meeting and exceeding the state's CETA
14 goals. However, based on the results from the Company's last rate proceeding,
15 Moody's considered PSE's financial profile weakened. S&P also noted
16 unfavorable regulatory decisions in its somewhat lower ranking of PSE's business
17 risk. While there is incremental risk associated with CETA and the investments
18 required to achieve this objective, that risk is greater if there is not sufficient
19 regulatory support for PSE, in the form of constructive regulation including the

⁸⁶ Moody's Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities* June 23, 2017, (reprinted Sept. 10, 2020) at 21-22.

1 proposed multi-year rate plan and stronger financial support through a thicker
2 equity ratio and higher ROE.

3 **IX. CAPITAL STRUCTURE**

4 **Q. Is the capital structure of PSE an important consideration in the**
5 **determination of the appropriate ROE?**

6 A. Yes, it is. Assuming other factors equal, a higher debt ratio increases the risk to
7 investors. For debt holders, higher debt ratios result in a greater portion of the
8 available cash flow being required to meet debt service, thereby increasing the
9 risk associated with the payments on debt. The result of increased risk is a higher
10 interest rate. The incremental risk of a higher debt ratio is more significant for
11 common equity shareholders. Common shareholders are the residual claimants on
12 the cash flow of PSE. Therefore, the greater the debt service requirement, the less
13 cash flow available for common equity holders.

14 **Q. What is PSE's proposed capital structure?**

15 A. As described in Hasan, Exh. KKH-1T, PSE is proposing to establish a common
16 equity ratio of 49.00 percent in the initial year of the multi-year rate plan. To
17 further support the Company's financial strength as it seeks to achieve its Beyond
18 Net Zero and CETA goals, the company proposes to increase the equity ratio from
19 49.00 percent in the initial rate year to 50.00 percent over two steps in the multi-
20 year rate plan. This gradual change in the equity ratio will move the Company's
21 equity ratio closer to industry averages and will better support the Company's

1 coverage ratios and credit ratings. Improving the financial health of the Company
2 will provide the flexibility to access capital on reasonable terms during varying
3 and unpredictable market conditions to finance its operations and its energy
4 transformation goals.

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

7 A. I did. I reviewed PSE's proposed capital structure and the capital structures of the
8 utility operating subsidiaries of the proxy companies. Because the ROE is set
9 based on the return that is derived from the risk-comparable proxy group, it is
10 reasonable to look to the proxy group average capital structure to benchmark the
11 equity ratio for PSE.

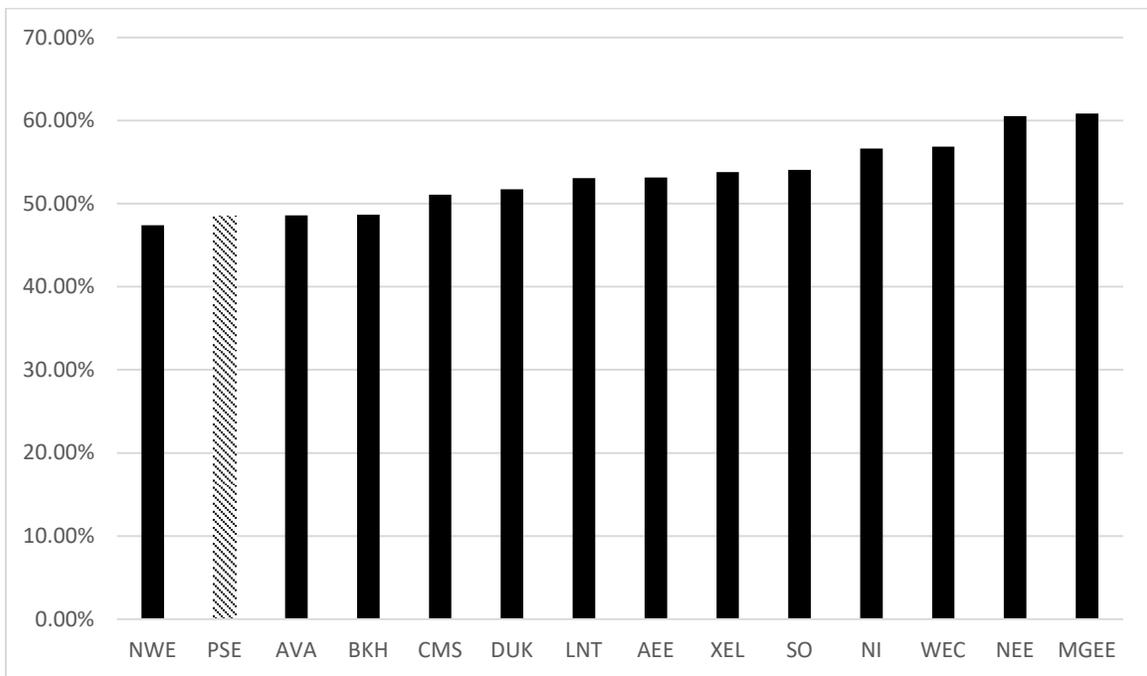
12 **Q. Please discuss your analysis of the capital structures of the proxy group**
13 **companies.**

14 A. I calculated the mean proportions of common equity, long-term debt, and
15 preferred equity over the most recent eight quarters for each of the companies in
16 the proxy group at the operating subsidiary level.⁸⁷ My analysis of the capital
17 structures of the proxy group companies is provided in Exh. AEB-12 and Figure
18 14 below. As shown in Figure 14 using the eight-quarter average, the equity ratios
19 for the proxy group at the operating utility company level ranged from 47.40

⁸⁷ The source data for this analysis is the operating company data provided in FERC Form 1 reports. Due to the timing of those filings, my average capital structure analysis uses the quarterly capital structures reported for the proxy group companies for the period from the fourth quarter of 2017 through the third quarter of 2019.

1 percent to 60.83 percent with an average of 53.20 percent. PSE’s proposed equity
2 ratio, beginning at 49.00 percent and increasing to 50.00 percent over the multi-
3 year rate plan is well below the average equity ratios for the utility operating
4 subsidiaries of the proxy group companies. The incremental leverage in the
5 proposed capital structure range for PSE demonstrates greater risk than the capital
6 structures of the proxy group companies.

7 **Figure 14: Equity Thickness of Proxy Group as Compared with PSE**



8
9 **Q. Are there other factors to be considered in setting PSE’s capital structure?**

10 A. Yes. The credit rating agencies have noted that the Company’s financials
11 weakened following tax reform in 2017 and as a result of significant capital
12 investments. Further, the credit rating agencies have noted that Washington
13 regulation has the potential to be enhanced by the cost recovery mechanism and
14 multi-year rate plan options available through the newly enacted SB 5295. The

1 Company's proposed stepped change in the equity ratio provides for the ability to
2 fund the necessary capital investment over the multi-year rate plan while working
3 to restore the Company's financial profile.

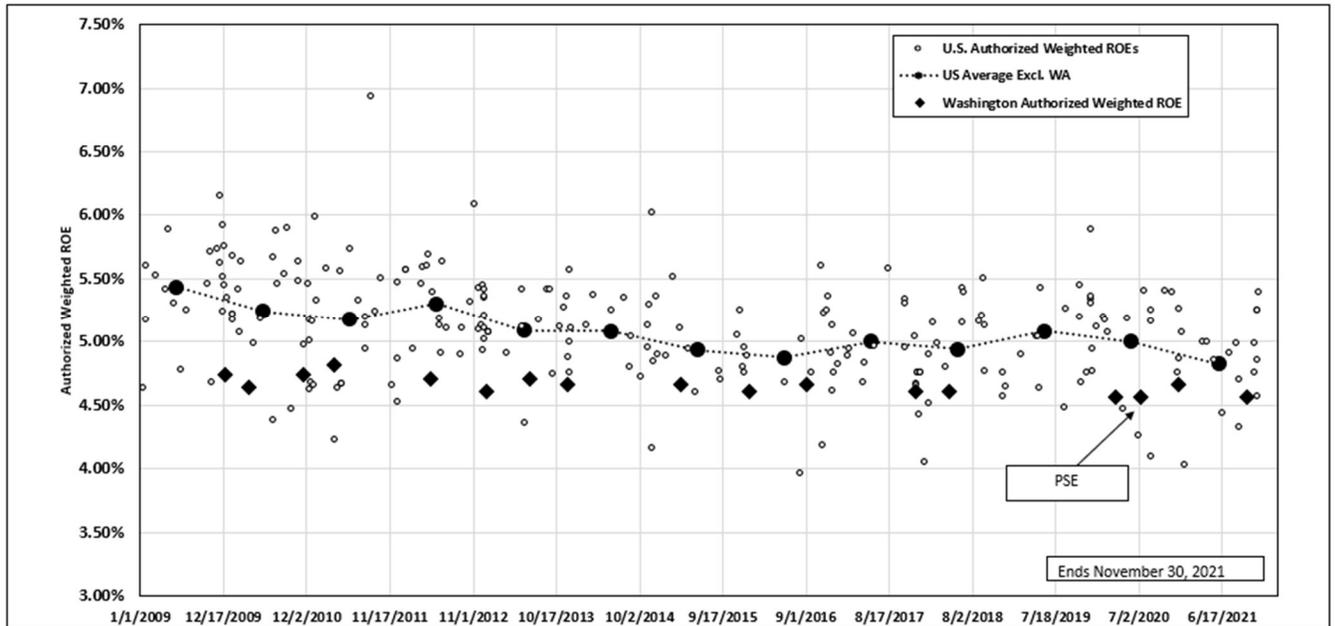
4 **Q. Is there a relationship between the equity ratio and the authorized ROE?**

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

9 **Q. Have you conducted an analysis to examine how the Commission's recent**
10 **authorized equity ratios and authorized ROEs compare to those authorized**
11 **in other jurisdictions?**

12 A. Yes. As shown in Figure 15 below, I compared the authorized WROEs (*i.e.*,
13 authorized ROE times the authorized equity ratio) for integrated electric utilities
14 in Washington to the authorized WROEs in other jurisdictions since January
15 2009. As shown in Figure 15, the authorized WROEs for integrated electric
16 utilities in Washington have been at the bottom of the range of WROEs
17 authorized by state jurisdictions.

1 **Figure 15: Comparison of Washington and U.S. Authorized**
 2 **Weighted Equity Ratios for Electric Utilities⁸⁸**



3
 4 **Q. Is it appropriate to consider the WROE that has been authorized in other**
 5 **jurisdictions when considering the appropriate equity ratio for Washington?**

6 **A.** Yes. One of the most important principles in determining the ROE for a company
 7 is to provide the company with the opportunity to earn a reasonable return on
 8 capital that is consistent with the returns available on investments of comparable
 9 risk. While it is referenced most often in the discussion of the appropriate ROE, it
 10 is equally as important to consider the equity ratio. It is the combination of the
 11 equity ratio and the authorized ROE that define the return to investors. Therefore,

⁸⁸ Rate cases in Arkansas, Florida, Indiana, and Michigan have been excluded from Figure 15 since the authorized capital structure approved in the cases includes deferred taxes and other credits at zero or low cost. The additional items have the effect of reducing both the equity and debt ratios used to establish the rate of return which, in turn, produces results that are not comparable to allowed equity ratios in other states.

1 the Commission must consider the equity ratio as well as the authorized ROE in
2 establishing a risk-comparable return.

3 **Q. What is your conclusion regarding an appropriate capital structure for PSE?**

4 A. Considering the actual capital structures of the proxy group operating companies,
5 I believe that PSE's proposal of a common equity ratio that begins at 49.00
6 percent and increases to 50.00 percent is conservative. The proposed equity ratio
7 is well below the average equity ratio for the utility operating subsidiaries of the
8 proxy companies. In addition, it is reasonable to rely on a higher equity ratio than
9 PSE may have relied on in prior cases as a result of: (a) the cash flow concerns
10 raised by credit rating agencies resulting from the TCJA; (b) PSE's significant
11 capital investment plan designed to meet the state's CETA goals; and (c) above
12 average business risk profile as compared to the proxy group. The proposed
13 equity ratio in combination with my recommended ROE are reasonable and
14 would be adequate to support capital attraction on reasonable terms.

15 **X. CONCLUSIONS AND RECOMMENDATION**

16 **Q. What is your conclusion regarding a fair ROE for PSE?**

17 A. Figure 16 below provides a summary of my analytical results. Based on these
18 results, the qualitative analyses presented in my direct testimony, and the business
19 and financial risks of PSE compared to the proxy group, it is my view that the
20 Company's proposed ROE of 9.90 is conservative and would fairly balance the
21 interests of customers and shareholders, assuming the Commission approves

1 PSE's request for increased equity thickness across the multi-year rate plan. The
2 Company's proposed ROE and capital structure would enable PSE to restore its
3 credit metrics and financial health. Stronger financial metrics will provide PSE
4 the ability to attract capital at reasonable rates under a variety of economic and
5 financial market conditions, while continuing to provide safe, reliable and
6 affordable electric utility service to customers in Washington.

Figure 16: Summary of Analytical Results⁸⁹

Constant Growth DCF			
	Median Low	Median	Median High
30-Day Average	8.68%	9.36%	9.98%
90-Day Average	8.62%	9.29%	9.92%
180-Day Average	8.62%	9.24%	9.92%
Constant Growth Average	8.64%	9.30%	9.94%
Constant Growth DCF Mean w/ exclusions⁹⁰			
	Mean Low	Mean	Mean High
30-Day Average	8.52%	9.39%	10.15%
90-Day Average	8.46%	9.33%	10.09%
180-Day Average	8.57%	9.32%	10.07%
Constant Growth Average	8.52%	9.35%	10.10%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.53%	11.60%	11.72%
Bloomberg Beta	13.26%	13.24%	13.22%
Long-Term Avg. Beta	9.55%	9.70%	9.99%
ECAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.89%	11.94%	12.03%
Bloomberg Beta	13.19%	13.18%	13.16%
Long-Term Avg. Beta	10.40%	10.52%	10.74%
Treasury Yield Plus Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Analysis- electric	9.52%	9.73%	10.13%
Risk Premium- natural gas	9.37%	9.58%	9.97%
Expected Earnings			
Mean	11.19%		
Median	11.25%		

⁸⁹ The analytical results included in Figure 16 reflect the results of the Constant Growth and Projected DCF analyses excluding the results for individual companies that did not meet the minimum threshold of 7.00 percent.

⁹⁰ Based on the threshold of 7.00 percent, only one observation was excluded in the low growth rate scenario, an estimated return for Avista of 6.98 percent in the 180-day stock price averaging scenario.

1 **Q. Does this conclude your direct testimony?**

2 A. Yes.