EXH. AEB-1T
DOCKETS UE-240004/UG-240005
2024 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-240004** **Docket UG-240005**

PREFILED DIRECT TESTIMONY (NONCONFIDENTIAL) OF

ANN E. BULKLEY

ON BEHALF OF PUGET SOUND ENERGY

FEBRUARY 15, 2024

PUGET SOUND ENERGY

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Ann E. Bulkley. My business address is One Beacon Street, Suite 2600, Boston, Massachusetts 02108. I am employed by The Brattle Group ("Brattle") as a Principal.

Q. Please describe your education and experience.

A. I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University. I have more than 25 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes. Please see Exh. AEB-2 for my professional qualifications.

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

A. I am submitting this prefiled direct testimony before the Washington Utilities and Transportation Commission ("Commission") on behalf of Puget Sound Energy ("PSE" or the "Company").

II. PURPOSE AND OVERVIEW OF TESTIMONY

Q. Please describe the purpose of this prefiled direct testimony.

A. The purpose of this prefiled direct testimony is to present evidence and provide a recommendation regarding PSE's return on equity ("ROE") for its electric and natural gas utility operations in Washington for ratemaking purposes. I also address the appropriateness of PSE's proposed capital structure.

Q. Are you sponsoring any schedules in support of your direct testimony?

A. Yes. My analyses and recommendations are supported by data presented in Exh. AEB-3 through Exh. AEB-16. These exhibits were prepared by me or under my direction.

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

A. I have estimated the ROE by applying traditional estimation methodologies to a proxy group of comparable utilities, including the constant growth form of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), the Empirical Capital Asset Pricing Model ("ECAPM"), the Bond

Yield Plus Risk Premium ("BYRP" or "Risk Premium") analysis, and the Expected Earnings analysis.

My recommendation also takes into consideration

(1) PSE's capital expenditure requirements as compared with the proxy group;

(2) PSE's regulatory risk as compared with the proxy group; and

(3) PSE's risk related to wildfires.

Finally, I compared PSE's proposed capital structure with the capital structures of the proxy companies. While I do not make specific adjustments to my ROE recommendation for these factors, I did consider them in the aggregate when determining where my recommended ROE falls within the range of the analytical results.

Q. How is the remainder of this prefiled direct testimony organized?

A. The remainder of this prefiled direct testimony is organized as follows:

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

- Section VIII provides a discussion of specific regulatory, business and financial risks that directly affect the ROE to be authorized for PSE in this case.

- Section IX addresses PSE's capital structure as compared with the capital structures of the utility operating company subsidiaries of the proxy group companies.

- Section X presents my conclusions and recommendations.

III. SUMMARY OF ANALYSIS AND CONCLUSIONS

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

A. The key factors that I considered in my cost of equity analyses and recommended ROE for PSE in this proceeding are:

- The United States Supreme Court's *Hope*[1] and *Bluefield*[2] decisions that establish the standards for determining a fair and reasonable allowed ROE, including consistency of the allowed return with the returns of other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and the requirement that the result lead to just and reasonable rates;[3]

- The effect of current and projected capital market conditions on ROE estimation models and on investors' return requirements;

- The results of several analytical approaches that provide estimates of PSE's cost of equity. Because PSE's required cost of equity should be a forward-looking estimate, these analyses rely on forward-looking inputs and assumptions (e.g., projected analyst growth rates in the DCF model, forecasted risk-free rate and Market Risk Premium in the CAPM analysis, etc.);

[1] *Fed. Power Comm'n v. Hope Nat. Gas Co.*, 320 U.S. 591 (1944) ("Hope").
[2] *Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n of W. Virginia*, 262 U.S. 679, 693 (1923) ("Bluefield").
[3] *See Bluefield*, 262 U.S. at 693; *see also Hope*, 320 U.S. at 603.

- The capital requirements necessary to execute to meet the requirements of the Clean Energy Transformation Act ("CETA") and the energy transition outlined therein; and

- PSE's regulatory, business, financial, and regulatory risks relative to the proxy group of comparable companies, and the implications of those risks in determining an appropriate ROE for PSE over the period during which rates will be in effect.

Q. Please explain how you considered those factors.

A. I relied on the range of results produced by the Constant Growth DCF model, the CAPM and ECAPM, the Risk Premium, and Expected Earnings analyses. As shown in Figure 1, these cost of equity estimation models produce a wide range of results.

My conclusion as to the appropriate ROE for PSE within this range of results is based on:

(1) PSE's business and financial risk relative to the proxy group,

(2) PSE's cash flow and liquidity requirements related to the significant investment required to meet the requirements of CETA, and

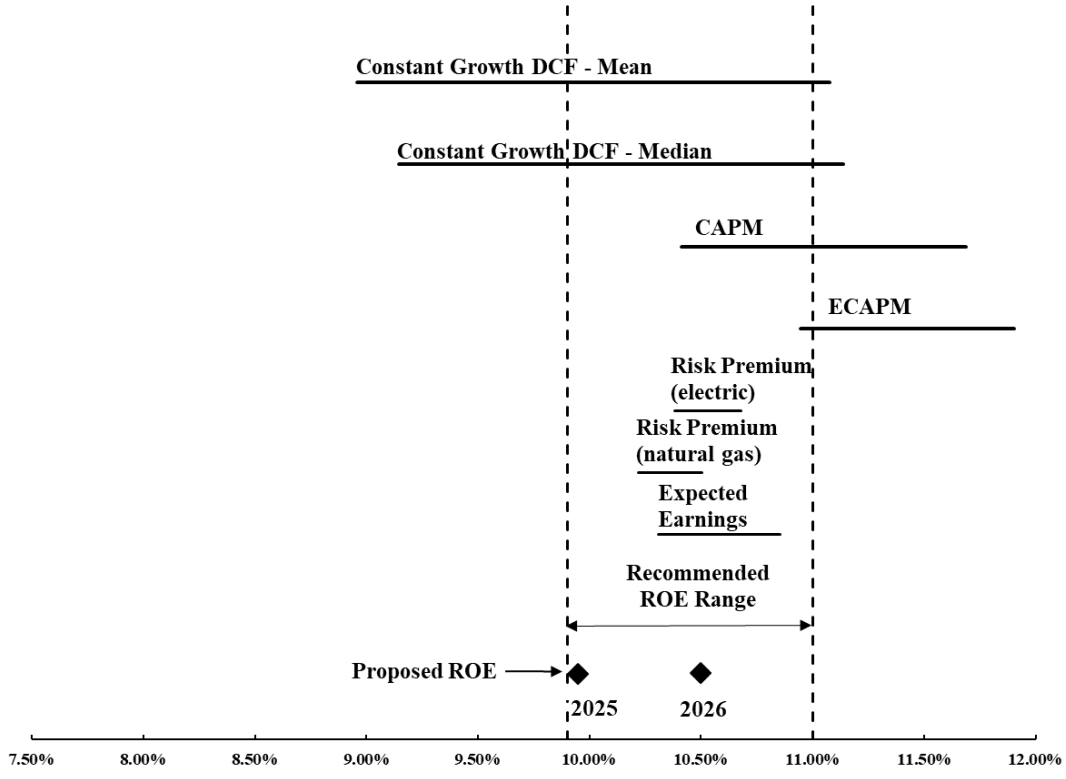
(3) my assessment of market conditions.

Although the companies in my proxy group are generally comparable to PSE, each company is unique, and no two companies have the exact same business and financial risk profiles. Accordingly, I considered PSE's business, financial, and regulatory risk in aggregate relative to that of the proxy group companies when determining where PSE's ROE should fall within the reasonable range of analytical results to appropriately account for any residual differences in risk.

Q. What are the results of the models that you have used to estimate the cost of equity for PSE?

A. Figure 1 summarizes the range of results produced by the Constant Growth DCF, CAPM, ECAPM, Risk Premium, and Expected Earnings analyses.[4]

Figure 1. Summary of Cost of Equity Analytical Results



As shown in Figure 1 and in Exh. AEB-3, the range of results produced by the ROE estimation models is wide. Although it is common to consider multiple models to estimate the cost of equity, it is particularly important when the range of results varies considerably across methodologies. As a result, my ROE recommendation

[4] Please see Exh. AEB-3 for a summary of ROE model results.

considers the range of results of the Constant Growth DCF model, as well as the results of the CAPM, ECAPM, Risk Premium, and Expected Earnings analyses. My ROE recommendation also considers PSE's company-specific risk factors and current and prospective capital market conditions.

Q. Why is it important to consider prospective capital market conditions in setting the ROE in this proceeding?

A. Capital market conditions are expected to affect the results of the cost of equity estimation models. Specifically:

- Inflation is expected to persist over the near-term, which increases the operating risk of the utility during the period in which rates will be in effect.
- Long-term interest rates have increased substantially in the past year and are expected to remain relatively high at least over the near-term in response to inflation.
- Since utility dividend yields are now less attractive than the risk-free rates of government bonds, and interest rates are expected to remain near current levels throughout the MYRP, it is likely that utility share prices will decline.
- Rating agencies have noted weak credit metrics since the pandemic, focusing on increased capital expenditures and related cost recovery risk due to increased financing costs. Further, Moody's Investors Service ("Moody's") most recently indicating its outlook for the industry in 2023 is "negative," citing factors such as interest rates and inflation that create pressure for customer affordability and prompt rate recovery.
- Similarly, equity analysts have noted the increased risk for the utility sector as a result of increases in interest rates and expect the sector to underperform over the near-term.
- Consequently, the results of the DCF model, which relies on current utility share prices, is likely to understate the cost of equity during the rate effective period for this proceeding.

It is appropriate to consider all of these factors when estimating a reasonable range of the investor-required cost of equity and the recommended ROE for PSE.

Q. What is your recommended ROE for PSE in this proceeding?

A. Considering the analytical results presented in Figure 1, current and prospective capital market conditions, and PSE's regulatory, business, and financial risk relative to the proxy group, I conclude that PSE's proposal to phase in the ROE—9.95 percent for the first year and 10.5 percent for the remainder of the MYRP—is reasonable.

Q. Have you conducted any analysis of the capital structure that is being proposed by PSE?

A. Yes. PSE is proposing a hypothetical capital structure with an equity ratio of 50.00 percent for the first year and 51.00 percent for the remainder of the MYRP. Please see the Prefiled Direct Testimony of Dan A. Doyle, Exh. DAD-1CT, for a discussion of PSE's proposed capital structure in this proceeding.

Based on the analysis presented in Section IX of my testimony, I conclude that PSE's proposed equity ratio has greater risk (more leverage) than the proxy group. To make this determination, I reviewed the capital structures of the utility subsidiaries of the proxy companies.

As shown in Exh. AEB-16, the current average equity ratios for the utility operating companies of the proxy group range from 45.52 percent to 66.21 percent with an

average of 54.99 percent. Comparing PSE's proposal to the current equity ratios for the proxy group demonstrates that PSE's proposed capital structure will include more leverage (and therefore greater financial risk) than the proxy group, on average.

Furthermore, a fundamental aspect of the financial regulation of utilities is assuring that the subject utility has a reasonable opportunity to earn a return on capital consistent with the return available on investments of similar risk. Although this principle is most often discussed in terms of the allowed ROE, it is equally applicable to all aspects of overall rate of return ("ROR"). The equity return, the product of the ROE and the equity ratio, (i.e., the weighted return on equity), ultimately defines the return to shareholders, and the product of the cost of debt and the debt ratio helps a company meet its debt obligations. Therefore, it is necessary to consider both the rates that are applied to debt and equity and the composition of the capital structure to determine the reasonableness of the rate of return. Taken together, PSE's proposal results in the following weighted ROEs:

- for the first year of the MYRP, PSE's proposed ROE of 9.95 percent and common equity ratio of 50.00 percent results in a weighted ROE of 4.975 percent; and
- for the remainder of the MYRP, PSE's proposed ROE of 10.50 percent and common equity ratio of 51.00 percent results in a weighted ROE of 5.355 percent.

These equity returns reasonably balance the interests of customers and shareholders by enabling PSE to maintain its financial integrity (and therefore its ability to attract

capital at reasonable terms and conditions) under a variety of economic and financial market conditions.

Q. How does PSE's requested capital structure factor into its financial risk profile?

A. PSE's projected equity ratios of 50.00 percent and 51.00 percent over the MYRP are well below the average equity ratio for the utility operating subsidiaries of the proxy group companies (54.99 percent). PSE's lower projected equity ratio results in more leverage than the proxy group companies, which increases the overall financial risk for PSE as compared with the proxy group. This is particularly important when considering the credit rating agencies' concerns regarding the cash flows and credit metrics of PSE. As discussed in the Prefiled Direct Testimony of Cara G. Peterman, Exh. CGP-1CT, PSE will be performing below the downgrade thresholds for key cash flow metrics based on projections for calendar years 2023 and 2024. Specifically, Figures 1 and 1 of Peterman's prefiled direct testimony provide PSE's historical trend in S&P and Moody's key credit ratios and demonstrates that PSE will be below the S&P Funds from Operations ("FFO") to debt metrics and Moody's DCF pre-working capital to debt metrics in calendar years 2023 and 2024. Therefore, it is important to establish an ROE and capital structure that will support these metrics. As discussed in Peterman's prefiled direct testimony, PSE's proposed ROE and capital structure would bring PSE's key metrics back above downgrade thresholds in calendar 2026.

IV. REGULATORY GUIDELINES

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

A. The United States Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the standards for determining the fairness or reasonableness of a utility's allowed ROE. Among the standards established by the Court in those cases are:

(1) consistency with other businesses having similar or comparable risks;

(2) adequacy of the return to support credit quality and access to capital; and

(3) the principle that the result reached, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[5]

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

A. Yes. In Docket UE-121697 *et al*., PSE's 2013 expedited rate filing, the Commission stated that:

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

[5] *Hope*, 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923).
[6] *WUTC v. Puget Sound Energy*, Dockets UE-121697 & UG-121705, Order 15 ¶ 38 (June 29, 2015).

Further, in Dockets UE-170485 and UG-170486, the 2017 rate case of Avista Corporation ("Avista"), the Commission stated that:

> The Commission's final determination of an acceptable ROE recognizes fully the guiding principles of regulatory ratemaking that require us to reach an end result that yields fair, just, reasonable, and sufficient rates.[7]

This guidance is in accordance with my view that an allowed rate of return must be sufficient to enable regulated companies, like PSE, the ability to attract capital on reasonable terms.

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

A. An ROE that is adequate to attract capital at reasonable terms enables PSE to continue to provide safe, reliable electric and natural gas service while maintaining its financial integrity. That return should be commensurate with returns expected elsewhere in the market for investments of equivalent risk. If it is not, debt and equity investors will seek alternative investment opportunities for which the expected return reflects the perceived risks, thereby inhibiting PSE's ability to attract capital at reasonable cost.

[7] *WUTC v. Avista Corp*., Dockets UE-170485/UG-170486, Order 07 ¶ 59 (Apr. 26, 2018) ("Avista Order 07").

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

A. Yes. Utilities compete directly for capital with other investments of similar risk, which include other electric, natural gas, and water utilities. Therefore, the ROE authorized for a utility sends an important signal to investors regarding whether there is regulatory support for financial integrity, dividends, growth, and fair compensation for business and financial risk.

The cost of capital represents an opportunity cost to investors. If higher returns are available elsewhere for other investments of comparable risk over the same time-period, investors have an incentive to direct their capital to those alternative investments. Thus, an authorized ROE significantly below authorized ROEs for other electric, natural gas, and water utilities can inhibit the utility's ability to attract capital for investment.

Q. Is the regulatory framework and the authorized ROE and equity ratio important to the financial community?

A. Yes. The regulatory framework is one of the most important factors in debt and equity investors' assessments of risk. Specifically regarding debt investors, credit rating agencies consider the authorized ROE and equity ratio for regulated utilities to be very important for two reasons:

(1) the authorized ROE and equity ratio help determine the cash flows and credit metrics of the regulated utility; and

(2) the authorized ROE and equity ratio provide an indication of the degree of regulatory support for credit quality in the jurisdiction.

To the extent that the authorized 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. Not only do credit ratings affect the overall cost of borrowing, they also act as a signal to equity investors about the risk of investing in the equity of a company.

Q. What are your conclusions regarding regulatory guidelines?

A. The ratemaking process is premised on the principle that, in order for investors and companies to commit the capital needed to provide safe and reliable utility services, a utility must have a reasonable opportunity to recover the return of, and the market-required return on, its invested capital. Accordingly, the Commission's order in this proceeding should establish rates that provide PSE with a reasonable opportunity to earn a ROE that is:

(1) adequate to attract capital at reasonable terms;

(2) sufficient to ensure its financial integrity; and

(3) commensurate with returns on investments in enterprises with similar risk.

It is important that the ROE authorized in this proceeding take into consideration current and projected capital market conditions, as well as investors' expectations and requirements for both risks and returns. Because utility operations are capital-intensive, regulatory decisions should enable the utility to attract capital at

reasonable terms under a variety of economic and financial market conditions. Providing the opportunity to earn a market-based cost of capital supports the financial integrity of PSE, which is in the interest of both customers and shareholders.

V. CAPITAL MARKET CONDITIONS

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

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

Regulatory commissions and analysts recognize that current market conditions affect the results of the cost of equity estimation models. As a result, it is important to consider the effect of the market conditions on these models when determining an appropriate range for the ROE and the recommended ROE for ratemaking purposes for a future period. If investors do not expect current market conditions to be sustained in the future, it is possible that the cost of equity estimation models

will not provide an accurate estimate of investors' required return during the applicable rate-effective period. Therefore, it is important to consider projected market data to estimate the return for that forward-looking period.

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

A. The cost of equity for regulated utility companies is affected by several factors in the current and prospective capital markets, including: (1) changes in monetary policy; (2) inflation above target levels; and (3) increased interest rates that are expected to remain relatively high over the next few years. These factors affect the assumptions used in the cost of equity estimation models.

A. Inflationary Expectations in Current and Projected Capital Market Conditions

Q. What has the level of inflation been over the past few years?

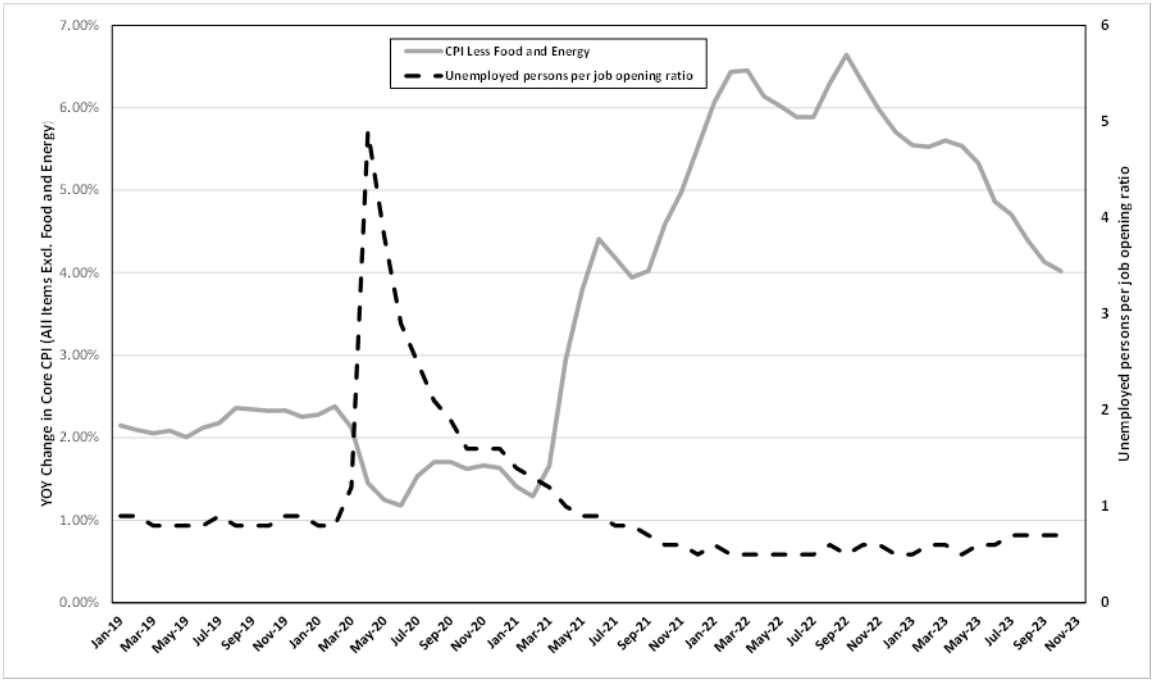
A. As shown in Figure 2, core inflation increased steadily beginning in early 2021, rising from 1.41 percent in January 2021 to a high of 6.64 percent in September 2022, which was the largest 12-month increase since 1982.[8] Since that time, while core inflation has declined in response to the Federal Reserve's monetary policy, it

[8] Figure 2 presents the year-over-year ("YOY") change in core inflation, as measured by the Consumer Price Index ("CPI") excluding food and energy prices as published by the Bureau of Labor Statistics. I considered core inflation because it is the preferred inflation indicator of the Federal Reserve for determining the direction of monetary policy. Core inflation is preferred by the Federal Reserve because it removes the effect of food and energy prices, which can be highly volatile.

continues to remain significantly above the Federal Reserve's target level of 2.0 percent.

In addition, I also considered the ratio of unemployed persons per job opening, which is currently 0.7 and has been consistently below 1.0 since 2021, despite the Federal Reserve's accelerated policy normalization. This metric indicates sustained strength in the labor market. Given the Federal Reserve's dual mandate of maximum employment and price stability, the continued increased levels of core inflation coupled with the strength in the labor market has resulted in the Federal Reserve's sustained focus on the priority of reducing inflation.

Figure 2. Core Inflation and Unemployed Persons-to-Job Openings, January 2019 to November 2023[9]



[9] Bureau of Labor Statistics.

Q. What are the expectations for inflation over the near term?

A. The Federal Reserve has indicated that it expects inflation will remain elevated above its target level until 2026. The Federal Reserve has further indicated that the extent to which it maintains a restrictive monetary policy will depend on market indicators going forward. For example, at the Federal Open Market Committee meeting on December 13, 2023, Federal Reserve Chair Powell observed that although inflation is off of its recent highs, it remains high and noted that further policy firming is possible based on the data:

> Today, we decided to leave our policy interest rate unchanged and to continue to reduce our securities holdings. Given how far we have come, along with the uncertainties and risks that we face, the Committee is proceeding carefully. We will make decisions about the extent of any additional policy firming and how long policy will remain restrictive based on the totality of the incoming data, the evolving outlook, and the balance of risks.[10]

Chair Powell reiterated that the Federal Open Market Committee was committed to bringing inflation down to the two percent target level and that, while the easing of inflation has been good news, it is currently projected to take until 2026 to reach the Federal Reserve's target of two percent:

> Inflation has eased over the past year but remains above our longer-run goal of 2 percent. Based on the Consumer Price Index and other data, we estimate that total PCE prices rose 2.6 percent over the 12 months ending in November; and that, excluding the volatile food and energy categories, core PCE prices rose 3.1 percent. The lower inflation readings over the past several months are welcome, but we will need to see further evidence to build confidence that inflation is moving down sustainably toward our goal. Longer-term

[10] Federal Reserve, *Transcript of Chair Powell's Press Conference*, at 1 (Dec.13, 2023), https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20231213.pdf, available at Exh. AEB-18.

> inflation expectations appear to remain well anchored, as reflected in a broad range of surveys of households, businesses, and forecasters, as well as measures from financial markets. As is evident from the SEP [Summary of Economic Projections], we anticipate that the process of getting inflation all the way to 2 percent will take some time. The median projection in the SEP is 2.8 percent this year, falls to 2.4 percent next year, and reaches 2 percent in 2026.[11]

Chair Powell also noted that the members of the Federal Open Market Committee project a gradual decline in the federal funds rates over time, although they remain cautious and leave open the possibility of further monetary policy tightening as required:

> While we believe that our policy rate is likely at or near its peak for this tightening cycle, the economy has surprised forecasters in many ways since the pandemic, and ongoing progress toward our 2 percent inflation objective is not assured. We are prepared to tighten policy further if appropriate. We are committed to achieving a stance of monetary policy that is sufficiently restrictive to bring inflation sustainably down to 2 percent over time, and to keeping policy restrictive until we are confident that inflation is on a path to that objective.
>
> In our SEP [Summary of Economic Projections], FOMC participants wrote down their individual assessments of an appropriate path for the federal funds rate based on what each participant judges to be the most likely scenario going forward. While participants do not view it as likely to be appropriate to raise interest rates further, neither do they want to take the possibility off the table. If the economy evolves as projected, the median participant projects that the appropriate level of the federal funds rate will be 4.6 percent at the end of 2024, 3.6 percent at the end of 2025, and 2.9 percent at the end of 2026, still above the median longer-term rate. These projections are not a Committee decision or plan; if the economy does not evolve as projected, the path for policy will adjust as appropriate to foster our maximum employment and price stability goals.[12]

[11] *Id*. at 2-3.
[12] *Id*. at 3-4.

B. The Use of Monetary Policy to Address Inflation

Q. What policy actions has the Federal Reserve enacted to respond to increased inflation?

A. The dramatic increase in inflation has prompted the Federal Reserve to pursue an aggressive normalization of monetary policy, removing the accommodative policy programs used to mitigate the economic effects of COVID-19. Since the March 2022 meeting, the Federal Reserve increased the target federal funds rate through a series of increases from 0.00 – 0.25 percent to 5.25 percent to 5.50 percent.[13] Further, as noted above, while the Federal Reserve acknowledges that inflation has declined from its peak, it still is well above the Federal Reserve's target of two percent. Therefore, the Federal Reserve anticipates the continued need to maintain the federal funds rate at a restrictive level in order to achieve its goal of two percent inflation over the long-run.

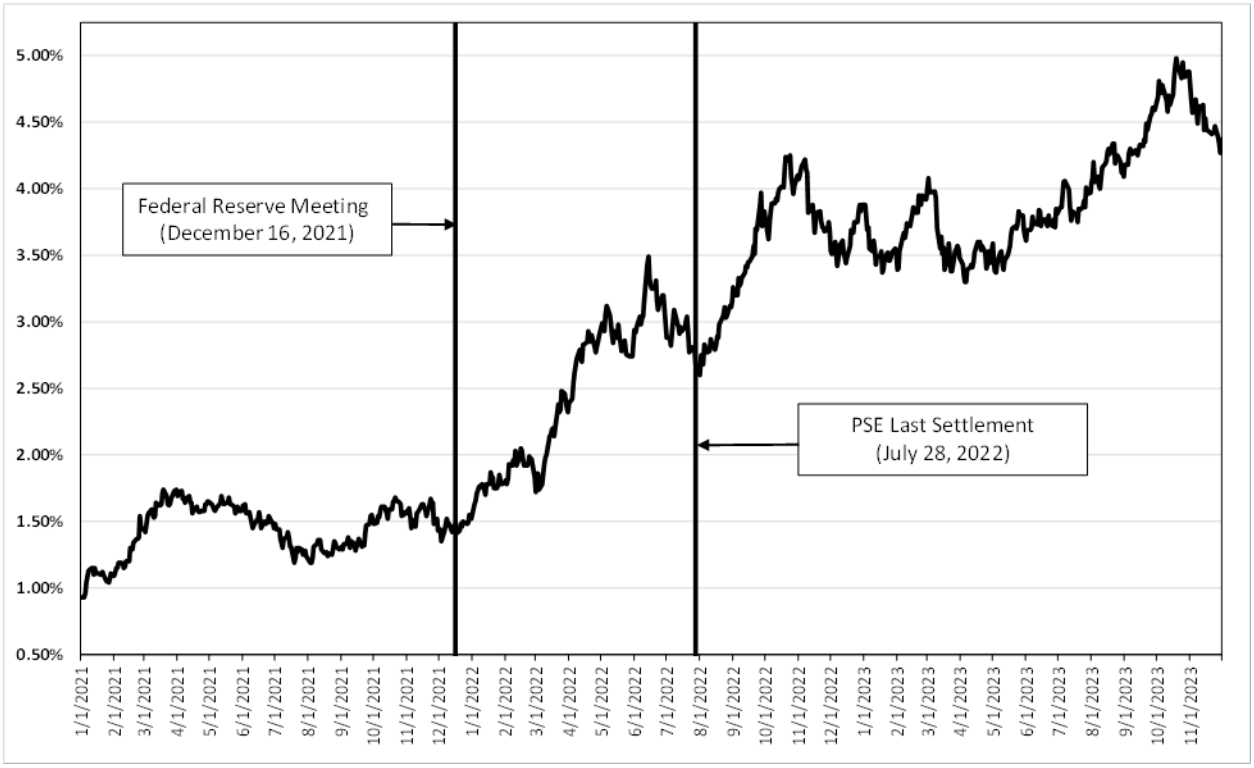
[13] *See* Board of Governors of the Federal Reserve System, *Implementation Note* (March 16, 2022), https://www.federalreserve.gov/newsevents/pressreleases/monetary20220316a1.htm; Board of Governors of the Federal Reserve System, *Implementation Note* (May 4, 2022), https://www.federalreserve.gov/newsevents/pressreleases/monetary20220504a1.htm; Board of Governors of the Federal Reserve System, *Implementation Note* (June 15, 2022), https://www.federalreserve.gov/newsevents/pressreleases/monetary20220615a1.htm; Board of Governors of the Federal Reserve System, *Implementation Note* (Sept. 21, 2022), https://www.federalreserve.gov/newsevents/pressreleases/monetary20220921a1.htm; Board of Governors of the Federal Reserve System, *Implementation Note* (Nov. 2, 2022), https://www.federalreserve.gov/newsevents/pressreleases/monetary20221102a1.htm; Board of Governors of the Federal Reserve System, *Implementation Note* (Feb. 1, 2023), https://www.federalreserve.gov/newsevents/pressreleases/monetary20230201a1.htm; Board of Governors of the Federal Reserve System, *Implementation Note* (March 22, 2023), https://www.federalreserve.gov/newsevents/pressreleases/monetary20230322a1.htm; Board of Governors of the Federal Reserve System, *Implementation Note* (May 3, 2023), https://www.federalreserve.gov/newsevents/pressreleases/monetary20230503a1.htm; and Board of Governors of the Federal Reserve System, *Implementation Note* (July 26, 2023), https://www.federalreserve.gov/newsevents/pressreleases/monetary20230726a1.htm; all available at Exh. AEB-18.

C. The Effect of Inflation and Monetary Policy on Interest Rates and the Investor-Required Return

Q. Have the yields on long-term government bonds increased in response to inflation and the Federal Reserve's normalization of monetary policy?

A. Yes. As the Federal Reserve has increased the federal funds rate in response to increased levels of inflation that have persisted for longer than originally projected, longer term interest rate have also increased. As shown in Figure 3, the yield on 10-year Treasury bonds has more than doubled, increasing from 1.44 percent on December 16, 2021, to 4.37 percent on November 30, 2023.

Figure 3. 10-Year Treasury Bond Yield, January 2021– November 2023[14]



[14] S&P Capital IQ Pro.

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

A. Leading equity analysts have noted that they expect the yields on long-term government bonds to remain elevated through at least the end of 2024. According to the most recent Blue Chip Financial Forecasts report, the consensus estimate of the average yield on the 10-year Treasury bond is approximately 4.00 percent through the first quarter of 2025.[15] It is reasonable to expect that, if government bond yields remain elevated, the cost of equity will be increasing above the levels experienced during the lower interest rate environment of 2020 and 2021.

Q. How have interest rates and inflation changed since PSE's last rate case?

A. As shown in Table 1, the 30-year Treasury bond yield was 3.08 percent and the core inflation rate was 6.30 percent on August 12, 2022, the date on which parties agreed to a settlement agreement in PSE's 2022 rate proceeding with an authorized ROE of 9.40 percent. Since that date, the 30-year Treasury bond yield have increased by over 100 basis points (to 4.76 percent) and the core inflation rate has decreased by 228 basis points (to 4.02 percent), well above the Fed's target rate of two percent.

[15] *Blue Chip Financial Forecasts*, vol. 42, no. 12, at 2 (Dec. 1, 2023), available at Exh. AEB-18.

Table 1. Change in Market Conditions Since PSE's Last Rate Case[16]

Docket	Date	Federal Funds Rate	30-Day Avg 30 Year Treasury Bond Yield	Core Inflation Rate	Auth'd ROE
UE-220066/ UG-220067	8/12/2022	2.33%	3.08%	6.30%	9.40%
Current	11/30/2023	5.33%	4.76%	4.02%	

Notwithstanding the 50 percent increase in the 30-year Treasury bond yield, the core inflation rate remains over twice the target rate of two percent. Accordingly, it is reasonable to expect that long-term interest rates will remain elevated for the foreseeable future as the Federal Reserve continues to seek to reduce the core inflation rate.

D. Expected Performance of Utility Stocks and the Investor-Required Return on Utility Investments

Q. Are utility share prices correlated to changes in the yields on long-term government bonds?

A. Yes. Interest rates and utility share prices are inversely correlated, which means that increases in interest rates result in declines in the share prices of utilities and vice versa. For example, Goldman Sachs and Deutsche Bank examined the sensitivity of share prices of different industries to changes in interest rates over the past five years. Both Goldman Sachs and Deutsche Bank found that utilities

[16] St. Louis Federal Reserve Bank, Bureau of Labor Statistics, https://fred.stlouisfed.org/source?soid=22.

had one of the strongest negative relationships with bond yields (i.e., increases in bond yields resulted in the decline of utility share prices).[17]

Q. How do equity analysts expect the utility sector to perform in 2024?

A. Equity analysts project that utilities will continue to underperform the broader market given high inflation and the recent increases in interest rates. Fidelity classifies the utility sector as underweight,[18] and Bank of America ("BofA") recently noted that they are "not so constructive on Utilities" given that the dividend yields for utilities are below both the yields available on long- and short-term treasury bonds.[19]

Q. Why do equity analysts expect the utility sector to underperform over the near-term?

A. While interest rates have increased substantially over the past year, the valuations of utilities have not fully reflected the effect of the recent increase in interest rates. To illustrate this point, I examined the difference between the dividend yields of utility stocks and the yields on long-term government bonds from January 2014 through November 2023 ("yield spread"). Specifically, I relied on the dividend yield for the proxy group and the yield on the 10-year Treasury

[17] Justina Lee, *Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks*, Bloomberg.com (Mar. 11, 2021), www.bloomberg.com/news/articles/2021-03-11/wall-street-is-rethinking-thetreasury-threat-to-big-tech-stock, available at Exh. AEB-18.

[18] *Investment Research Update: Third Quarter 2023*, Fidelity (July 24, 2023), https://institutional.fidelity.com/app/item/RD_9906885/investment-research-update-third-quarter-2023.html, available at Exh. AEB-18.

[19] Julien Dumoulin-Smith, et. al., US Electric Utilities & IPPs: As the leaves fall, preparing for Autumn utility outlook. Macro still has potholes, BofA Securities (Sept. 6, 2023), available at Exh. AEB-17C.

bond. As shown in Figure 4, the recent significant increase in long-term government bonds yields has resulted in the yield on long-term government bonds significantly exceeding the dividend yield of the proxy group. The yield spread as of November 30, 2023 was negative 0.87 percent. However, the long-term average yield spread from 2010 to 2023 is 1.23 percent. Therefore, the current yield spread is well below the long-term average. Because of the fact that the yield spread is currently well below the long-term average, and the expectation that interest rates will remain relatively high through at least the next year, it is reasonable to conclude that the utility sector will most likely underperform over the near-term. This is because investors that purchased utility stocks as an alternative to the lower yields on long-term government bonds would otherwise be inclined to rotate back into government bonds, particularly as the yields on long-term government bonds remain elevated, thus resulting in a decrease in the share prices of utilities.

Figure 4. Spread between the S&P Utilities Index Dividend Yield and the 10-year Treasury Bond Yield, January 2010 – November 2023[20]

Q. What is the significance of the inverse relationship between interest rates and utility share prices in the current market?

A. If interest rates remain relatively high as expected, then the share prices of utilities would be expected to decline. If the prices of utility stocks decline, then the DCF model, which relies on historical averages of share prices to calculate the dividend yield, is likely to understate the dividend yield and thus the cost of equity.

[20] S&P Capital IQ Pro and Bloomberg Professional.

Q. Have regulatory commissions acknowledged that the DCF model might understate the cost of equity given the current capital market conditions of relatively high inflation and elevated interest rates?

A. Yes. Regulatory commissions acknowledged that the DCF model might understate the cost of equity given the current capital market conditions of relatively high inflation and elevated interest rates.

E. Conclusion

Q. What are your conclusions regarding the effect of current market conditions on the cost of equity for PSE?

A. Due to the effect on the cost of equity, it is important that current and projected market conditions be considered in setting the forward-looking ROE in this proceeding. The combination of persistently high inflation and the Federal Reserve's changes in monetary policy that have increased interest rates are indicative of an increasing cost of equity since (i) there is a strong historical inverse correlation between interest rates (*i.e.*, yields on long-term government bonds) and the share prices of utility stocks (*i.e.*, as interest rates increase, utility share prices decline, and thus utility dividend yields increase); and (ii) the yields on long-term government bonds currently exceed the dividend yields of utilities, when historically long-term government bond yields have been lower than the dividend yields of utilities. Because the cost of equity in this proceeding is being estimated for the future period that the Company's rates will be in effect, and

because the cost of equity is expected to increase over the near term for utilities, cost of equity estimates based in whole or in part on historical or current market conditions, as opposed to projected market conditions, will likely understate the cost of equity during the future period that the Company's rates will be in effect. Therefore, these current and expected market conditions support consideration of the higher end of the range of cost of equity results produced by the DCF models, and warrant consideration of forward-looking cost of equity estimation models such as the CAPM and ECAPM, which better reflect expected market conditions.

VI. PROXY GROUP SELECTION

Q. Please provide a brief profile of PSE.

A. PSE is a regulated electric and natural gas utility that is a subsidiary of Puget Energy, Inc., located in Bellevue, Washington. PSE provides electric utility service to approximately 1.217 million residential, commercial and industrial customers and natural gas distribution service to 872,000 customers in Washington.[21] As of December 31, 2022, approximately 69 percent of PSE's assets were used to serve electric customers and the remaining 29 percent to serve natural gas customers.[22] Approximately 42 percent of PSE's generation was from PSE-controlled resources while the remainder was contracted resources and non-firm energy purchases.[23] Approximately 18.5 percent of PSE's peak power

[21] Puget Energy Inc. and Puget Sound Energy, Inc., *Annual Report (Form 10-K) for the fiscal year ended Dec. 31, 2022*, at 7 (Feb. 23, 2023), https://www.pse.com/-/media/PDFs/PugetEnergy/PE-10K-12312022.pdf, available at Exh. AEB-18.
[22] *Id*. at 8.
[23] *Id*. at 13.

resources are from hydroelectric generating sources, 29.5 percent from natural gas/oil-fired facilities, 25.5 percent from wind/solar generation and 5.6 percent from coal.[24] PSE currently has an investment grade long-term rating of BBB (Outlook: Stable) from S&P and Baa1 from Moody's.[25]

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

A. In this proceeding, I focus on estimating the cost of equity for PSE, a rate-regulated subsidiary of Puget Energy, Inc. Because the cost of equity is a market-based concept and because PSE's operations do not make up the entirety of a publicly traded entity, it is necessary to establish a group of companies that is both publicly traded and comparable to PSE in certain fundamental business and financial respects to serve as its "proxy" in the ROE estimation process.

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

[24] *Id.* at 15. The fuel sources for the remainder of the generation resources are not identified.
[25] S&P Capital IQ (May 30, 2023).

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

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

- pay consistent quarterly cash dividends that have not been reduced in the last three years, since companies that do not pay dividends cannot be analyzed using the constant growth DCF model;
- have investment grade long-term issuer ratings from both S&P and Moody's;
- have positive long-term earnings growth forecasts from at least two equity analysts;
- own generation assets included in rate base;
- have more than 30 percent of company-owned generation;
- derive more than 60 percent of total operating income from regulated operations;
- were not party to a merger or transformative transaction during the analytical period considered.

Q. What is the composition of your proxy group?

A. The screening criteria resulted in a proxy group consisting of the companies shown in Table 2 below:

Table 2. Proxy Group

Company	Ticker
NiSource Inc.	NI
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT

Company	Ticker
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Avista Corporation	AVA
Black Hills Corporation	BKH
CMS Energy Corporation	CMS
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
IDACORP, Inc.	IDA
MGE Energy, Inc.	MGEE
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
Southern Company	SO
Wisconsin Energy Corporation	WEC
Xcel Energy Inc.	XEL

Please see Exh. AEB-4 for the screening criteria.

Q. Do your screening criteria result in a proxy group that is risk comparable to PSE?

A. Yes. The screening criteria result in a proxy group that is risk comparable to PSE. The overall purpose of developing a set of screening criteria is to select a proxy group of companies that align with the financial and operational characteristics of PSE and that investors would view as comparable to PSE. I developed the screens and thresholds for each screen based on judgment with the intention of balancing the need to maintain a proxy group that is of sufficient size with establishing a

proxy group of companies that are comparable in business and financial risk to PSE. This resulted in the group of 21 companies shown in Table 2, which have business and financial risks that are comparable to PSE.

VII. COST OF EQUITY ESTIMATION

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

A. The overall rate of return for a regulated utility is the weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. The ROE is the cost of common equity capital in the utility's capital structure for ratemaking purposes. Although the costs of debt and preferred stock can be directly observed, the cost of equity is market-based and, therefore, must be estimated based on observable market data.

Q. How is the required cost of equity determined?

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

Q. What methods did you use to establish your recommended ROE in this proceeding?

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

A. Importance of Multiple Analytical Approaches

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

A. Yes. Because the cost of equity is not directly observable, it must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the cost of equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. Several models have been developed to estimate the cost of equity, and I use multiple approaches to estimate the cost of equity. As a practical matter, however, all the models available for estimating the cost of equity are subject to limiting assumptions or other methodological constraints. Consequently, many well-regarded finance texts recommend using multiple approaches when estimating the cost of equity. For example, Copeland, Koller, and Murrin[26] suggest using the CAPM and Arbitrage

[26] Tom Copeland, et al. *Valuation: Measuring and Managing the Value of Companies*, at 214 (New York, McKinsey & Company, Inc., 3rd ed., 2000), available at Exh. AEB-18.

Pricing Theory model, while Brigham and Gapenski[27] recommend the CAPM, DCF, and BYRP approaches.

Q. Do current market conditions support the reliance on more than one analytical approach?

A. Yes. As discussed previously, interest rates have increased substantially over the past year and are expected to remain elevated over at least the next year from the lows seen during the COVID-19 pandemic. The benefit of using multiple models is that each model relies on different assumptions, certain of which may better reflect current and projected market conditions at different times. As discussed previously, the CAPM, ECAPM, and BYRP analyses offer some balance through the use of projected interest rates since the effect of changes in interest rates, particularly the recent increase in interest rates, may not be captured as well in the DCF model at this time. Therefore, it is important to use multiple analytical approaches to ensure that the cost of equity results reflect market conditions that are expected during the period that PSE's rates will be in effect.

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

A. Yes. It is my understanding that the Commission has repeatedly emphasized that it places value on each of the methodologies used to calculate the cost of equity

[27] Eugene Brigham & Louis Gapenski. *Financial Management: Theory and Practice*, at 341 (Orlando, Dryden Press, 1994), available at Exh. AEB-18.

and does not find it appropriate to select a single method as being the most accurate or instructive. The Commission has explained that "[f]inancial circumstances are constantly shifting and changing, and we welcome a robust and diverse record of evidence based on a variety of analytics and cost of capital methodologies."[28]

In Avista's 2017 rate case,[29] the Commission considered multiple models including the DCF, CAPM, Risk Premium and Comparable Earnings analyses.[30] However, the Commission relied on the results of the DCF, Risk Premium, and Comparable Earnings analyses to develop the range of reasonable returns excluding the results of the CAPM due to the wide range of results presented and the result of one DCF analysis that the Commission viewed as too low and anomalous.[31]

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

> The Commission has explained at length previously, and with respect to expert witnesses who appear before us, that we must exercise our own informed judgment when reviewing the subjective and judgment-based models relied upon by the cost of capital experts and when weighing their diverse and wide-ranging testimonies and recommendations. We must evaluate all cost of capital evidence offered and consider other relevant principles and factors such as the general state of the economy, investment cycles

[28] *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).
[29] *Avista Corp*., Order 07, *supra* note 7, at ¶ 59.
[30] *See id*. at ¶¶ 60-66.
[31] *Id.*

in the industry, and the principle of gradualism to determine, consistent with the public interest, a reasonable range of returns and what specific ROE within that range is appropriate for determining Avista's revenue requirement.[32]

B. Constant Growth DCF Model

Q. Please describe the DCF approach.

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

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

Where:

- P_0 = the current stock price;
- $D_1 \ldots D_\infty$ = all expected future dividends; and
- k = the discount rate, or required ROE.

Equation [1] is a standard present value calculation that can be simplified and rearranged into the following form:

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

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

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

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

A. The Constant Growth DCF model requires the following four assumptions:

(1) a constant growth rate for earnings and dividends;

(2) a stable dividend payout ratio;

(3) a constant price-to-earnings ("P/E") ratio; and

(4) a discount rate greater than the expected growth rate.

To the extent that any of these assumptions are violated, considered judgment and/or specific adjustments should be applied to the results.

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

A. The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended November 30, 2023.

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

A. I use an average of recent trading days to calculate the term P_0 in the DCF model to reflect current market data while also ensuring that the result of the model is

not skewed by anomalous events that may affect stock prices on any given trading day.

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

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

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

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

of sources of long-term earnings growth rates into the Constant Growth DCF model.

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

A. My Constant Growth DCF model incorporates three commonly referenced sources of long-term earnings growth rates:

(1) Zacks Investment Research;

(2) Yahoo! Finance; and

(3) Value Line Investment Survey.

Q. Why are EPS growth rates the appropriate growth rates to be relied on in the DCF model?

A. Earnings are the fundamental driver of a company's ability to pay dividends; therefore, projected EPS growth is the appropriate measure of a company's long-term growth. In contrast, changes in a company's dividend payments are based on management decisions related to cash management and other factors. For example, a company may decide to retain earnings rather than pay out a portion of those earnings to shareholders through dividends. Therefore, dividend growth rates are less likely than earnings growth rates to reflect accurately investor perceptions of a company's growth prospects.

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

A. I calculated the low-end result for the constant growth DCF model using the minimum growth rate of the three sources (i.e., the lowest of the Zacks, Yahoo! Finance, and Value Line projected earnings growth rates) for each of the proxy group companies. I used a similar approach to calculate a high-end result, using the maximum growth rate of the three sources for each proxy group company. Lastly, I also calculated results using the average growth rate from all three sources for each proxy group company.

Q. What were the results of your Constant Growth DCF analyses?

A. Table 3 summarizes the results of my DCF analyses. Please see Exh. AEB-5 for the results of the DCF analysis.

As shown in Table 3, the median and mean DCF results range from 9.76 percent to 10.16 percent, and the median high and mean high results are in the range of 10.93 percent to 11.24 percent. While I also summarize the low DCF results, given the expected underperformance of utility stocks and thus the likelihood that the DCF model is understating the cost of equity, I do not believe it is appropriate to consider the low DCF results at this time.

Table 3. Constant Growth Discounted Cash Flow Results

Constant Growth DCF - Mean			
	Min Growth Rate	Mean Growth Rate	Max Growth Rate
30-Day Average	9.07%	10.16%	11.18%
90-Day Average	9.00%	10.09%	11.12%
180-Day Average	8.81%	9.90%	10.93%
Constant Growth DCF - Median			
	Min Growth Rate	Mean Growth Rate	Max Growth Rate
30-Day Average	9.37%	10.08%	11.24%
90-Day Average	9.17%	9.95%	11.21%
180-Day Average	8.90%	9.76%	10.96%

Q. Have regulatory commissions acknowledged that the DCF model might understate the cost of equity given the current capital market conditions of high inflation and elevated interest rates?

A. Yes. For example, the Pennsylvania and Massachusetts regulatory commissions have recognized that the DCF model may understate the cost of equity in current market conditions.

In its May 2022 decision establishing the cost of equity for Aqua Pennsylvania,[33] the Pennsylvania Public Utility Commission concluded that the current capital

[33] *Aqua Pennsylvania, Inc*., Pennsylvania Public Utility Commission, Docket No. R-2021-3027385, Opinion and Order (May 16, 2022).

market conditions of high inflation and increased interest rates have resulted in the DCF model understating the utility cost of equity, and that weight should be placed on risk premium models, such as the CAPM, in the determination of the ROE:

> To help control rising inflation, the Federal Open Market Committee has signaled that it is ending its policies designed to maintain low interest rates. Aqua Exc. at 9. Because the DCF model does not directly account for interest rates, consequently, it is slow to respond to interest rate changes. However, I&E's CAPM model uses forecasted yields on ten-year Treasury bonds, and accordingly, its methodology captures forward looking changes in interest rates.
>
> Therefore, our methodology for determining Aqua's ROE shall utilize both I&E's DCF and CAPM methodologies. As noted above, the Commission recognizes the importance of informed judgment and information provided by other ROE models. In the 2012 PPL Order, the Commission considered PPL's CAPM and RP methods, tempered by informed judgment, instead of DCF-only results. We conclude that methodologies other than the DCF can be used as a check upon the reasonableness of the DCF derived ROE calculation. Historically, we have relied primarily upon the DCF methodology in arriving at ROE determinations and have utilized the results of the CAPM as a check upon the reasonableness of the DCF derived equity return. As such, where evidence based on other methods suggests that the DCF-only results may understate the utility's ROE, we will consider those other methods, to some degree, in determining the appropriate range of reasonableness for our equity return determination. In light of the above, we shall determine an appropriate ROE for Aqua using informed judgement based on I&E's DCF and CAPM methodologies.[34]
>
> We have previously determined, above, that we shall utilize I&E's DCF and CAPM methodologies. I&E's DCF and CAPM produce a range of reasonableness for the ROE in this proceeding from 8.90% [DCF] to 9.89% [CAPM]. Based upon our informed judgment, which includes consideration of a variety of factors, including increasing inflation leading to increases in interest rates and capital costs since the rate filing, we determine that a base ROE of 9.75% is reasonable and appropriate for Aqua.[35]

[34] *Id*. at 154–55.
[35] *Id*. at 177–78.

More recently, the Massachusetts Department of Public Utilities ("MDPU") also recently came to a similar conclusion.[36]

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

A. As discussed previously, one primary assumption of the Constant Growth DCF model is a constant P/E ratio. That assumption is heavily influenced by the market price of utility stocks. Since utility stocks are expected to underperform the broader market over the near-term as interest rates increase, it is important to consider the results of the DCF models with caution. Therefore, while I have given weight to the results of the Constant Growth DCF model, my recommendation also gives weight to the results of other cost of equity estimation models.

C. CAPM Analysis

Q. Please briefly describe the CAPM.

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

[36] *In re NSTAR Electric Company, d/b/a Eversource Energy*, Mass. Department of Public Utilities, D.P.U. 22-22, Final Order at 386 (Nov. 30, 2022).

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

The CAPM is defined by four components:

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

Where:

- k_e = the required market COE;
- β = Beta coefficient of an individual security;
- r_f = the risk-free rate of return; and
- r_m = the required return on the market.

In this specification, the term $(r_m - r_f)$ represents the market risk premium. According to the theory underlying the CAPM, because unsystematic risk can be diversified away, investors should only be concerned with systematic or non-diversifiable risk. Systematic risk is measured by Beta (β). Beta is a measure of the volatility of a security as compared to the market as a whole. Beta is defined as:

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

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

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

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

A. I relied on three sources for my estimate of the risk-free rate:

(1) the current 30-day average yield on 30-year U.S. Treasury bonds, which is 4.77 percent;[37]

(2) the average projected 30-year U.S. Treasury bond yield for the first quarter of 2024 through the first quarter of 2025, which is 4.48 percent;[38] and

(3) the average projected 30-year U.S. Treasury bond yield for 2025 through 2029, which is 4.10 percent.[39]

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

A. As shown in Exh. AEB-6, I used the Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. The Beta coefficients reported by Bloomberg were calculated using ten years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

Additionally, as shown in Exh. AEB-6, I also considered an additional CAPM analysis which relies on the long-term average utility Beta coefficient for the companies in my proxy group.

[37] Bloomberg Professional (Nov. 30, 2023).
[38] *Blue Chip Financial Forecasts*, Vol. 42, No. 12, at 2 (Dec. 1, 2023), available at Exh. AEB-18.
[39] *Id.* at 14.

As shown in Exh. AEB-7, the long-term average utility Beta coefficient was calculated as an average of the Value Line Beta coefficients for the companies in my proxy group from 2013 through 2022.

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

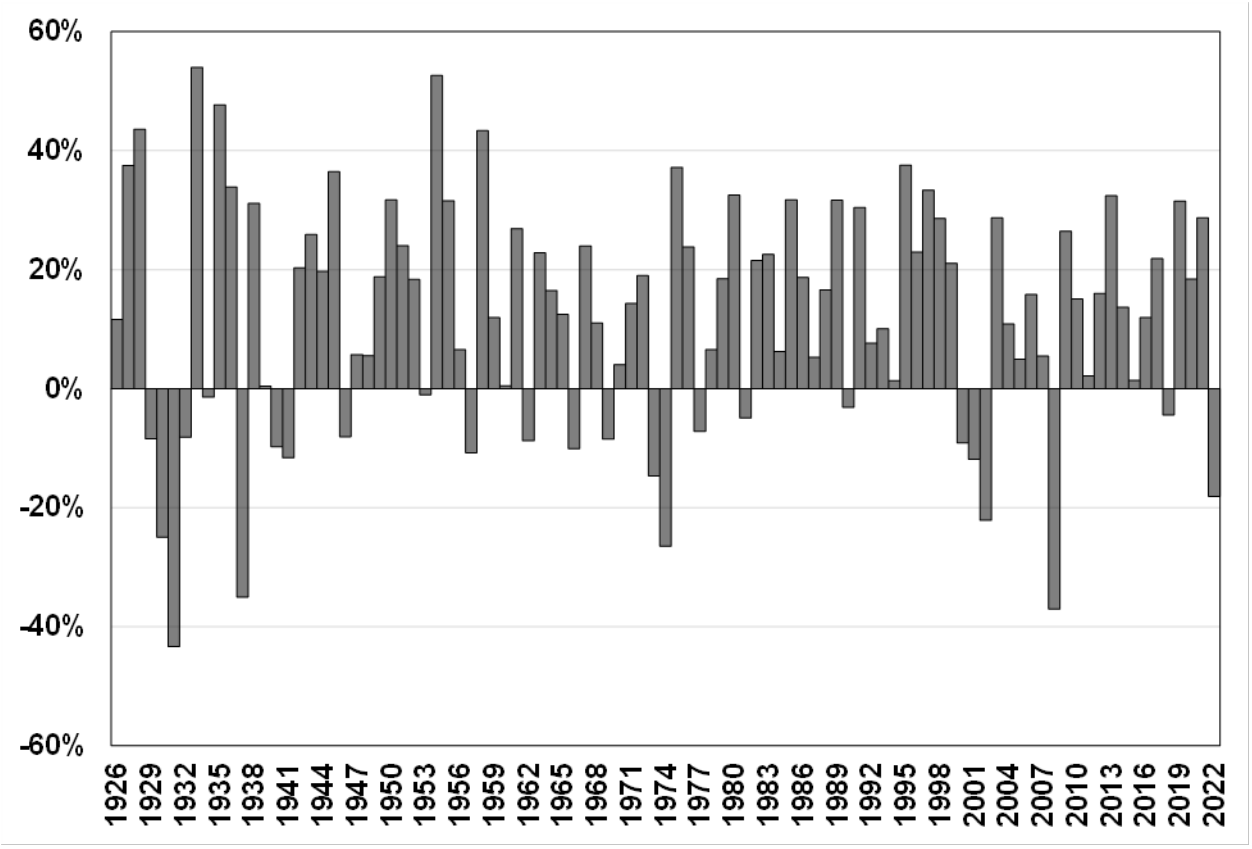
A. I estimated the Market Risk Premium ("MRP") as the difference between the implied expected equity market return and the risk-free rate. As shown in Exh. AEB-8, the expected return on the S&P 500 Index is calculated using the Constant Growth DCF model discussed earlier in my testimony for the companies in the S&P 500 Index.

Based on an estimated market capitalization-weighted dividend yield of 1.69 percent and a weighted long-term growth rate of 10.78 percent, the estimated required market return for the S&P 500 Index is 12.56 percent. Based on the three risk-free rates considered, the market risk premium ranges from 7.78 percent to 8.46 percent.

Q. How does the current expected market return of 12.47 percent compare to observed historical market returns?

A. Given the range of annual equity returns that have been observed over the past century (shown in Figure 5), a current expected return of 12.56 percent is not unreasonable. In 50 out of the past 97 years (or roughly 52 percent of observations), the realized equity return was at least 12.56 percent or greater.

Figure 5. Realized U.S. equity market returns (1926-2022)[40]



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

A. Yes. I have also considered the results of an ECAPM or alternatively referred to as the Zero-Beta CAPM[41] in estimating the cost of equity for PSE. The ECAPM calculates the product of the adjusted Beta coefficient and the market risk premium and applies a weight of 75.00 percent to that result. The model then applies a 25.00 percent weight to the market risk premium, without any effect from the Beta coefficient. The results of the two calculations are summed, along

[40] Depicts total annual returns on large company stocks, as reported in the 2022 *Kroll* SBBI Yearbook.
[41] *See* Roger A. Morin, *New Regulatory Finance* at 189 (Public Utilities Reports, Inc. 2006), excerpt available at Exh. AEB-18.

with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

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

Where:

- k_e = the required market COE;
- β = Adjusted Beta coefficient of an individual security;
- r_f = the risk-free rate of return; and
- r_m = the required return on the market as a whole.

In essence, the Empirical form of the CAPM addresses the tendency of the "traditional" CAPM to underestimate the cost of equity for companies with low Beta coefficients such as regulated utilities. In that regard, the ECAPM is not redundant to the use of adjusted Betas; rather, it recognizes the results of academic research indicating that the risk-return relationship is different (in essence, flatter) than estimated by the CAPM, and that the CAPM underestimates the "alpha," or the constant return term.[42]

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

[42] *Id.* at 191.

Q. What are the results of your CAPM analyses?

A. As shown in Table 4 and in Exh. AEB-6, my traditional CAPM analysis produces a range of returns from 10.41 percent to 11.69 percent. The ECAPM analysis results range from 10.95 percent to 11.90 percent.

Table 4. CAPM and ECAPM Results

	Current Risk Free Rate (4.77%)	Q1 2024 – Q1 2025 Projected Risk-Free Rate (4.48%)	2025-2029 Projected Risk-Free Rate (4.10%)
		CAPM	
Value Line Beta	11.69%	11.65%	11.61%
Bloomberg Beta	10.93%	10.87%	10.79%
Long-term Avg. Beta	10.58%	10.51%	10.41%
		ECAPM	
Value Line Beta	11.90%	11.88%	11.85%
Bloomberg Beta	11.34%	11.29%	11.23%
Long-term Avg. Beta	11.08%	11.02%	10.95%

D. Bond Yield Plus Risk Premium Analysis

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

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

that risk. Risk premium approaches, therefore, estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds.

Because PSE is a combined company, I conducted two analyses. In my first analysis, I used actual authorized returns for vertically integrated electric utility companies as the historical measure of the cost of equity to determine the risk premium while the second analysis uses authorized returns for natural gas utilities as the historical measure of the cost of equity.

Q. Are there other considerations that should be addressed in conducting the Risk Premium analysis?

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

long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[43]

Q. Is the Risk Premium analysis relevant to investors?

A. Yes, it is. Investors are aware of ROE awards in other jurisdictions, and they consider those awards as a benchmark for a reasonable level of equity returns for utilities of comparable risk operating in other jurisdictions. Because my Risk Premium analysis is based on authorized ROEs for utility companies relative to corresponding Treasury yields, it provides relevant information to assess the return expectations of investors in the current interest rate environment.

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

A. As shown in Figure 6 below, there was a strong negative relationship between risk premia and interest rates from 1992 through November 2023. To estimate that relationship, I conducted a regression analysis using the following equation:

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

Where:

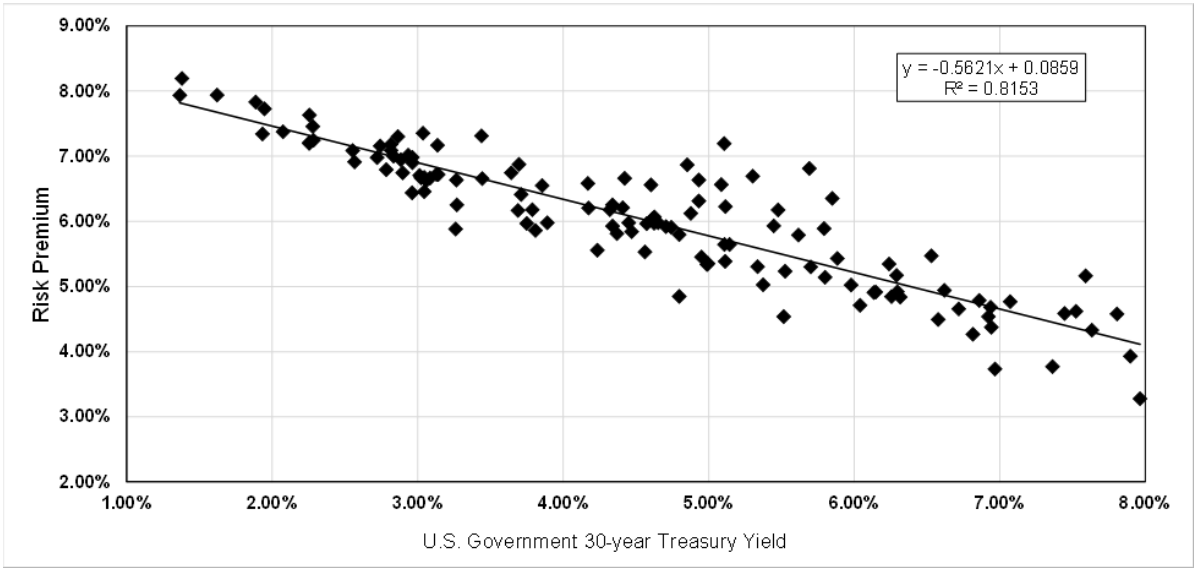
- RP = Risk Premium (difference between allowed ROEs and the yield on 30-year U.S. Treasury bonds)

[43] *See* S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. *See also* Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, Financial Management (Spring 1986), at 66, available at Exh. AEB-18.

- a = intercept term
- b = slope term
- T = 30-year U.S. Treasury bond yield

Data regarding allowed ROEs were derived from all of vertically integrated electric rate cases from 1992 through November 2023 as reported by Regulatory Research Associates ("RRA"). This equation's coefficients were statistically significant at the 99.00 percent level.

Figure 6. Risk Premium Results (electric utilities)



As shown in Exh. AEB-9, the risk premium would be 5.90 percent based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 4.77 percent), resulting in an estimated cost of equity of 10.68 percent.

Based on the near-term (Q1 2024 – Q1 2025) projections of the 30-year U.S. Treasury bond yield (i.e., 4.48 percent), the risk premium would be 6.07 percent, resulting in an estimated ROE of 10.55 percent. Based on longer-term

(2025 – 2029) projections of the 30-year U.S. Treasury bond yield (i.e., 4.10 percent), the risk premium would be 6.28 percent, resulting in an estimated ROE of 10.38 percent.

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

A. As shown in Exh. AEB-9, the range of returns was from 10.22 percent to 10.51 percent using the same three estimates of the yield on the 30-year U.S. Treasury bond relied upon in the analysis previously discussed using the authorized ROEs for the electric utilities.

Q. How did the results of the Risk Premium analysis inform your recommended ROE for PSE?

A. I have considered the results of the Risk Premium analysis in setting my recommended ROE for PSE's electric and natural gas operations in Washington. As noted above, investors consider the ROE award of a company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions. The Risk Premium analysis considers this comparison by estimating the return expectations of investors based on the current and past ROE awards of electric and natural gas utilities across the U.S.

E. Expected Earnings Analysis

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

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

Q. What is an Expected Earnings analysis?

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

Q. Has the Commission recently considered the results of an Expected Earnings analysis?

A. Yes. In Avista's 2017 rate case, the Commission considered the results of the Comparable Earnings analysis in establishing the authorized ROE.[44] The Commission noted that it tends to place more weight on the results of the DCF,

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

CAPM, and Risk Premium analyses; however, given the wide range of CAPM results presented by the ROE witnesses in that case, the Commission decided to apply weight to the results of the Comparable Earnings analysis.[45] Specifically, the Commission stated the following:

> Finally, as additional data points for our consideration of establishing Avista's ROE, we note that two witnesses, Mr. McKenzie for Avista and Mr. Parcell for Staff, employ the CE approach to two proxy groups of companies. The respective mid-points of each witnesses' CE analysis are 10.5 and 9.5 percent, respectively, with an average of 10.0 percent. Although we generally do not apply material weight to the CE method, having stronger reliance on the DCF, CAPM and RP methods, we are inclined to include the CE method here given the anomalous CAPM results described previously.[46]

Q. How did you develop the Expected Earnings analysis?

A. I relied primarily on the projected ROE for the proxy companies as reported by Value Line for the period from 2026-2028. However, I adjusted those projected ROEs to account for the fact that the ROEs reported by Value Line are calculated on the basis of common shares outstanding at the end of the period, as opposed to average shares outstanding over the period. As shown in Exh. AEB-10, the expected earnings analysis results in a mean of 10.86 percent and a median of 10.31 percent.

[45] *Avista Corp*., Order 07, *supra* note 7, at ¶ 65.
[46] *Id*.

VIII. REGULATORY AND BUSINESS RISKS

Q. Taken alone, do the results of the cost of equity estimation models for the proxy group provide an appropriate estimate of the cost of equity for PSE?

A. No. These analyses provide only a range of the appropriate estimate of PSE's cost of equity. There are several additional factors that must be taken into consideration when determining where PSE's cost of equity falls within the range of results. These factors, which are discussed below, should be considered with respect to their overall effect on PSE's risk profile.

A. Multiyear Rate Plan

Q. What is the duration of PSE's proposed multiyear rate plan ("MYRP").

A. PSE is proposing a two-year rate plan for approximately calendar years 2025 and 2026.

Q. What are the benefits of the MYRP?

A. The MYRP is expected to mitigate some of the risk related to regulatory lag and cash flow volatility, as well as provide some predictability in the revenue requirement over the term of the MYRP, and to support PSE's Clean Energy Action Plan and Clean Energy Implementation Plan ("CEIP"), which support the state's CETA goals.

Q. How does the use of a MYRP help mitigate losses and avoid regulatory lag?

A. Mitigation of regulatory lag will be important to execute on the PSE's CEIP. The use of a MYRP will provide PSE the ability to include in rates forecasted used and useful property that has been or will be placed into service in each year of the MYRP, which mitigates regulatory lag and improves cash flow metrics.

Q. How do the credit rating agencies view the use of MYRPs?

A. S&P expects that the regulatory reforms enacted in Senate Bill 5295 in 2021 and the MYRP will reduce regulatory lag and cash flow volatility, promotes predictability, and lowers uncertainty for the utility and its stakeholders.[47] S&P views Washington regulation as generally challenging[48] and more restrictive from an investor perspective.[49] Further, S&P forecasts PSE's operating cash flow will be lower than its capital expenditures and dividends, requiring consistent access to the capital markets.[50]

Q. What are your conclusions regarding the MYRP proposed by PSE?

A. The implementation of a MYRP that allows the inclusion of capital investments that are used and useful as of the beginning of or during the rate period makes PSE's overall operating risk profile more comparable to the proxy group companies. However, absent a mechanism to adjust for excessive inflation, even

47 S&P Ratings Direct, *Puget Sound Energy*, at 2 (May 11, 2023), available at Exh. AEB-17C.
48 *Id*. at 4.
49 S&P Capital IQ Pro, *Washington Regulatory Assessment* (Dec. 14, 2022), available at Exh. AEB-17C.
50 S&P Ratings Direct, *Puget Sound Energy*, at 4 (May 11, 2023), available at Exh. AEB-17C.

though the MYRP reduces regulatory lag with respect to the recovery on and of capital investment, there is significant risk that PSE will not have the ability to earn its authorized ROE.

Q. Please summarize the risk factors that need to be considered in setting an ROE for PSE.

A. PSE faces significant financial and business risk that needs to be considered in setting the ROE in this proceeding. As discussed in more detail in the Prefiled Direct Testimony of Daniel A. Doyle, Exh. DAD-1CT, PSE faces the dual mandate of investing in its system to maintain safe and reliable service while at the same time undertaking significant financial investments to meet the State of Washington and the Commission's public policy objectives of decarbonization and a reduction in emissions outlined in CETA and CCA.

Q. How is the Company proposing to maintain its financial integrity with the increased financial risk resulting from the dual mandate?

A. In addition to the multiyear rate plan the Company is proposing several cost recovery mechanisms that are designed to ensure that there is sufficient financial support for the investments that are required to achieve both the clean energy plan goals and to maintain and expand the existing infrastructure to provide safe and reliable service. The Company is proposing three new tracking mechanisms to support its capital investment plan:

(1) a Wildfire Prevention Tracker designed to provide more timely recovery of O&M, insurance costs, and other capital costs pertaining to PSE's wildfire mitigation program;

(2) a Clean Generation Resources Rate Adjustment designed to reduce regulatory lag associated with the recovery of costs of large-scale generation resources that are acquired to meet CETA goals; and

(3) a Decarbonization Rate Adjustment to account for the O&M and incremental investments related to the Company's effort to address the objectives of the Climate Commitment Act.

Each of these mechanisms is discussed in greater detail in the Prefiled Direct Testimony of Susan E. Free, Exh. SEF-1T.

B. Wildfire Risk

Q. Have credit rating agencies and equity analysts recognized wildfire as a risk to the electric utility sector?

A. Yes. While wildfire risk is not a new threat to utility investors, it has become a much larger focus to both equity investors and credit rating agencies. For example, BofA Securities ("BofA") has stated that wildfire risk has become the top question among all different investor types.[51] In fact, BofA has stated that it sees "the consistent existential risk posed by wildfires outflanking any other factor exposure of a given utility equity."[52] For example, BofA highlighted the catastrophic wildfires in California in 2017-2018 that led to the bankruptcy of PG&E Corporation and its subsidiary Pacific Gas and Electric Company

[51] BofA Global Research, US Electric Utilities & IPPs, Wildfire wakeup: what the Hawaiian fires mean for the sector as prudency shifts (September 6, 2023), available at Exh. AEB-17C.

[52] BofA Global Research, US Electric Utilities & IPPs, As the leaves fall, preparing for Autumn utility outlook. Micro still has potholes (Sept. 6, 2023), available at Exh. AEB-17C.

("PG&E") and caused material liabilities that weakened the earnings growth for Southern California Edison ("SoCalEd"), but noted that the current wildfire risk

> feels worse given the increased occurrences of wildfires across multiple states, even outside of the traditional wildfire season, and the billions in potential wildfire liabilities currently faced by PacifiCorp in Oregon, Xcel Energy in Colorado, and Hawaiian Electric.[53]

As such, a utility's exposure to wildfire risk is expected to be a defining factor for utility valuations:

> Should there be further events, we perceive a risk that the 'new' premium utility will be defined by its exposure to wildfire factors. The first screen is simply geography and FEMA's assessment of wildfire risk, while the second consideration is the legal and regulatory construct under which the utility operates. We anticipate having explicit and refreshed plans will become a necessity for any utilities operating in geographies.
>
> *****
>
> On balance, the added wildfire concerns across the west, with their disproportionate manifestation across small- and even mid-caps makes us incrementally cautious on the entire sub-group of utilities.[54]

Accordingly, BofA is recommending that regulators across the sector work to address a wildfire prudency plan to de-risk the sector:

> PacifiCorp and Xcel Energy (XEL) are each facing billions in potential wildfire-related liabilities. Hawaiian Electric may not have shareholder value if wholly responsible for the ~$5.4Bn estimated wildfire damage. In the past week, Evergy (EVRG) had a fire caused by its downed poles, and Entergy Corp (ETR) warned of fire hazards. The increased occurrences in multiple states, even outside of the traditional wildfire season has investors of all types on edge. Developing a prudency framework with regulators appears to be a

[53] *Wildfire wakeup*, *supra* note 51.
[54] *As the leaves fall*, *supra* note 52.

> priority across the sector to de-risk pro-actively and develop planning around active events.[55]

From the credit rating agency perspective, Moody's has noted that wildfire risk "can reach catastrophic levels at utilities," and that it is difficult to determine which utilities are most at risk given that the recent wildfires in Oregon and Hawaii were in moderate risk zones.[56] Moody's also cites that protecting utilities legally and financially is important, highlighting that clear policies and procedures reduce second-guessing.[57]

S&P has stated that

> [d]amages and related costs from physical risks are escalating in North America as regions designated as high-fire risk expand," and that over the past 6 years, utility credit downgrades directly related to physical risks have increased significantly.[58]

S&P notes that the credit quality of utilities with physical risk exposure to events such as wildfires "could come under even more pressure if comprehensive risk-reduction strategies are not effectively implemented."[59]

Similarly, Fitch has noted the higher regulatory risk associated with wildfires, and stated that extreme weather, which includes wildfires, has driven approximately

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55 *As the leaves fall*, *supra* note 52.

56 Moody's Investors Service, *Breakfast with the Analysts,* at 30, 58th Annual EEI Financial Conference, (Nov. 13, 2023) available at Exh. AEB-18.

57 *Id*. at 32.

58 S&P Global Ratings, *A Storm is Brewing: Extreme Weather Events Pressure North American Utilities' Credit Quality*, at 1 (Nov. 9, 2023), available at Exh. AEB-17C.

59 *Id*.

one-quarter of its downgrades in the past six years, yet was not a driver of downgrades in the six years prior.[60]

The most recent example is Hawaiian Electric Industries Inc. and its subsidiaries after the catastrophic Maui fires in August 2023 when S&P, Moody's, and Fitch all downgraded to "junk" status in response to the potential wildfire liabilities faced by the utility.[61]

Q. Is wildfire risk limited to a few states?

A. No. The Federal Emergency Management Agency ("FEMA") publishes a National Risk Index that ranks the wildfire risk by county and census tract in five categories: Very High, Relatively High, Relatively Moderate, Relatively Low, and Very low. Based on FEMA's assessment, wildfire risk is much broader than a few states, with the risk identified primarily as west of the Mississippi River, Hawaii, Florida, and the southeastern coast of the U.S.[62]

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60 FitchRatings, *Climate Related Risks in Focus*, 35th Annual Presentation at EEI Financial Conference, at 5, 11 (Nov. 13, 2023), available at Exh. AEB-17C.

61 *See*, *e.g.*, Reuters, *Fitch downgrades Hawaiian Electric to junk on worries over wildfire exposure*, Reuters (Aug. 21, 2023) available at https://www.reuters.com/business/energy/fitch-downgrades-hawaiian-electric-junk-worries-over-wildfire-exposure-2023-08-21/; Reuters, *S&P downgrades Hawaiian Electric to 'B-'as wildfires raise market-access worries* (Aug. 24, 2023) available at https://www.reuters.com/business/energy/sp-downgrades-hawaiian-electric-downgraded-b--2023-08-25/; Reuters, *Moody's downgrades Hawaiian Electric's credit to junk amid Maui wildfire scrutiny* (Aug. 18, 2023) available at https://www.reuters.com/markets/us/moodys-downgrades-hawaiian-electrics-credit-junk-amid-maui-wildfire-scrutiny-2023-08-18/, available at Exh. AEB-17C.

62 FEMA, *National Risk Index*, https://hazards.fema.gov/nri/map# (wildfire risk by census tract). See also, S&P Global Ratings, *A Storm Is Brewing: Extreme Weather Events Pressure North American Utilities' Credit Quality*, at 3 (Nov. 9, 2023), available at Exh. AEB-18.

Q. Are there demonstrated risks of wildfire in Washington State?

A. Yes. Avista has been named in eleven lawsuits that have been filed in connection with the Babb Road Fire in its service territory that were consolidated into the *Blakely v. Avista* case. The plaintiffs allege that the fire was caused by a tree that broke during a windstorm and claim that the tree should have been trimmed or removed by Avista and/or its vegetation management contractor. This case is pending and set for trial in May 2024.

Q. Have you conducted any analysis to evaluate the wildfire risk in Washington as compared to the jurisdictions in which the companies in the proxy group operate?

A. Yes. Based on FEMA's rankings of the Expected Annual Loss associated with wildfire for each state, I have conducted an analysis to compare the wildfire risk of Washington to the jurisdictions in which the utility operating subsidiaries of the companies in the proxy group operate. Specifically, I have applied a numeric ranking system to the FEMA rankings with "Very Low" assigned the lowest ranking (i.e., a "1") and "Very High" assigned the highest ranking (i.e., a "5").

As shown in Exh. AEB-11, Washington has different rankings based on region, with PSE's service territory ranked "Very Low" (i.e., a "1") and Avista's service territory ranked as a range from "Very Low" to "Relatively Moderate" (i.e. "1" through "3"). While PSE's service territory risk is at the lower end of the range, the

fact that PSE has been identified as having risk related to wildfire supports the need for investment in wildfire prevention and PSE's proposed tracking mechanism.

Q. Has PSE established a wildfire mitigation plan?

A. Yes. This plan is discussed in detail in the Prefiled Direct Testimony of PSE witness Ryan Murphy, Exh. RM-1T. As Murphy notes, the wildfire mitigation plan includes investments that are intended to decrease the potential risk associated with an event. This plan includes infrastructure investments as well as operational procedures and emergency response and communications and outreach within the community.

Q. How will PSE's proposed recovery mechanism mitigate the financial risk associated with wildfires?

A. PSE's Wildfire Prevention Tracker is discussed in more detail in the Prefiled Direct Testimony of PSE witness Susan E. Free, Exh. SEF-1T. It is my understanding that this tracking mechanism will provide more timely recovery of O&M, insurance costs, and other capital costs pertaining to PSE's wildfire mitigation program.

Q. What are your conclusions regarding the effect of wildfire risk on PSE?

A. While lower in probability based on the FEMA study, the fact that PSE has been identified as having some risk associated with wildfires supports the need for

continued investment in wildfire prevention and the Company's proposal to recover its investments on a timely basis.

C. Capital Investment

Q. What are the major requirements for PSE to comply with CETA?

A. CETA requires PSE's electric supply to be 100 percent carbon neutral by 2030 and 100 percent carbon free by 2045. PSE will need to make substantial capital investments over the next two decades in clean energy resources, and transmission and distribution infrastructure to meet the investment requirements of CETA. These investments are in addition to the Company's ongoing investment needs to continue to provide safe and reliable operations to the existing utility system over that time period. PSE plans to meet CETA targets with a combination of energy efficiency and other demand side management initiatives, distributed energy resources, and utility-scale generation that will be a combination of company-owned generation and contracted clean energy resources.

Q. Please summarize the capital expenditure requirements for PSE's electric and natural gas operations.

A. As of December 31, 2023, PSE projects its end-of-period rate base for electric and gas operations is approximately $9.2 billion, and is expected to have elevated capital spending of approximately $1.90 billion on average per year through 2028 for a total of approximately $9.5 billion. Therefore, PSE's projected capital

expenditures through 2028 represent approximately 103.79 percent of its projected rate base for 2023. The details of this investment are discussed in the testimony of PSE witnesses Doyle and Jacobs.

Q. How is PSE's risk profile affected by its capital expenditure requirements?

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

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

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

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when

> construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an incentive to investors.[63]

Therefore, to the extent that PSE's rates do not permit the opportunity to earn an appropriate return and recover its capital investments on a regular and timely basis, PSE will face increased recovery risk and thus increased pressure on its credit metrics.

Q. How does CETA affect the Company's financial risk?

A. As discussed in more detail in the Prefiled Direct Testimony of PSE witness Cara G. Peterman, Exh. CGP-1CT, PSE will need to access the external sources to finance the capital requirements to meet the CETA goals. PSE witness Peterman also notes that PSE's current credit metrics indicate declining creditworthiness. From 2018 through 2022, the Company's FFO to debt metrics have been declining.[64] Absent strong regulatory support, the incremental financial risk related to the significant capital investment plan needed to meet CETA requirements would further strain PSE's credit metrics. As PSE witness Peterman notes, it will be critical that PSE maintain its financial strength in order to be able to access capital on reasonable terms to achieve the lowest possible financing costs for its customers.

[63] S&P Global Ratings, Assessing U.S. Investor-Owned Utility Regulatory Environments, at 7 (Aug. 10, 2016), available at Exh. AEB-17C.
[64] Exh. CGP-1CT, Table 8.

Q. How does PSE propose to stabilize its credit metrics during this period of significant capital investment?

A. PSE is proposing to rely on a combination of a higher ratemaking equity ratio and the incremental increases in the Company's ROE, proposed at 9.95 percent in the first rate year and 10.50 percent in the second rate year, to support the key financial metrics relied upon by the rating agencies. If PSE's proposal is approved (both the requested ROE and including construction work in progress in rate base for the Beaver Creek project), the credit metrics for 2025 and 2026 would rise close to downgrade thresholds for 2025 and above downgrade thresholds for 2026, with modest cushion, as shown in the Prefiled Direct Testimony of Cara G. Peterman, Exh. CGP-1CT.[65]

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

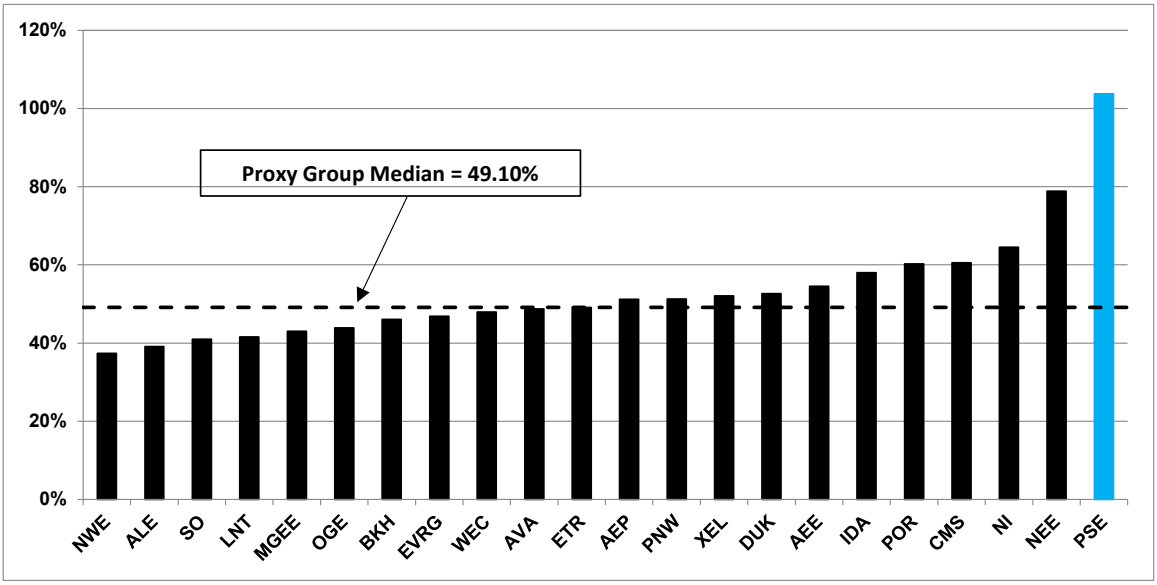
A. As shown in Exh. AEB-12, I calculated the ratio of expected capital expenditures to projected net utility plant for each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2024-2028 by its total projected net utility plant for year 2023.

As shown in Figure 7 below and Exh. AEB-12, PSE's ratio of capital expenditures as a percentage of projected end-of-period rate base is 103.79 percent, which is significantly greater than the median for the proxy group companies

[65] Exh. CGP-1CT, Figure 1 and Figure 2.

of 49.10 percent. This result indicates a risk level for PSE that is higher than the proxy group companies.

Figure 7. Comparison of Capital Expenditures – Proxy Group Companies



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

A. Yes. PSE currently utilizes trackers for certain capital investments, including for certain investments associated with Colstrip and its Tacoma LNG Facility. In addition, the Company is proposing three rate recovery mechanisms that address key financial risks related to certain capital investments: wildfire prevention, clean generation resources, and gas decarbonization. Finally, PSE is proposing to include CWIP in rate base for the Beaver Creek project, which would be part of the Clean Generation Resources Rate Adjustment mechanism. Further explanation of the proposed trackers and the CWIP proposal, please see the

Prefiled Direct Testimony of PSE witnesses Dan Doyle, Exh. DAD-1CT, and Susan Free, Exh. SEF-1T.

Q. How does the proposal of these mechanisms compare with the overall risk profile of the proxy group companies?

A. As shown in Exh. AEB-13, 70.27 percent of the proxy group utilities recover costs through capital tracking mechanisms. Therefore, the implementation of the proposed tracking mechanisms will result in PSE's risk profile more closely approximating the risk of the proxy group companies.

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

A. PSE's capital expenditure requirements as a percentage of net utility plant are significant over the next several years and will require regulatory support in order to meet PSE's commitment to CETA through its investment plans while maintaining its financial integrity. The MYRP and the capital tracking mechanisms that have been proposed in this proceeding will provide for the ability to recover the return of and on the investments on a more timely basis, which will help to maintain the financial strength of the company. Maintaining the Company's financial strength is critical to achieving access to capital on reasonable terms for PSE's customers throughout the energy transition.

Q. What are your conclusions regarding the perceived risks related to CETA?

A. PSE has demonstrated strong support for meeting the state's CETA goals. However, the required capital investment to achieve these objectives is significant and comes at a time when the Company's credit metrics have been weakened considerably. Therefore, the incremental risk related to the CETA investments will require strong regulatory support in order for PSE to be able to access the financial markets on terms that are favorable for its customers. PSE's financial proposal, which includes a thicker equity ratio and a stepped increase in the ROE over the two-year rate period will provide the necessary financial support to be able to meet its CETA required investment plan while restoring a stronger financial position that will allow PSE to access capital on reasonable terms for customers.

D. Regulatory Risk

Q. How does the regulatory environment affect investors' risk assessments?

A. The ratemaking process is premised on the principle that for investors and companies to commit the capital needed to provide safe and reliable utility services, the subject utility must have the opportunity to recover invested capital and the market-required return on such capital. Regulatory commissions recognize that because utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms, which balances the long-term interests of investors and customers. In that respect, the regulatory

framework in which a utility operates is one of the most important factors considered in both debt and equity investors' risk assessments.

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

From the perspective of equity investors, the authorized return must be adequate to provide a risk-comparable return on the equity portion of PSE's capital investments. Because equity investors are the residual claimants on PSE's cash flows (that is, debt interest must be paid prior to any equity dividends), equity investors are particularly concerned with the regulatory framework in which a utility operates and its effect on future earnings and cash flows.

Q. How do credit rating agencies consider regulatory risk in establishing a company's credit rating?

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

(1) regulatory framework;

(2) the ability to recover costs and earn returns;

(3) diversification; and

(4) financial strength, liquidity, and key financial metrics. [66]

Of these criteria, regulatory framework, and the ability to recover costs and earn returns are each given a broad rating factor of 25.00 percent.[67] Therefore, Moody's assigns regulatory risk a 50.00 percent weighting in the overall assessment of business and financial risk for regulated utilities.[68]

S&P also identifies the regulatory framework as an important factor in credit ratings for regulated utilities, stating: "One significant aspect of regulatory risk that influences credit quality is the regulatory environment in the jurisdictions in which a utility operates."[69] S&P identifies four specific factors that it uses to assess the credit implications of the regulatory jurisdictions of investor-owned regulated utilities:

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66 Moody's Investors Service, *Rating Methodology: Regulated Electric and Gas Utilities*, at 4 (June 23, 2017), available at Exh. AEB-17C.

67 *Id.*

68 *Id*.

69 Standard & Poor's Global Ratings, Ratings Direct, *U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality—But Some More So Than Others*, at 2 (June 25, 2018), available at Exh. AEB-17C.

(1) regulatory stability;

(2) tariff-setting procedures and design;

(3) financial stability; and

(4) regulatory independence and insulation.[70]

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

A. The regulatory environment can significantly affect both the access to, and cost of, capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory environment. As noted by Moody's, "[f]or rate regulated utilities, which typically operate as a monopoly, the regulatory environment and how the utility adapts to that environment are the most important credit considerations."[71] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting: "[b]roadly speaking, the Regulatory Framework is the foundation for how all the decisions that affect utilities are made (including the setting of rates), as well as the predictability and consistency of decision-making provided by that foundation."[72]

[70] *Id*. at 1.
[71] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, at 6 (June 23, 2017), available at Exh. AEB-17C.
[72] *Id*.

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

A. Yes. I have evaluated the regulatory framework in Washington considering two factors that are important to helping PSE maintain access to capital at reasonable terms. As I will discuss in more detail below, the two factors are: (1) cost recovery mechanisms that allow a utility to recover costs in a timely manner between rate cases and provide the utility the opportunity to earn its authorized return; and (2) a comparable return standard, because an awarded ROE that is significantly below the ROEs awarded to other utilities with comparable risks can affect the ability of a utility to attract capital at reasonable terms.[73]

1. Operating Cost Recovery

Q. In addition to the capital investment tracking mechanisms discussed previously, have you conducted any analysis to compare the cost recovery mechanisms of PSE to the cost recovery mechanisms approved in the jurisdictions in which the companies in your proxy group operate?

A. Yes. I considered other mechanisms that are important to provide a regulated utility an opportunity to earn its authorized ROE: (1) test year convention (i.e., forecast vs. historical); and (2) the use of rate design or other mechanisms

[73] *Hope* and *Bluefield* require the return be commensurate with returns on investments in enterprises with similar risk.

that mitigate volumetric risk and stabilize revenue. The results of this regulatory risk assessment are shown in Exh. AEB-13 and are summarized as follows:

- Test Year Convention: PSE is proposing a MYRP that relies on a historical test year as of June 30, 2023, and updates for each year of the rate plan. Approximately 49.55 percent of the utility operating subsidiaries of the companies in the proxy group use either fully or partially forecasted test years, which provide similar stability to a MYRP.

- Revenue Stabilization / Volumetric Risk: PSE has protection against volumetric risk through a revenue decoupling mechanism. Similarly, approximately 54.05 percent of the operating companies held by the proxy group have some form of revenue stabilization that allows them to break the link between customer usage and revenues.

2. Fuel Cost Recovery - Power Cost Adjustment Mechanism

Q. Please summarize PSE's fuel cost recovery mechanism.

A. The Power Cost Adjustment ("PCA") is a mechanism that accounts for differences between PSE's actual power costs and power costs that are included in rates. The PCA does not permit the recovery of all power supply costs incurred on behalf of customers. Rather, the PCA apportions variations in power costs between shareholders and customers. Specifically, PSE's current PCA provides for the deferral of power costs that vary from the power cost baseline levels that are based on normalized assumptions about weather and hydroelectric conditions. Excess costs or savings are apportioned between customers and shareholders according to the following schedule:

- Over/under collection up to $17 million are born by shareholders

- Between $17 million and $40 million, PSE is apportioned 35 percent of the over collected and 50 percent of the under collected and the remainder is assigned to customers; and

- Over $40 million, PSE is apportioned 10 percent of the over or under collection and the remainder is assigned to customers.[74]

As a result, the PCA currently does not fully mitigate the power cost risk for PSE.[75] This is an important difference in the risk born by PSE as compared to the proxy group companies because fuel and purchased power costs typically account for 50-60 percent of the total operating costs for a regulated utility.

Q. How does PSE recover the deferred power costs?

A. The Power Cost Only Rate Case ("PCORC") gives PSE the ability to periodically update rates to reflect power supply costs more accurately, including the costs associated with new resources. However, in the 2022 Revenue Requirement Settlement, PSE agreed to a PCORC stay-out and the parties agreed to the use of annual power cost updates through the pendency of the 2023-2024 MYRP.[76] The annual power cost updates resulted in changes to the variable portion of the baseline power costs each year, similar to the Company's Purchased Gas Adjustment. In addition to the use of PCORCs, the Company is proposing to continue the use of annual power cost updates to provide for timely adjustment of power costs.

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74 Puget Energy Inc., Annual Report (Form 10-K) for the fiscal year ended Dec. 31, 2022, at 11. https://www.pse.com/-/media/PDFs/PugetEnergy/PE-10K-12312022.pdf, available at Exh. AEB-18.

75 *Id*.

76 *WUTC v. PSE*, Dockets UE-220066, UG-220067, & UG-210918, Order 24-10, App. A, ¶ 27 (Dec. 22, 2022).

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

A. As shown in Exh. AEB-13, 89.19 percent of the operating companies held by my proxy group are allowed to pass through fuel costs and purchased power costs directly to customers, without deadbands and sharing bands. Therefore, the continued use of annual power cost updates, as proposed by the Company, is consistent with the majority of the proxy group companies. In the event that the annual power cost updates are not authorized in this proceeding, PSE's risk associated with the recovery of power costs will be significantly greater than the proxy group, on average.

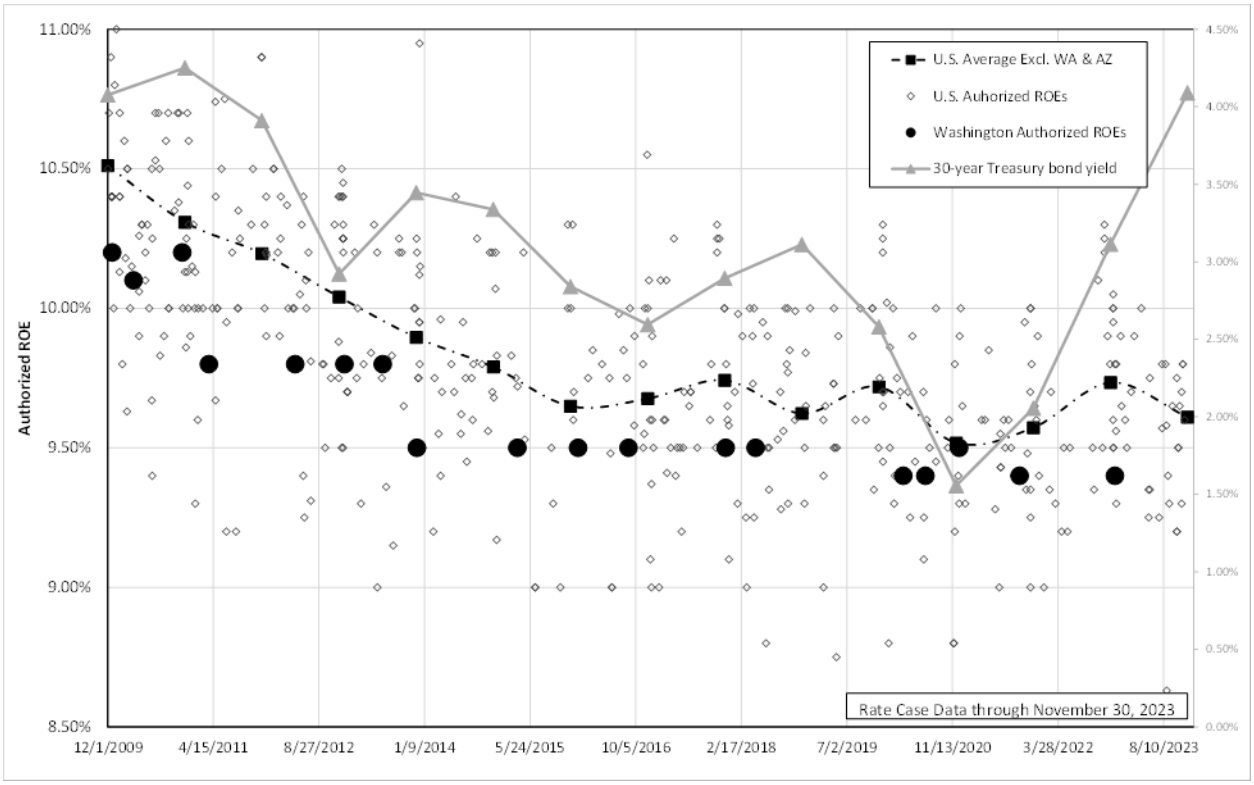
3. Authorized ROEs

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

A. As noted in RRA's evaluation above, the authorized ROEs for electric and natural gas utilities in Washington, while partially the result of settlement agreements approved by the Commission, have been below the average authorized ROEs for electric and natural gas utilities across the U.S. Figure 8 below shows the authorized returns for vertically integrated electric utilities in other jurisdictions since July 2009, the returns authorized in Washington for electric companies, and the yield on the 30-year Treasury bond. As shown in Figure 8, the authorized

returns for electric utilities in Washington have historically been in the lower end of the range produced by the authorized ROEs from other state jurisdictions for 2009 through November 2023. Further, it is important to note that the yield on the 30-year Treasury bond has increased significantly since PSE's last rate proceeding.

Figure 8. Comparison of Washington and U.S. Authorized Vertically Integrated Electric Returns[77]



[77] S&P Capital IQ Pro.

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

A. Yes. Placing PSE at the low end of authorized ROEs across the U.S. can negatively affect PSE's access to capital and the overall cost of capital over the longer term. As I discuss below, the recent negative rate case determination, including a below average authorized ROE for Arizona Public Service Company, resulted in a 24 percent decline in the share price for Pinnacle West Capital Corporation.

Second, as noted in Sections V and VII, interest rates increased significantly in 2022 due to inflation and the Federal Reserve's normalization of monetary policy, which is expected to remain restrictive for the near-term. While historical authorized ROEs provide investors with a range of recent returns, it is important to recognize that the recent decisions do not take into consideration the effect of the recent change in market conditions on the investor-required return. Therefore, it is important that the Commission consider the results of forward-looking methodologies such as the CAPM, ECAPM, and Risk Premium, which rely directly on current and projected interest rates in the estimation of the cost of equity.

Q. Do credit rating agencies consider the authorized ROE in the overall risk assessment of a utility?

A. Yes, they do. 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. It is important to consider credit ratings because they affect the overall cost of borrowing, and they act as a signal to equity investors about the risk of investing in the equity of a company. Therefore, lower credit ratings can affect both the cost of debt and equity.

Q. Have PSE's credit ratings been affected by rate case decisions?

A. Yes. In 2020, following what it considered an "unfavorable" rate case decision, Moody's affirmed its issuer rating on PSE of Baa1.[78] At that time, S&P placed the ratings on CreditWatch with negative implications, based on the outcome of the rate case.[79] However, in their most recent review of PSE, both Moody's and S&P acknowledge the credit-positive outcome of the most recent rate case, noting that the multi-year ratemaking reduced uncertainty for the utility and its stakeholders.[80] The Company's credit ratings are discussed in more detail in the Prefiled Direct Testimony of PSE witness Todd A. Shipman, Exh. TAS-1T.

[78] Moody's, *Rating Action: Moody's affirms the ratings of Puget Energy and Puget Sound Energy; outlooks stable*, August 25, 2020, available at Exh. AEB-17C.
[79] S&P, *Research Update: Puget Energy Inc. And Subsidiary Ratings Placed On CreditWatch Negative Over Regulatory Concerns*, July 23, 2020, available at Exh. AEB-17C.
[80] S&P, *Puget Sound Energy, Inc.*, May 11, 2023, p.2, available at Exh. AEB-17C.

Q. Do PSE's current credit metrics create incremental risk for the Company?

A. Yes. As discussed previously, PSE witness Peterman demonstrates that the key credit metrics evaluated by Moody's and S&P have been declining for PSE as a result of the Tax Cuts and Jobs Act and the outcome from PSE's 2022 rate case.[81] As discussed in the direct testimony of PSE witness Shipman, these weaker metrics were likely overlooked previously on the expectation that the causes of weakness were transitory and the assumption that the WUTC would provide a credit-positive framework to ease the transition of energy infrastructure in the state.[82]

However, the current credit metrics are currently in the range of 16 to 17 percent, which are generally below the range expected by Moody's at a time when PSE needs to access significant amounts of capital to fund its CETA and operational capital needs. Therefore, the weaker credit metrics present significant risk to PSE.

Q. Are you aware of any utilities that have recently been affected by adverse rate case developments?

A. Yes. There are numerous examples in which utilities have experienced a negative market response related to the financial effects of a rate decision, including credit rating downgrades and material stock price declines. The most recent example is the decision by the Illinois Commerce Commission ("ICC") in mid-December

[81] Exh. CGP-1CT.
[82] Exh. TAS-1T.

2023 that rejected the multiyear grid plan proposals of Ameren Illinois Co. ("Ameren IL") and Commonwealth Edison Co. ("ComEd") and authorized lower-than-expected ROEs for both utilities.[83] Specifically, the ICC authorized an ROE for Ameren IL of 8.72 percent and 8.905 percent for ComEd, which was a significant reduction from the Administrative Law Judge's recommendations of 9.24 percent and 9.28 percent, respectively.[84]

Q. How did the market respond to the ICC's decisions for Ameren IL and ComEd?

A. While the S&P 500 was increasing, the share prices of the parent companies of both Ameren IL and ComEd (*i.e.*, Ameren Corp. and Exelon Corp., respectively) each dropped more than 7 percent on December 14, 2023, after the ICC's decision, and declined again by more than 4.4 percent and 6.4 percent the following day, respectively.[85] As of the close on December 20, 2023, Ameren and Exelon's stock prices were more than 11 percent and 15 percent, respectively, below where their stock prices closed on December 13, 2023, or the day immediately prior to the ICC's decisions.[86]

In addition, the reactions of equity analysts were universally negative, and questioned whether the parents of both Ameren IL and ComEd (*i.e.*, Ameren

[83] *ICC v. Ameren Illinois Co.*, Dockets 22-0487 & 22-0082, Order at pp. 18 & 372 (December 14, 2023); *ICC v. Commonwealth Edison Co.*, Dockets 22-0486 & 22-0055, Order at pp. 14 & 470 (December 14, 2023).
[84] Allison Good, "Ameren, Exelon shares fall after Illinois regulators reject grid plans," *Platts*, December 15, 2023, available at Exh. AEB-18.
[85] Yahoo! Finance, Stock Prices for AEE and EXC from November 1, 2023, through December 29, 2023.
[86] *Id*.

Corp. and Exelon Corp., respectively) will shift their capital spending out of the jurisdiction as a result of the uncertainty associated with the multiyear rate plan and low authorized ROEs. For example:

- Barclays characterized the ICC's ROE authorizations as "draconian" and "one of the lowest awarded in recent memory, especially in an elevated interest rate and cost of capital environment."[87] Barclays also stated it found it hard to believe utilities "can deploy capital under the same magnitude on the updated grid plans to be filed, especially under the current proposed ROE framework."[88]

- In its assessment of the impact on Exelon, the parent of ComEd, UBS stated that, "[t]he actions taken by the ICC today call into question, in our view, the regulatory backdrop in which EXC operates."[89]

- Wells Fargo stated that it was not mincing words, and that the ICC's orders were "onerous" and that:

> We now view IL as one of the worst regulatory jurisdictions in the U.S. (nipping at CT's heels). We think the totality of the recent orders suggest that the regulatory balancing act between customers and investors is currently heavily skewed toward customers. As a result, we wonder if AEE & EXC will allocate capital away from IL. Keep in mind, IL represents ~25% of both AEE's & EXC's total rate base.[90]

- In its evaluation of Ameren IL, BofA Securities characterized the ICC's decision as "punitive" and stated that it was a surprise based on numerous conversations with investors that believed the ICC may authorize an ROE above the ALJ's recommendation, not substantially lower, and that the downside surprise was one of the biggest in recent memory for their regulated

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87 Barclays, "AEE/EXC: Coal Stocking-Stuffer in Illinois," December 14, 2023, available at Exh. AEB-17C.

88 *Id.*

89 UBS, First Read Exelon Corp., *Negative Rate Case Outcome – Rating and PT Under Review*, Dec. 14, 2023, available at Exh. AEB-18.

90 Wells Fargo, *The ICC Delivers a Lump of Coal for AEE & EXC*, Dec. 14, 2023, available at Exh. AEB-18.

utility coverage.[91] While BofA Securities acknowledged that Ameren IL represents less than 20 percent of Ameren Corp.'s consolidated rate base, it will nonetheless need to offsets or capital expenditures elsewhere in order to hit its earnings growth rate targets.[92]

- After the decisions, Guggenheim questioned, "Is Illinois Becoming the Next Connecticut?" Guggenheim noted that investors questioned whether Illinois was "slowly becoming a CT-esque jurisdiction," and that equity and debt holders are going to be wary of Illinois as a jurisdiction going forward and that the ICC is "simply sending a negative message to investors."[93]

Also, after the ICC's decisions, RRA lowered its rating of the Illinois regulatory jurisdiction from Average/2 to Average/3 due to the "concerning pattern of restrictive" rate actions in the state.[94]

Q. How should the Commission use the information regarding authorized ROEs in other jurisdictions in determining the ROE for PSE?

A. The companies in the proxy group operate in multiple jurisdictions across the U.S. Since PSE must compete directly for capital with investments of similar risk, it is appropriate to review the authorized ROEs in other jurisdictions. The comparison is important because investors are considering the authorized returns across the U.S. and are likely to invest equity in those utilities with the highest returns. However, when reviewing this data, it is important to recognize that the authorized ROEs are based on the market conditions at the time of the rate proceeding. Therefore, while it is reasonable to review this data, it is important to

[91] BofA Securities, Ameren Corporation, *Illinois delivers downside surprise*, Dec. 15, 2023, available at Exh. AEB-17C.
[92] *Id*.
[93] Guggenheim, IL: *Is Illinois Becoming the Next Connecticut? To Be Determined, but Taking a Neutral Stance on the State*, Dec. 15, 2023, available at Exh. AEB-18.
[94] S&P Capital IQ Pro, RRA regulatory review, available at Exh. AEB-17C.

consider differences in market conditions and the investor required return at the time that the ROE was authorized. Furthermore, investors are also likely to consider business and financial risks for a company like PSE which faces increased risk as a result of its capital expenditure plan and limited cost recovery mechanisms. Therefore, authorizing an ROE for PSE that is equivalent to the average authorized ROE for other vertically integrated electric utilities is not sufficient to compensate investors for the added risk of PSE. As such, it is important that the Commission consider, as I have in my recommendation, the additional risk of PSE and place the authorized ROE for PSE towards the high end of authorized ROEs for other vertically integrated electric utilities.

4. Weighted ROE

Q. How does the risk of the capital structure affect the ROE?

A. The capital structure affects the level of risk that equity investors assume. As leverage (debt) increases, the risk of repayment to equity holders also increases, because equity holders are the last claimants on the assets of a business in the event of the dissolution of the business. Therefore, a higher debt ratio can increase the investor required return on equity.

Q. Are you aware of the analysis of the weighted ROE that PSE witness Doyle performs in his testimony?

A. Yes. PSE witness Doyle has reviewed the current authorized weighted return on equity for the electric and natural gas utilities that are included in my proxy group

where the weighted return on equity is calculated as the product of the authorized ROE and the authorized equity ratio. In this analysis, PSE witness Doyle determines that PSE's current weighted average return on equity is in the bottom quartile of the weighted average returns on equity authorized for my proxy group companies.[95]

Q. Are the findings of PSE witness Doyle's analysis important for the Commission to consider?

A. Yes. In determining the appropriate return on equity, it is reasonable to consider the returns on investments of similar risk. That is a basic tenet of the *Hope* and *Bluefield* decisions. As discussed previously, the relative risk of the capital structures of the comparable group, and their corresponding returns, which are combined in the weighted return calculation, together reflect the return and the measure of financial risk for the utility operating companies of my proxy group. Therefore, it is reasonable to consider how PSE's weighted return compares with the proxy group.

Q. Are PSE's proposed ROE and equity ratio for each year of the two-year rate plan reasonable when compared with the proxy group?

A. Yes. As PSE witness Doyle demonstrates, the current authorized ROE and equity ratio place PSE in the bottom quartile for the proxy group.[96] However, as witness

[95] Exh. DAD-1CT.
[96] *Id.*

Doyle notes, the Company's proposed ROE and equity ratio for the first year of the rate plan would place PSE's weighted return at the bottom of the top quartile and in the second year of the rate plan PSE's proposal would result in a weighted return that is in the middle of the top quartile. Based on the overall risk profile of PSE and the significant capital plan that is necessary to meet its CETA requirements, it is reasonable to expect that the overall return for PSE would be at the higher end of the range of returns.

5. Regulatory Rankings

Q. Do credit rating agencies and equity investors consider the risk related to the regulatory environment?

A. Yes. S&P, through its RRA division, considers the risk associated with the regulatory environment from the perspective of debt and equity investors.

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

A. Yes. In December 2022, RRA updated its evaluation of the regulatory environment in Washington and noted the following:

> The regulatory environment in Washington is, on balance, somewhat more restrictive than average from an investor viewpoint. The state's electric utilities remain vertically integrated and are regulated under a traditional regulatory paradigm. Rate case activity has been fairly robust, and authorized equity returns, some of which were approved following settlements, have been below prevailing industry averages when established. In addition, while there have been limited exceptions, the commission has primarily relied upon average rate base valuations and historical test years, each of which can exacerbate regulatory lag and render it difficult for the utility to

> earn the authorized return. On a more constructive note, the WUTC has approved the implementation of revenue decoupling mechanisms for most of the state's electric and gas utilities, and for one utility, has adopted a rate plan that provides for annual increases in allowed revenue per customer for the duration of the rate-plan period. Power-cost adjustment mechanisms, in effect for all of the state's electric utilities, contain dead-bands and sharing mechanisms that, while allowing the company an opportunity to retain a benefit, also limit the costs that may be recovered from ratepayers. In addition, for one utility operating in the state, recent rulings have disallowed purchased power costs from qualifying facilities located outside the state. In May 2017, RRA performed a comprehensive audit of its regulatory rankings. The ranking accorded Washington did not change as a result of this process. RRA continues to accord Washington an Average/3 ranking.[97]

Q. Have you developed any additional analyses to evaluate the regulatory environment in Washington as compared to the jurisdictions in which the companies in your proxy group operate?

A. Yes. In addition to the analyses previously discussed regarding the recovery mechanisms for PSE as compared with the proxy group companies, I have also considered the relative rankings of the Washington regulatory jurisdiction to the jurisdictions in which the utility operating subsidiaries of the proxy group operate. Specifically, I considered two different rankings:

(1) the RRA ranking of regulatory jurisdictions, which is presented in Exh. AEB-14; and

(2) S&P's ranking of the credit supportiveness of regulatory jurisdictions, which is presented in Exh. AEB-15.

[97] S&P Capital IQ Pro, updated Dec. 14, 2022, available at Exh. AEB-17C.

Q. Please explain how you used the RRA rankings to compare the regulatory jurisdictions of the utility operating subsidiaries of the proxy group companies relative to PSE?

A. RRA assigns a ranking for each regulatory jurisdiction between "Above Average/1" to "Below Average/3," with nine total rankings between these categories. I applied a similar numeric ranking system to the RRA rankings with "Above Average/1" assigned the highest ranking ("1") and "Below Average/3" assigned the lowest ranking ("9"). As shown in Exh. AEB-14, PSE's jurisdictional ranking is "6" or "Average/3", which is below the proxy group's average numeric ranking of "4.57" from RRA, which is between "Average/1" and "Average/2."

Q. How did you conduct your analysis of the S&P credit supportiveness?

A. For credit supportiveness, S&P classifies each regulatory jurisdiction into five categories that range from "Credit Supportive" to "Most Credit Supportive." My analysis of the credit supportiveness of the regulatory jurisdictions in which the proxy companies operate relative to PSE's regulatory jurisdiction is similar to the analysis of the RRA overall regulatory ranking just discussed. Specifically, I assign a numerical ranking to each of S&P's categories, from Most Credit Supportive ("1") to Credit Supportive ("5"). As shown in Exh. AEB-15, the proxy group average ranking is 2.36, which would be classified between "Very Credit Supportive" and "Highly Credit Supportive," while PSE's rank is lower at "Very

Credit Supportive" ("3"), which suggests that investors perceive regulation for PSE as below average relative to the proxy group.

Q. What is your conclusion regarding the regulatory framework in Washington as compared with the jurisdictions in which the proxy group companies operate?

A. The regulatory framework in which a regulated utility provides service is one of the most important considerations for debt and equity investors. Based on my analysis, I conclude that the regulatory risk for PSE is higher than the proxy group, which reflects a view that Washington's regulatory framework has somewhat greater risk than the jurisdictions in which the utility operating subsidiaries of the proxy group companies provide service.

IX. CAPITAL STRUCTURE

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

A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such as PSE. All else equal, a higher debt ratio increases risk for equity investors. For debt holders, a higher debt ratio results in a greater portion of the available cash flow being required to meet debt service, thereby increasing the risk associated with the payments on debt. The result of increased risk is a higher interest rate. The incremental risk of a higher debt ratio is more significant for common equity shareholders, whose claim on the cash flow of PSE is secondary

to debt holders. Therefore, the greater the debt service requirement, the less cash flow available for common equity holders. To the extent the equity ratio is reduced, it is necessary to increase the authorized ROE to compensate investors for the greater financial risk associated with a lower equity ratio.

Q. What is PSE's proposed capital structure?

A. PSE is proposing to establish a capital structure consisting of 50.00 percent common equity for the first year of the rate plan, increasing to 51.00 percent common equity for the second year of the rate plan. PSE's proposed capital structure is discussed in detail in the direct testimony of PSE witness Cara Peterman, Exh. CGP-1CT. As discussed therein, PSE's shareholders intend to make equity investments simply to maintain the existing actual equity ratio of 49 percent and to support safety, reliability and CETA-related investments.[98] Further, PSE is requesting that the Commission only require the Company to maintain the dollar value of equity in the capital structure at 49 percent to relieve incremental financing pressure that relates to an extraordinary financing requirement.[99]

Q. Did you conduct any analysis to determine if PSE's requested capital structure was reasonable?

A. Yes. I reviewed PSE's proposed capital structure relative to the actual capital structures of the utility operating subsidiaries of the companies in the proxy

[98] Exh. CGP-1CT.
[99] *Id.*

group. Since the ROE is set based on the return that is derived from the risk-comparable proxy group, it is reasonable to look to the average capital structure for the proxy groups to benchmark the equity ratios for PSE.

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

A. Specifically, I calculated the mean proportions of common equity, long-term debt, and preferred stock over the past eight quarters for each of companies in the proxy group at the operating subsidiary level. Exh. AEB-16 summarizes the actual capital structures of the operating subsidiaries. As shown, the average equity ratios for the operating subsidiaries of the proxy group over the most recent eight quarters (i.e., Q3/2021 - Q2/2023) range from 45.52 percent to 66.21 percent, with a mean of 54.99 percent. While PSE proposes increasing its equity ratio to 50.00 percent for the first year of the rate plan, and 51.00 percent for the second year of the rate plan, the proposed capital structures are still more highly leverage than the proxy group companies. As such, PSE's projected equity ratios are comparatively reasonable, however PSE's overall financial risk over the MYRP period would be greater than the average financial risk of the operating companies owned by the proxy group companies.

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

A. Yes, the Commission should consider the significant capital plan proposed by PSE in order to meet its dual mandate of investment necessary to providing safe

and reliable service and the significant investment required to achieve the CETA goals. As PSE witness Peterman notes, PSE is cash flow negative, meaning that the costs that PSE recovers through rates and the return on and of rate base are not sufficient to cover the funding requirements of the business. Therefore, it is necessary that PSE seek external financing to meet the rest of the operational needs. As Peterman notes, PSE will need access to the capital markets to fund the ongoing operational needs of the business as well as the CETA investments. Ensuring that PSE is financially strong to obtain financing on reasonable terms will provide long-term benefits to customers.

Further, the Commission should consider other factors in setting PSE's capital structure, namely the challenges that the credit rating agencies have highlighted as placing pressure on the outlook for utilities in 2023.

For example, in November 2022, Moody's revised its 2023 outlook for the regulated gas and electric utilities sector to "negative" based on ongoing challenges of inflation, increasing interest rates, and higher natural gas prices.[100] Moody's noted that these challenges increase the pressure on customer affordability and public scrutiny, thereby hindering the ability of utilities to promptly recover their costs. Moody's concluded that regulated utilities' financial metrics were already under pressure with little cushion, and that sustained capital spending was likely as utilities continue progress towards emissions reductions and net-zero goals.[101] In

[100] Moody's Investors Service, Outlook, 2023 outlook negative due to higher prices, inflation and rising interest rates, at 1 (Nov. 10, 2022), available at Exh. AEB-17C.

[101] *Id.*

September 2023, Moody's did return the outlook to stable, due to lower natural gas prices and inflation.[102] However, S&P noted there are significant risks to the sector including record levels of capital spending and the practice of companies operating with minimal financial cushion from their downgrade thresholds. Moody's also noted that the change in outlook follows three years in which downgrades significantly outpaced upgrades, which resulted in a weakening of the median rating on the sector from A- to BBB+ for the first time.[103]

FitchRatings's sector outlook for North American Utilities for 2024 is "deteriorating."[104] This outlook is based on "continuing macroeconomic headwinds and elevated capex that are putting pressure on credit metrics in the high-cost funding environment."[105] Further Fitch expects authorized ROEs to start trending up with the increase in interest rates based on the "historic spread between median authorized ROEs and 10-year Treasury rates of 600 bps-700bps."[106]

Likewise, S&P recently revised its outlook for the industry from negative to stable and continues to see significant risks over the near-term for the industry as a result of inflation and increased levels of capital spending. Specifically, S&P noted:

> Despite the improvement in economic data, we expect inflation, rising interest rates, higher capital spending, and the strategic decision by many companies to operate with only minimal financial

[102] Moody's, *Regulated Electric and Gas Utilities – US: Outlook turns stable on low natural gas prices and credit-supportive regulation* (Sept. 7, 2023), available at Exh. AEB-17C.
[103] S&P Global Ratings, *The Outlook for North American Regulated Utilities Turns Stable* (May 18, 2023), available at Exh. AEB-17C.
[104] FitchRatings, North American Utilities, *Power & Gas Outlook* 2024, at 1 (Dec. 6, 2023), available at Exh. AEB-17C.
[105] *Id*.
[106] *Id*. at 4.

> cushion from their downgrade thresholds to continue to pressure the industry's credit quality. Throughout 2022 and so far in 2023, the Federal Reserve has consistently raised interest rates to reduce the pace of inflation. While these actions appear to have had a positive effect on slowing inflation, there's still been a modest weakening in the industry's financial measures because of inflation and rising interest rates. An environment of continuously rising costs tends to weaken the industry's financial measures because of the timing difference between when the higher costs are incurred and when they are ultimately recovered from ratepayers.[107]

The credit ratings agencies' continued concerns over the negative effects of inflation, higher interest rates, and increased capital expenditures underscore the importance of maintaining adequate cash flow metrics for PSE in the context of this proceeding.

X. CONCLUSIONS AND RECOMMENDATION

Q. What is your conclusion regarding PSE's proposed capital structure?

A. PSE's proposed capital structures for the multiyear rate plan contain less equity than the capital structures of the utility operating subsidiaries of the proxy group companies. The increased leverage in PSE's proposed capital structure as compared with the proxy group results in increased financial risk for PSE as compared with the proxy group, which should also be considered in the determination of the appropriate ROE. All else equal, greater leverage—and therefore greater financial risk—should be expected to increase the investor-required return on equity because equity bears the greatest repayment risk.

[107] S&P Global Ratings, *The Outlook for North American Regulated Utilities Turns Stable*, at 8 (May 18, 2023), available at Exh. AEB-17C.

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

A. The various quantitative analyses summarized in Table 5 and the capital market conditions demonstrate that the cost of capital has increased since PSE's last rate proceeding. Further, considering the qualitative analyses presented in this prefiled direct testimony and the assessment of PSE's capital structure and its relative business risk, PSE's proposal to an increase its return on equity from 9.40 percent to 9.95 percent for the first year of the rate period and to increase to 10.50 percent for the second year of the rate period is reasonable.

Table 5. Summary of Results

Constant Growth DCF			
	Min Growth Rate	Mean Growth Rate	Max Growth Rate
30-Day Average	9.07%	10.16%	11.18%
90-Day Average	9.00%	10.09%	11.12%
180-Day Average	8.81%	9.90%	10.93%
	Min Growth Rate	Mean Growth Rate	Max Growth Rate
30-Day Average	9.37%	10.08%	11.24%
90-Day Average	9.17%	9.95%	11.21%
180-Day Average	8.90%	9.76%	10.96%

Table 5. Summary of Results

	CAPM		
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.69%	11.65%	11.61%
Bloomberg Beta	10.93%	10.87%	10.79%
Long-term Avg. Beta	10.58%	10.51%	10.41%
	ECAPM		
Value Line Beta	11.90%	11.88%	11.85%
Bloomberg Beta	11.34%	11.29%	11.23%
Long-term Avg. Beta	11.08%	11.02%	10.95%
	Bond Yield Risk Premium		
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Results – electric	10.68%	10.55%	10.38%
Results – natural gas	10.51%	10.38%	10.22%
	Expected Earnings		
		Mean	Median
Results – natural gas		10.86%	10.31%

Q. Does this conclude your Direct Testimony?

A. Yes, it does.