BEFORE THE

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PACIFICORP d/b/a PACIFIC POWER AND LIGHT COMPANY, Respondent.	DOCKET UE-230172 (*Consolidated*)
In the Matter of ALLIANCE OF WESTERN ENERGY CONSUMERS' Petition for Order Approving Deferral of Increased Fly Ash Revenues	DOCKET UE-210852 (*Consolidated*)

RESPONSE TESTIMONY OF LANCE D. KAUFMAN

ON BEHALF OF

ALLIANCE OF WESTERN ENERGY CONSUMERS

(REDACTED)

September 14, 2023

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RESPONSE TESTIMONY OF LANCE D. KAUFMAN**

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I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Lance D. Kaufman. I am a consultant representing utility customers before state public utility commissions in the Northwest, Southwest, and Intermountain West. My witness qualification statement can be found at Exhibit LDK-2.

Q. PLEASE IDENTIFY THE PARTY ON WHOSE BEHALF YOU ARE TESTIFYING.

A. I am testifying on behalf of the Alliance of Western Energy Consumers.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I am providing testimony on Pacific Power's cost of capital, cost of service, rate spread, and wildfire expenses.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. I make the following recommendations:

- The Commission should adopt (i) a 51 percent common equity, 0.01 percent preferred stock, and 48.99 percent long term debt capital structure, (ii) a 9.0 percent cost of equity, and (iii) 4.77 percent cost of debt, and 6.927 percent weighted average cost of capital.
- Make the following changes to the cost of service study:
  - Allocate FERC Account 407, Amort of Prop Losses, Unrec Plant, functionalized to distribution plant, based on each schedule's allocation of distribution plant using Pacific Power's F102D factor.
  - Allocate FERC Accounts 561 and 581, load dispatching costs, based on each schedule's Load Complexity, calculated as the share of annual hourly load ramping.
  - Allocate FERC Account 904 Uncollectible Accounts using weighted customer counts, Pacific Power's F136 factor.

- Modify Pacific Power's System Gross Miscellaneous Plant allocator, F102Co, such that when the allocator returns an error code, the backup allocator is an equal weighted average of F102, F136, Load Complexity, and Labor Allocation.
- Allocate FERC Account 926 Pensions and Benefits using Pacific Power's allocation of labor expense to each schedule.

- Increase rates for street and area lighting schedules by 125 percent of the average rate increase and increase all other schedules by an equal percentage.
- Recover transmission and generation demand costs through the demand charge rather than the load size charge.
- Limit individual rate changes to within 10 percent of the current rate after applying the schedule average increase.
- Reduce Washington-allocated litigation and injuries and damages expense in Account 925 by $545,054.

Q. HOW DO YOUR RECOMMENDATIONS COMPARE TO CURRENT AND PROPOSED COST OF CAPITAL?

A. Pacific Power's current authorized rate of return is 9.5 percent and Pacific Power has requested this be increased to 10.3 percent in its initial application. My analysis shows that rather than an increase to PacifiCorp's currently authorized ROE, a decrease is warranted for both ROE and overall rate of return.

Q. WHY DO YOU RECOMMEND A COST OF EQUITY OF 9.0 PERCENT?

A. This recommendation is based on the application of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), and the Empirical CAPM ("ECAPM"). I found that after updating Pacific Power's assumptions to reflect current data and modern finance literature, these models support a reasonable ROE range from 8.5 percent to 9.5 percent. I recommend 9.0 percent as the authorized ROE because it is the midpoint of the reasonable range, a reduction from the current authorized ROE is warranted due to investor behavior, and Pacific Power has a similar risk profile as the proxy group.

Q. GIVEN CURRENT MARKET CONDITIONS, WHY DO YOU RECOMMEND A DECREASE IN THE COST OF EQUITY?

A. The only market conditions that are relevant to evaluating cost of equity are those that are inputs to the ROE estimation models. Outside of these, Pacific Power's arguments about the condition of the market are speculative and irrelevant, in that the arguments are not theoretically or empirically linked to the models used to estimate ROE.

Rather than modify or weight ROE results based on market expectations, I suggest evaluating ROE results within the context of utility capital accumulation. The primary consideration in determining cost of equity is that it be commensurate with the returns on investments for other firms with similar risks and that it be sufficient to assure the financial integrity of the utility, to maintain credit, and to attract capital.[1] Pacific Power has not presented evidence that it has had any difficulties attracting capital on reasonable terms. This indicates that the current authorized returns are at or above the level required by investors. Thus, the required ROE can reasonably be expected to be below the current ROE.

Utility and investor behavior is also consistent with a finding that the current ROE is too high because utilities are accumulating excessive capital and equity. I discuss Ms. Bulkley's market analysis and my capital accumulation analysis in more detail in the section of my testimony directly evaluating return on equity.

[1] *Federal Power Commission v. Hope Natural Gas Co.*, 320 US 591, 602 (1944).

Q. WHAT ARE THE IMPACTS OF YOUR RECOMMENDATIONS ON PACIFIC POWER'S REVENUE REQUIREMENT?

A. My recommendations reduce Pacific Power's revenue requirement by $10 million in Rate Year 1 and $2.3 million in Rate Year 2 relative to the initial filing.[2]

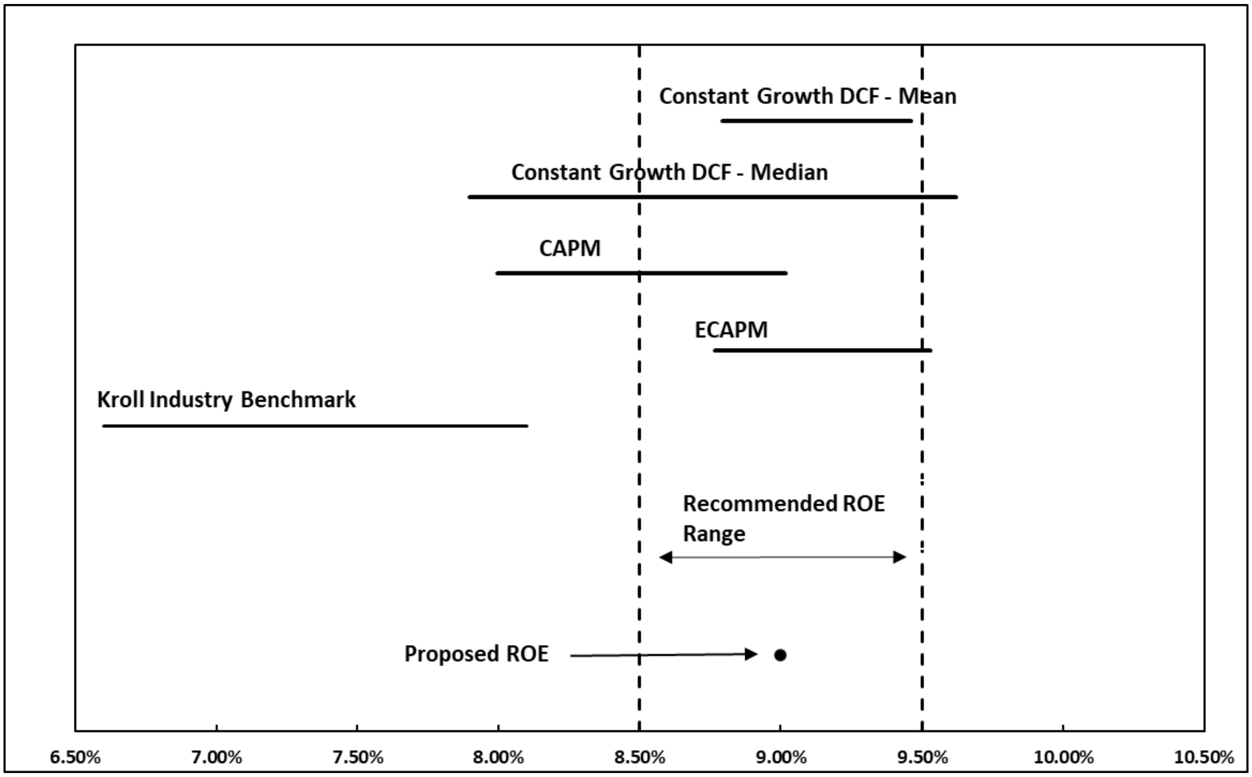
II. COST OF EQUITY

Q. PLEASE SUMMARIZE YOUR COST OF EQUITY TESTIMONY.

A. I analyzed Pacific Power's cost of capital using constant growth discounted cash flows models, capital asset pricing models, and empirical capital asset pricing models. These models employ similar methodologies as those found in Pacific Power's direct testimony. However, for each model I update inputs to reflect present market conditions, and I use alternate forecasts of growth rates and model parameters. For each model I examined a range of inputs, and I used this variation to establish that a reasonable range for Pacific Power's ROE is 8.5 percent to 9.5 percent. This range captures one or more variants of each ROE model that I evaluated. I recommend Pacific Power's authorized ROE be set in the midpoint of this range, at 9.0 percent. The figure below provides an update to Ms. Bulkley's ROE estimations to illustrate my estimates, recommended range, and recommended ROE.

[2] This change is approximate and may not include all revenue sensitive factors.

Figure LK-1: Return on Equity Summary



Q. WHAT DRIVES THE DIFFERENCES BETWEEN YOUR ROE RESULTS AND PACIFIC POWER'S?

A. The primary difference between Pacific Power's approach to ROE and my approach to ROE is that I focus on the ROE required by the Company to attract capital and I favor data-driven forecasts. The key difference in my DCF models is that I model constant growth rates using historic growth rates, while Pacific Power relies on analyst forecasts of short-term growth, which is not appropriate for a constant growth model. The first key differences in my CAPM and ECAPM models is that I use an equity risk premium forecast that is consistent with professional surveys, historic data, and premiums implied by current equity prices, while Ms. Bulkley's premium is ad-hoc and inconsistent with financial and economic theory. The second key difference in my CAPM and ECAPM models is that I use unbiased estimates of beta, while

Ms. Bulkley uses estimates of beta that have been biased towards 1, which inflates ROE estimates and overrepresents the risk of utility equity investment.

Q. HOW DOES YOUR FOCUS ON EXPECTED RETURN DIFFER FROM PACIFIC POWER'S?

A. Many of Pacific Power's models focus on what returns analysts expect to realize in the market rather than on what capital investors require as compensation to incentivize them to invest capital in physical assets. Pacific Power's models rely heavily on analyst forecasts from Value Line, Yahoo, and Zachs. The use of analyst forecasts alone is not problematic. However, analyst forecasts have been found to be overly optimistic and statistically biased.[3] Pacific Power combines these forecasts in a manner that filters out a greater share of low forecasts, which exacerbates the bias inherent in analyst forecasts. In addition to filtering out low forecasts, Pacific Power presents "high" scenarios, which presumably represent the potential for market outcomes to exceed expectations.

The optimism inherent in analyst forecasts, and the windfall returns that occur when market returns exceed expectations, do not accurately represent the return that is required by investors to attract equity. The return required for a regulated utility is not the one-year return that is expected by a group of stock analysts hoping to beat the market in spite of the efficient market hypothesis. Rather, it is a return that, when consistently earned from year to year, sufficiently compensates investors for the associated risks to attract capital.

[3] Szakmary, Andrew; Conover, C. Mitchell; and Lancaster, Carol, "An Examination of Value Line's Long-term Projection" (2008). *Finance Faculty Publications*. 30. https://scholarship.richmond.edu/finance-faculty-publications/30.

Q. AS AN ANALYST YOURSELF, HOW DO YOU AVOID THE RISK OF BIASED ESTIMATES?

A. I avoid bias by placing greater weight on data. I also rely on modern finance and forecasting literature to support my methodologies. Finally, I vetted my results by comparing them against an independent third-party analysis of electric utility cost of capital.

Q. HOW IS THIS SECTION ORGANIZED?

A. I first present the results of the DCF, CAPM, and ECAPM models in sequence. The discussion of each model includes a description of the differences between my method and Pacific Power's method. After presenting the models I provide additional commentary on Ms. Bulkley's ROE testimony.

a. <u>Discounted Cash Flows</u>

Q. WHAT ARE THE RESULTS OF YOUR DISCOUNTED CASH FLOW ANALYSIS?

A. My discounted cash flow models estimate a mean ROE range from 8.79 percent to 9.46 percent. The low value results from using earnings per share growth rates based on historical rates. The maximum value results from using earnings per share growth rates based on Value Line forecasts.

Q. HOW DO YOUR DCF MODELS DIFFER FROM PACIFIC POWER'S DCF MODELS?

A. I update prices and dividends to reflect information available as of August 26, 2023. This update modestly increases ROE estimates because dividend yields increased. The primary difference is our treatment of earnings per share ("EPS") growth rate. I modified the "high" scenario to reflect Value Line estimates, I introduced a "low" scenario based on historical earnings per share growth rates, and I used the average of these values to reflect the "mean" estimate. The median value produced a wider range of results than mean values.

Table LK-1: Discounted Cash Flow ROE Estimates

Constant Growth DCF ROE Estimate			
	Mean Monte Carlo	Mean	Mean ValueLine
30-Day Average	8.86%	9.36%	9.77%
90-Day Average	8.79%	9.17%	9.46%
180-Day Average	8.73%	9.10%	9.39%
Constant Growth Average	8.79%	9.21%	9.54%
	Median Monte Carlo	Median	Median ValueLine
30-Day Average	7.99%	8.84%	9.56%
90-Day Average	7.90%	8.51%	9.63%
180-Day Average	7.80%	8.44%	9.58%
Constant Growth Average	7.90%	8.59%	9.59%

Q. WHY DO YOU TREAT THE VALUE LINE GROWTH FORECAST AS A HIGH FORECAST?

A. The Value Line constitutes a high forecast for two reasons. First, the forecast is a five-year growth forecast, not a long-term forecast. It is only appropriate to apply it in a constant growth model if the 5-year growth rate is expected to continue. However, due to the current state of the economy, the near-term growth rates likely exceed the long-term growth rates. Bond yield curves are currently inverted. This is an indication that inflation is expected to decrease over the next five to ten years. In the long term, earnings growth rates are expected to converge to GDP growth rates. Constant growth equal to the Value Line forecast is a high scenario because after the five-year forecast horizon, growth is expected to decrease.

A second reason for treating Value Line estimates as “high” is that financial analysts tend to be optimistic and overestimate growth. Recent academic research finds “that Value Line’s long-term stock return projections are extremely overoptimistic and have no predictive power."[4] Constant growth equal to the Value Line forecast is a high scenario because they are overoptimistic forecasts.

Q. HOW DO YOU FORECAST EARNINGS PER SHARE GROWTH WITHOUT RELYING ON ANALYST FORECASTS?

A. I use historic, 28-year earnings-per-share growth rates of the proxy group to estimate long-term earnings per share growth.[5] For each company in the proxy group, I estimate the geometric mean return using a Monte Carlo simulation.

Q. WHY DO YOU USE GEOMETRIC MEAN?

A. The geometric mean provides a more accurate estimate of long-term growth, particularly when short-term growth can be both positive and negative. The table below provides a simple illustration of why arithmetic averages are misleading. In this table, $100 is invested over two years. The first year's return is a 50 percent loss, and the second year's return is a 50 percent gain. The arithmetic mean incorrectly represents the two-year return of the portfolio as zero percent, when in fact the investment declined over two years. The use of mean return may be appropriate to evaluate expected values for single periods, but it is a biased measure of long run returns.

Table LK-2 Arithmetic and Geometric Mean

Year	Growth	nvestment
1		100
2	-50%	50
3	50%	75
Arithmatic Mean	0%	
Geometric Mean	-13%	

[4] Szakmary, Andrew; Conover, C. Mitchell; and Lancaster, Carol, "An Examination of Value Line's Long-term Projection" (2008). *Finance Faculty Publications*. 30. https://scholarship.richmond.edu/finance-faculty-publications/30
[5] The 28-year period represents the full history of data available to me.

Q. WHAT IS THE MONTE CARLO SIMULATION THAT YOU PERFORM?

A. The Monte Carlo simulation involves performing repeated sampling in order to determine statistical characteristics of an estimator. I use the following steps for each proxy company:

1. Sample with replacement from historic annual growth of earnings per share.
2. Calculate 20-year geometric mean growth rate from sample.
3. Repeat steps 1 and 2 many times, recording each mean growth rate.[6]
4. Calculate the mean across all growth rates from step 3.

Q. HOW DO THE RESULTS OF THE MONTE CARLO FORECAST COMPARE TO THE VALUE LINE EPS FORECAST?

A. Generally, EPS growth rates from the Monte Carlo simulation were lower than the corresponding Value Line forecast. The table below summarizes the Monte Carlo results for different historic sampling periods, from the last ten years to the full 28 years available from my data source. All three time periods show mean and median growth rates are lower than the Value Line forecast. I recommend using all years of data to reflect long-term growth expectations. When calculating ROE in the DCF model, I replace negative EPS growth forecasts with zero growth forecasts. While this may bias the mean ROE upwards, it does not affect median results.

[6] I conducted 290,000 iterations in this step.

Table LK-3: Earnings Per Share Growth Forecasts

Ticker	Monte Carlo Growth Rates by Historic Selection Period: 10-Year	20-Year	All Years	Value Line Growth Rate
AEE	15.1%	5.0%	4.1%	6.5%
AEP	1.7%	16.8%	15.5%	6.5%
ALE	2.5%	-1.3%	1.2%	6.0%
AVA	2.2%	12.4%	-6.6%	3.5%
CMS	5.7%	6.5%	-3.8%	6.5%
DUK	-1.0%	-5.0%	-1.4%	5.0%
ETR	6.6%	7.9%	7.6%	4.0%
EVRG	5.1%	5.1%	5.1%	7.5%
IDA	3.7%	2.2%	3.4%	4.5%
LNT	6.5%	1.4%	1.7%	6.0%
NEE	5.9%	6.5%	6.6%	10.5%
NWE	2.3%	4.2%	4.2%	3.5%
OGE	1.5%	6.1%	3.9%	6.5%
OTTR	19.4%	4.5%	4.9%	4.5%
POR	2.8%	3.4%	3.4%	5.0%
SO	3.0%	3.2%	3.1%	6.5%
XEL	5.7%	4.1%	5.0%	6.0%
Mean	5.2%	4.9%	3.4%	5.8%
Median	3.7%	4.5%	3.9%	6.0%

Q. WHY ARE SHORT-TERM VALUE LINE GROWTH FORECASTS NOT APROPRIATE FOR A CONSTANT GROWTH DCF MODEL?

A. The constant growth DCF model reflects return on equity assuming a constant growth rate of earnings in perpetuity. Short-term growth rates are not typically representative of long-term growth rates. It is mathematically impossible for a single industry to grow perpetually faster than the overall economy. If an industry grows faster than the overall economy, the industry will become a larger share of the economy. If growth rates are perpetually higher than average, its share of the economy will eventually become 100 percent of the economy, at which point growth of the industry will equal growth of the economy. The U.S. Congressional Budget

Office's ("CBO") long-term growth forecast for the U.S. economy is 3.5 percent. This is slightly more than half of the Value Line long-term growth forecast. Note that the mean long-term earnings per share growth rate for the Monte Carlo simulation is nearly equal to the CBO's long term forecast for U.S. GDP.

b. <u>Capital Asset Pricing Model</u>

Q. WHAT ARE THE RESULTS OF YOUR CAPITAL ASSET PRICING MODEL ANALYSIS?

A. My CAPM models estimate an ROE range from 8.00 percent to 9.02 percent. The low value results from using the regression beta estimates and the mean of the current implied risk premium and the Value Line risk premium.[7] The maximum estimated ROE results from using the Bloomberg Unadjusted beta estimates and Pacific Power's proposed Value Line risk premium estimate. The table below summarizes my estimates.

Table LK-4: CAPM ROE Estimates

CAPM ROE Estimate		
	Regression Beta	Bloomberg Unadjusted Beta
Mean	8.00%	9.02%
Median	8.04%	8.85%

Q. HOW DO YOUR CAPM MODELS DIFFER FROM PACIFIC POWER'S DCF MODELS?

A. I use the risk-free rate to reflect the three-month average 30-year Treasury bond rate. This update increases the risk-free rate from 3.71 percent to 4.08 percent. I also update the estimates of beta for each stock. I estimate beta by performing linear regression on five years of monthly

[7] Beta is a parameter unique to each stock that represents the relationship between the stock's return and the market return.

returns. I use S&P 500 as the basis for market returns. I also introduce an alternate measure of the equity risk premium based on modern finance research.

Q. HOW DO YOUR ESTIMATES OF BETA DIFFER FROM PACIFIC POWER'S?

A. Pacific Power selects beta from Bloomberg and Value Line. Bloomberg reports "adjusted" and "raw" betas. The coefficients used by Ms. Bulkley appear to be Bloomberg's "adjusted" betas. Bloomberg's "adjusted" beta "uses the historical data of the stock but assumes that a security's beta moves toward the market average over time. It weights the historic raw beta and the market beta." The weights appear to be 67 percent of the raw beta and 33 percent of the market beta, which is assumed to be 1.

Value Line beta is poorly documented, but it appears to use the New York Stock Exchange Composite Index as the basis for market return. This results in betas that are inconsistent with Pacific Power's equity risk premium which is estimated based on S&P 500 stocks. Value Line betas appear to be rounded to five percent and have some form of undisclosed upward adjustment. The table below compares my current beta estimate with that of Zach's. My regression estimates of beta are generally smaller than the Company's estimates, but more accurately reflect the relationship between utility stock returns and market returns than the Company's adjusted betas.

Table LK-5: Comparison of Betas Estimates

	Regression	Zach's	Value Line	Bloomberg Adjusted	Bloomberg Unadjusted
AEE	0.54	0.43	0.85	0.76	0.64
AEP	0.57	0.45	0.75	0.77	0.65
ALE	0.70	0.72	0.90	0.83	0.75
AVA	0.45	0.49	0.90	0.76	0.64
CMS	0.42	0.36	0.80	0.76	0.64
DUK	0.50	0.43	0.85	0.72	0.59
ETR	0.79	0.64	0.95	0.86	0.79
EVRG	0.58	N/A	0.90	0.79	0.68
IDA	0.57	0.60	0.80	0.80	0.71
LNT	0.61	0.55	0.85	0.80	0.70
NEE	0.57	0.46	0.95	0.82	0.73
NWE	0.47	0.43	0.90	0.86	0.80
OGE	0.72	0.72	1.00	0.93	0.89
OTTR	0.50	0.52	0.85	0.88	0.82
POR	0.51	0.55	0.85	0.79	0.69
SO	0.57	0.50	0.90	0.78	0.67
XEL	0.44	0.41	0.80	0.75	0.63
Average	0.56	0.52	0.87	0.80	0.71

Q. IS IT APPROPRIATE TO ADJUST UTILITY BETAS TO THE MARKET AVERAGE?

A. No, this adjustment is not appropriate. While it is correct that beta changes over time, adjusting betas for utility stocks towards the market average will overrepresent the risk of the utility industry. It is well known that utility stocks, after addressing diversifiable risk, are less risky than the market, on average. If anything, adjustment should be made to the industry average, not the market average. This position is supported by Nobel Laureate William F. Sharpe:

> Information of the type shown in Table 13-4 [industry average betas] can be used to “adjust” historic beta values. For example, the knowledge that a corporation is in the air transport [*68] industry suggests that a reasonable estimate of the beta value of its stock

is greater than 1.0. It thus makes more sense to adjust a historic beta value toward a value above 1.0 than to the average for all stocks.[8]

Furthermore, adjusting betas to an average is unnecessary when using proxy group analysis, as done by myself and Ms. Bulkley. In the context of this case, the "industry" is the group of proxy utilities and moving the beta of individual companies in the group towards the group average would not materially change the results. This is because the ROE results from the CAPM models ROE ranges are averages already.

Q. WHAT HAVE OTHER COMMISSIONS DETERMINED REGARDING THE USE OF ADJUSTED BETAS?

A. The Oregon Public Utility Commission ("OPUC") has ruled against adjusting betas to the market average but has indicated support for adjusting betas towards the industry average.[9]

Q. WHAT IS THE IMPACT OF ADJUSTING BETAS TOWARDS THE INDUSTRY AVERAGE?

A. The current U.S. Electric Industry beta is 0.41.[10] This is below the average regression betas for the proxy group, and adjusting betas towards the industry average would lower the betas of the proxy group.

Q. WHAT IS THE IMPACT OF A SMALLER ESTIMATE OF BETA ON ROE?

A. All else equal, a smaller beta estimate for a company lowers the expected return for the company. If smaller betas are used for the proxy group in the CAPM and ECAPM models, the estimated cost of equity for Pacific Power's would decrease.

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[8] *Investments*, 2d ed., Prentice-Hall, Inc., Englewood Cliffs, 1981, p. 344. As quoted in OPUC Docket Nos. UT 125/UT 80, Order No. 00-191 at ¶ 3, 2000 Ore. PUC LEXIS 401 at *67-*68 (Apr. 14, 2000).

[9] OPUC Docket Nos. UT 125/UT 80, Order No. 00-191, 2000 Ore. PUC LEXIS 401 (Apr. 14, 2000). The use of adjusted betas was disputed in this case. The Commission noted that "Thus, if any adjustment to the raw beta is appropriate, it should be toward the industry average rather than toward a generic average of all stocks."

[10] Industry Betas - II Quarter 2023 (USA) Salvidio & Partners: https://salvidio.com/en/documents-industry-betas/

Q. ARE YOUR ESTIMATES OF BETA CONSISTENT WITH OTHER FINANCE SOURCES?

A. Yes, my estimates are consistent with Yahoo Finance, Zachs, and Stock Analysis.

Q. SHOULD VALUE LINE OR BLOOMBERG ADJUSTED BETAS BE USED TO ESTIMATE PACIFIC POWER'S COST OF EQUITY?

A. No, these betas do not accurately represent risk of equity investment in the electric industry.

Q. WHAT ESTIMATES ARE AVAILABLE FOR THE EQUITY RISK PREMIUM?

A. The table below summarizes estimates for the equity using a variety of methods. The Value Line approach in the first row of the table is the method proposed by Pacific Power. Notice that it is 30 to 100 percent higher than the other estimates.

Table LK-6: Recent Equity Risk Premium Estimates

Approach Used	*ERP*	*Additional information*
Valueline (With Assmetric Bounds)	8.31%	S&P Weighted Growth Forecast Between 0 and 20%
Survey: CFOs	4.42%	Campbell and Harvey survey of CFOs (2018); Average estimate. Median was 3.63%.
Survey: Global Fund Managers	4.60%	Merrill Lynch (January 2020) survey of global managers
Historical - US	5.06%	Geometric average - Stocks minus T.Bonds: 1928-2022
Historical - Multiple Equity Markets	5.00%	Average premium across 20 markets from 1900-2022: Dimson, Marsh and Staunton (2022)
Current Implied premium	5.94%	From S&P 500 - January 1, 2023
Average Implied premium (1960-2022)	4.21%	Average of implied equity risk premium
Average Implied premium (2012-2022)	5.37%	Average of implied equity risk premium
Default spread based premium	4.24%	Baa Default Spread on 1/1/23 * Median value of (ERP/ Default Spread)
Survey: Gobal Finance	5.60%	Finance and economics professors, analysts and managers of companies (2023)

Q. WHAT IS THE CURRENT KROLL EQUITY RISK PREMIUM?

A. The current Kroll-recommended Equity Risk Premium is 5.5 percent.[11] This is consistent with the current implied premium and 2023 survey of finance professionals.

Q. DO YOU HAVE ANY CONCERNS ABOUT THE VALUE LINE ESTIMATED RISK PREMIUM OTHER THAN ITS STATUS AS AN OUTLIER COMPARED TO INDUSTRY STANDARDS FOR THE EQUITY RISK PREMIUM?

A. Yes, this methodology is subject to the same optimism and subsequent bias as the Value Line EPS forecasts used in the DCF models. To illustrate the illogicality of the Value Line forecasts, the 5-year average annual growth for three stocks (Disney, Host Hotels & Resorts, and Fidelity National Information Services) exceed 50 percent per year, but all three of these stocks have declined in value since the forecast was produced. If the Value Line forecasts were reliable, an investor could invest in only stocks with high forecasted growth, and regularly earn returns several times larger than the market average. This is unreasonable and inconsistent with economic theory.

Q. DOES PACIFIC POWER USE THE VALUE LINE FORECASTS DIRECTLY?

A. No. Possibly due to the unrealistic nature of the forecasts, Pacific Power implements a 0% floor and 20% ceiling for stocks.[12] Those stocks with forecasts outside this band are excluded from the analysis. As a result, 20 percent of all S&P 500 stocks are excluded from the "S&P Expected Return" calculation. Conditional on using the Value Line forecast, it is reasonable to exclude or otherwise modify the forecasts to account for these abnormalities. However, it is unclear what the basis is for the 20% cap. Alternate caps, such as 10% or 30%, yield risk market returns of 9.57% and 13.47%, respectively. The Value Line equity risk premium is

[11] https://www.kroll.com/-/media/cost-of-capital/kroll-lowers-its-recommended-us-equity-risk-premium.pdf (Accessed Sept. 7, 2023).

[12] Exhibit AEB-9 Column 11 reveals that companies outside this range are excluded.

sensitive to the arbitrary caps and greatly exceeds generally accepted equity risk premium estimates.

Q. HOW DO YOU MOVE PACIFIC POWER'S EQUITY RISK PREMIUM TOWARDS A DATA-DRIVEN METHODOLOGY?

A. I estimate an alternate model that averages Pacific Power's risk premium with the current implied risk premium. The implied risk premium is a forward-looking risk premium based on current market prices, yields, and growth rates. This premium has been shown to be a strong predictor of the actual risk premium.[13] My proposed premium is summarized below.

Table LK-7: Average Equity Risk Premium

Approach	ERP
Valueline (With Assmetric Bounds)	8.03%
Current Implied premium (January 1, 2023)	5.94%
Average	6.98%

Q THE AVERAGE THAT YOU PROPOSE REMAINS SIGNIFICANTLY HIGHER THAN THE OTHER RISK PREMIUMS IN TABLE LK-6. CAN YOU PROVIDE MORE DETAIL ON THE VARIOUS METHODS OF ESTIMATING THE EQUITY RISK PREMIUM?

A There are three broad approaches to estimating the equity risk premium:

1) Survey of investors or other experts regarding expectations for future returns;

2) Historical premium of equities over riskless investments; and

3) Forward looking premiums based on current market prices.[14]

[13] Damodaran, Aswath, Equity Risk Premiums (ERP): Determinants, Estimation and Implications - The 2023 Edition (March 23, 2023). Available at SSRN: https://ssrn.com/abstract=4398884 or http://dx.doi.org/10.2139/ssrn.4398884

[14] Damodaran, Aswath, Equity Risk Premiums (ERP): Determinants, Estimation, and Implications – The 2022 Edition (March 23, 2022). Available at SSRN: https://ssrn.com/abstract=4066060 or http://dx.doi.org/10.2139/ssrn.4066060

Q WHAT DO SURVEYS OF INVESTORS OR OTHER EXPERTS REVEAL ABOUT THE EQUITY RISK PREMIUM?

A Recent survey-based estimates of the equity risk premium are available from institutional investors, corporate management, and academics. The table below summarizes these data.

Table LK-8: Summary of Investor and Finance Professional Surveys

Date	Survey	Estimate
Feb-2007	Merryll Lynch survey of institutional investors[15]	3.5
Mar-2007	Merryll Lynch survey of institutional investors[16]	4.1
2010	Merryll Lynch survey of institutional investors[17]	3.76 to 3.9
Jan-2012	Merryll Lynch survey of institutional investors[18]	4.08
Feb-2014	Merryll Lynch survey of institutional investors[19]	4.6
June 2020	Merryll Lynch survey of institutional investors[20]	2.5
Dec-2017	Graham and Harvey survey of CFOs[21]	3.63
Jan-2016	Graham and Harvey survey of CFOs[22]	3.55
2000 to 2017	Graham and Harvey survey of CFOs[23]	2.42 to 4.56, 3.63 average
2011	Fernandes et al. survey of Academics[24]	5.6
2022	IESE Business School survey of Academics, investors, and executives[25]	5.5
2023	Kroll June, 2023 Recommended Equity Risk Premium[26]	5.5
2021	CFA Institute Research Foundation[27]	3 to 6

[15] Global Fund Manager Survey, cited in Damodaran (2022).
[16] Global Fund Manager Survey, cited in Damodaran (2022).
[17] Global Fund Manager Survey, cited in Damodaran (2022).
[18] Global Fund Manager Survey, cited in Damodaran (2022).
[19] Global Fund Manager Survey, cited in Damodaran (2022).
[20] Global Fund Manager Survey, Bank of America Merrill Lynch, January 2022. Cited in Damodaran (2022).
[21] Graham, J.R. and C.R. Harvey, 2018, *The Equity Risk Premium in 2018*, Working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3151162. Cited in Damodaran (2022).
[22] Graham, J.R. and C.R. Harvey, 2018, *The Equity Risk Premium in 2018*, Working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3151162. Cited in Damodaran (2022).
[23] Graham, J.R. and C.R. Harvey, 2018, *The Equity Risk Premium in 2018*, Working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3151162. Cited in Damodaran (2022).
[24] Fernandez, P., J. Aguirreamalloa and L. Corres, 2011, Equity Premium used in 2011 for the USA by Analysts, Companies and Professors: A Survey, Working Paper, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1805852&rec=1&srcabs=1822182. Cited in Damodaran (2022).
[25] Fernandez, Pablo and García de Santos, Teresa and Fernández Acín, Javier, Survey: Market Risk Premium and Risk-Free Rate Used for 95 Countries in 2022 (May 23, 2022). Available at SSRN: https://ssrn.com/abstract=3803990 or http://dx.doi.org/10.2139/ssrn.3803990
[26] https://www.kroll.com/-/media/cost-of-capital/kroll-lowers-its-recommended-us-equity-risk-premium.pdf
[27] Laurence B. Siegel and Paul McCaffrey, Editors (2023) Revisiting the Equity Risk Premium. https://www.cfainstitute.org/-/media/documents/article/rf-brief/Revisiting-the-Equity-Risk-Premium.pdf.

Market surveys show that the average risk premium required by investors is materially lower than the forecast produced by Pacific Power.

Q WHAT RISK PREMIUM EXISTS IN HISTORIC MARKET DATA?

A The historical risk premium depends on the time period studied, method of averaging, and basis for risk free rate. Damodaran, a widely published and well-respected finance researcher, provides persuasive rationale for using an extended time horizon, geometric averaging, and Treasury bills as the risk-free rate.[28] This results in an equity risk premium of 4.47 to 5.13 percent.[29] Historic risk premiums have an advantage over surveys in that they are market-driven, and thus are not subjective or exposed to other drawbacks of surveys. However, unlike surveys, historic risk premiums are not forward looking. Implied risk premiums provide a market-based approach to estimating a forward-looking risk premium.

Q WHAT FORWARD RISK PREMIUMS CAN BE IMPLIED FROM MARKET DATA?

A A forward-looking risk premium can be implied from current market prices and expected cash flows. The risk premium is implied by current market value for a representative index and the expected cash flows from that index. Damodaran finds that the implied equity premium of the trailing 12 months is the best predictor of the actual implied premium.[30] The January 2023 trailing 12-month implied equity risk premium is 5.94 percent.[31]

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[28] Damodaran, Aswath, Equity Risk Premiums (ERP): Determinants, Estimation, and Implications – The 2022 Edition (March 23, 2022). Available at SSRN: https://ssrn.com/abstract=4066060 or http://dx.doi.org/10.2139/ssrn.4066060.
[29] Damodaran (2022), page 38.
[30] Damodaran (2022).
[31] https://pages.stern.nyu.edu/~adamodar/New_Home_Page/home.htm.

Q WHAT DOES THE RANGE OF SURVEY RESULTS FOR THE EQUITY RISK PREMIUM SAY ABOUT THE USE OF GEOMETRIC VS. ARITHMETIC AVERAGING OF HISTORIC RATES?

A The surveys of investors and finance professionals report that the equity risk premium is between 3 and 6 percent. This is consistent with the current implied risk premium of 5.94 percent, but substantially less than the Value Line forecast of 8.03. The surveys are also consistent with historical risk premium when geometric averaging is used, but are well below historical risk premium when arithmetic averaging is used. This confirms that geometric averaging should be used when evaluating investor expectations.

Q WHAT MEASURE OF THE EQUITY RISK PREMIUM IS RECOMMENDED FOR USE IN SETTING RATES?

A There is no one approach to estimating equity risk premiums that is appropriate for all analyses. However, generally, the current trailing 12-month implied equity risk premium is more appropriate when equity markets are assumed to be functioning efficiently, when predictive power is important, or when current equity needs of investors are being considered. A historical risk premium or a long-term average of implied premiums is appropriate when evaluating long-term capital investment decisions or when there is reason to believe that current markets are over- or under-valued. Survey results are appropriate when markets are assumed to be functioning poorly over an extended time.

In setting utility rates, the primary function of estimating the cost of equity is to provide a fair return to equity investors that is sufficient to attract capital. However, utilities also use approved cost of capital in long-term planning and when making capital investment decisions. In an environment of well-functioning capital markets, greatest weight should be placed on the current implied equity risk premium. However, it is also appropriate to consider long-term average implied risk premium and the historic risk premium and current survey results due to unstable equity market conditions and the capital planning functions of the authorized cost of equity.

In my models, I take a conservative approach by using the average of the current implied risk premium (5.94 percent), which has high forward-looking explanatory power, and the method used by Pacific Power (8.03 percent), which can be thought of as an upper bound on future risk premium because it exceeds all other forecasted risk premium estimates. This results in a risk premium of 6.98.

c. Empirical CAPM

Q PLEASE SUMMARIZE THE RESULTS OF YOUR EMPIRICAL CAPM MODELS.

A My ECAPM models estimate an ROE range from 8.77 percent to 9.53 percent. The low value results from using the regression beta estimates. The maximum estimated ROE results from using the unadjusted Bloomberg beta estimates. I recommend against placing material weight on this model because it contains questionable assumptions. The table below summarizes my estimates.

Table LK-9: ECAPM ROE Estimates

ECAPM ROE Estimate		
	Regression Beta	Bloomberg Unadjusted Beta
Mean	8.77%	9.53%
Median	8.79%	9.41%

Q. HOW DO YOUR ESTIMATES OF BETA DIFFER FROM PACIFIC POWER'S?

A. I apply the same updates to betas and equity risk premium performed for the CAPM model discussed above.

Q. WHY DO YOU CHARACTERIZE THE ECAPM AS HAVING QUESTIONABLE ASSUMPTIONS?

A. The formula Ms. Bulkley uses, and which I adopt, for the ECAPM relies on statistical analysis performed in 1989.[32] It is not clear that this relationship persists in the markets today. Furthermore, the analysis underlying the ECAPM model relies on industry averages, rather than utility averages. Thus, it is likely that the adjustment does not reflect any real characteristics of the utility industry. While I report ECAPM for informational purposes, I do not recommend giving the model results material weight or consideration because it over-represents the risk of utility companies. I also do not apply the excessive Value Line risk premium forecasts to this model because that would exacerbate the problems with the model.

d. <u>Market Analysis</u>

Q. GIVEN CURRENT MARKET CONDITIONS, WHY DO YOU RECOMMEND A DECREASE IN THE COST OF EQUITY?

A. The only market conditions that are relevant to evaluating cost of equity are those that are inputs to the ROE estimation models. Outside of these, Pacific Power's arguments about the condition of the market are speculative and irrelevant, in that the arguments are not theoretically or empirically linked to the models used to estimate ROE.

Furthermore, speculation about current market conditions does not directly address whether the currently approved ROE is too high or too low. The primary considerations in determining cost of equity are that it be commensurate with the returns on investments for other firms with similar risks and that it be sufficient to assure the financial integrity of the utility, to maintain credit, and to attract capital.[33] My recommendations are supported by

[32] Morin, R. A (2006). New Regulatory Finance. Austria: Public Utilities Reports, page 190, footnote 12.

[33] *Federal Power Commission v. Hope Natural Gas Co.*, 320 US 591, 602 (1944).

various mathematical models that can be used to estimate a return on equity that meets these criteria. However, the judgement applied in evaluating these models is grounded in observing utility and investor behavior.

Pacific Power has not provided evidence that is has faced any difficulties in attracting capital, nor that it is aware of any other utilities that have been unable to.[34] In fact, not only has Pacific Power been able to attract capital, Pacific Power is seeking to increase its capital ratio above its historic levels. This indicates an investor appetite for Pacific Power's existing ROE. This investor appetite occurs when an investor's expected ROE exceeds that required by the investor, and the tendency for regulated utilities to over-capitalize is known academically as the Averch–Johnson effect, and informally, as "gold-plating." The Averch–Johnson effect is the tendency of regulated companies to engage in excessive capitalization in order to increase net income.

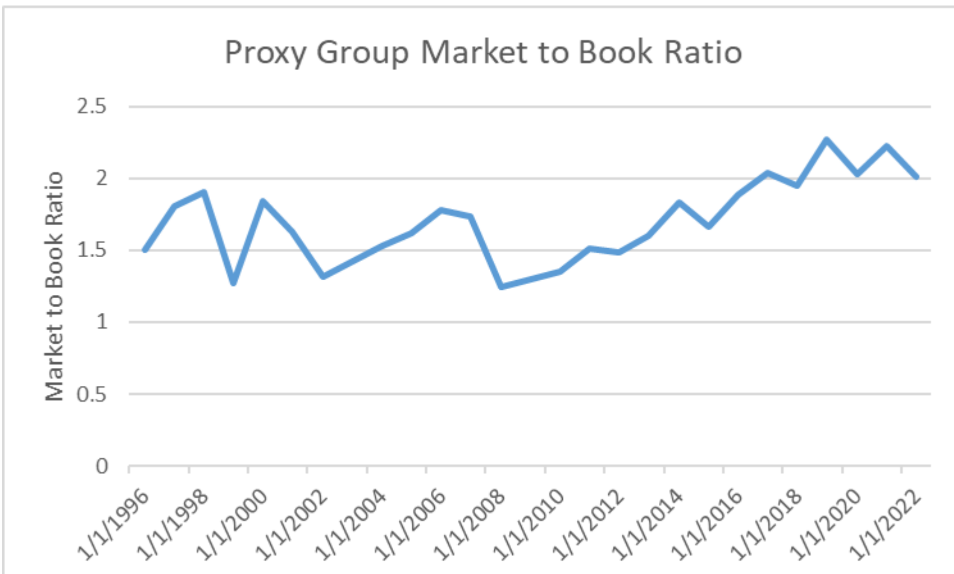
The cause of the Averch-Johnson effect is excessive ROE, and the symptoms of the Averch–Johnson effect are 1) actions that increase equity, and 2) market valuations of equity above the book value of equity. Examples of increasing equity include requesting an equity-heavy capital structure, discouraging competitive energy service, and acquiring owned generation rather than power purchase agreements. In most proceedings that I have participated in across the U.S., I have observed a utility actively arguing against actions that would decrease the utility's opportunity for increased investment.

The second key factor indicating that current return on equity is excessive is that utilities are experiencing excessive market-to-book ratios. If return on equity for the utility

[34] *See* Exh. LDK-3 (Pacific Power's response to AWEC Data Request 021).

industry is sufficient but not excessive, the market-to-book ratio for the utility industry should be at or near one.[35] A market-to-book ratio above one indicates that return on equity exceeds that which is necessary for an investment of comparable risk.[36] The figure below presents the mean market-to-book ratio for the proxy utilities. The average market-to-book ratios have exceeded one since 1996 and are currently at their highest levels. These data indicate that the proxy group, on average, earns returns on equity substantially higher than necessary.

Figure LK-2: Market-to-Book Ratio



Q. OTHER THAN GENERAL INDUSTRY OBSERVATIONS, WHAT SPECIFIC BEHAVIOR OF PACIFIC POWER INDICATES THAT THE CURRENT AUTHORIZED ROE OF 9.5 PERCENT IS EXCESSIVE?

A. Pacific Power's effort to increase its equity ratio indicates the current ROE is excessive. Pacific Power's advocacy in direct access proceedings in Oregon has prevented material competition for energy service. This indicates a preference for owned generation, which is consistent with the Averch-Johnson effect.

[35] Morin, R. A (2006). New Regulatory Finance. Austria: Public Utilities Reports, page 360.

[36] Morin, R. A (2006). New Regulatory Finance. Austria: Public Utilities Reports, page 360.

Q WHAT MARKET COMMENTARY DOES MS. BULKLEY OFFER?

A Ms. Bulkley makes the following assertions:

- Interest rates may remain at the current rates.[37]
- Utility share prices are inversely correlated with interest rates.[38]
- Utilities are expected to underperform in current market conditions.[39]
- Washington authorized ROE is below average relative to other states.[40]

Q WHAT IS YOUR RESPONSE TO MS. BULKLEY'S MARKET OBSERVATIONS?

A These observations are flawed and do not inform ROE estimates, other than through the impact of inputs to the return on equity models. Ms. Bulkley did not analyze the correlation of utility stock prices with interest rates, and a closer examination shows that there is no fixed relationship. Decreasing stock prices can reflect decreased expected earnings, and thus it is incorrect to conclude that decreasing stock prices imply increased ROE requirements. Finally, to the extent that utilities are expected to underperform, and that this expectation is public, the efficient market hypothesis demonstrates that current market prices will reflect this underperformance.

Ms. Bulkley accurately notes that Washington authorized ROE has been below average relative to other states in recent years. However, Ms. Bulkley incorrectly concludes that this increases the overall cost of equity[41] and inhibits Pacific Power's ability to attract capital.[42] If Ms. Bulkley's assertions were accurate, states with below average ROE could reduce their cost

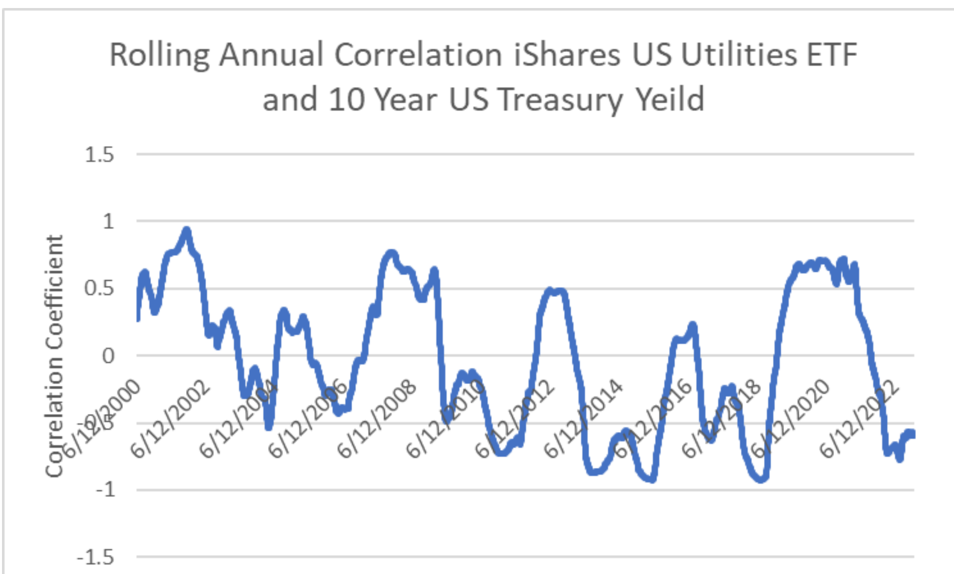
[37] Exh. AEB-1Tr at 6.
[38] Exh. AEB-1Tr at 6, 12, and 19.
[39] Exh. AEB-1Tr at 6, 19, and 21.
[40] Exh. AEB-1Tr at 58.
[41] Exh. AEB-1Tr at 58.
[42] Exh. AEB-1Tr at 9.

of equity by increasing their authorized ROE to an above average level. However, this would cause other states to be below average, affording an opportunity for the new below average states to lower their cost of equity. This logic results in a circular process that would lead to a constant growth of ROE over time, regardless of the actual needs of investors.

Q WHY DO YOU CLAIM THAT THERE IS NO FIXED RELATIONSHIP BETWEEN UTILITY STOCK PRICE AND INTEREST RATES?

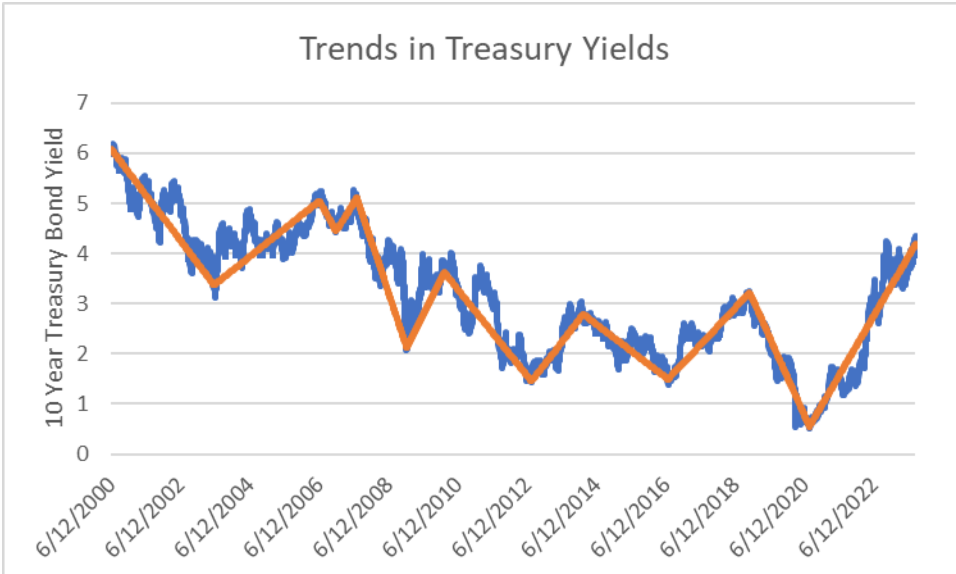
A I analyzed the correlation of utility stock prices with Treasury yields, and utility stock price growth with Treasury yields. I used the iShares U.S. Utilities ETF to measure utility prices. Neither measure shows a consistent inverse correlation. The figure below shows that the rolling one-year correlation between utility stock price and 10-year Treasury yield is cyclical and varies from negative to positive.

Figure LK-3: Rolling Annual Correlation Between Utility Share Price and Treasury Yield



In addition to evaluating rolling annual correlation, I investigated whether the correlation is affected by whether Treasury yields are declining or increasing. The figure below identifies my determination of whether yields are decreasing or increasing.

Figure LK-4: Break Points in Treasury Trends



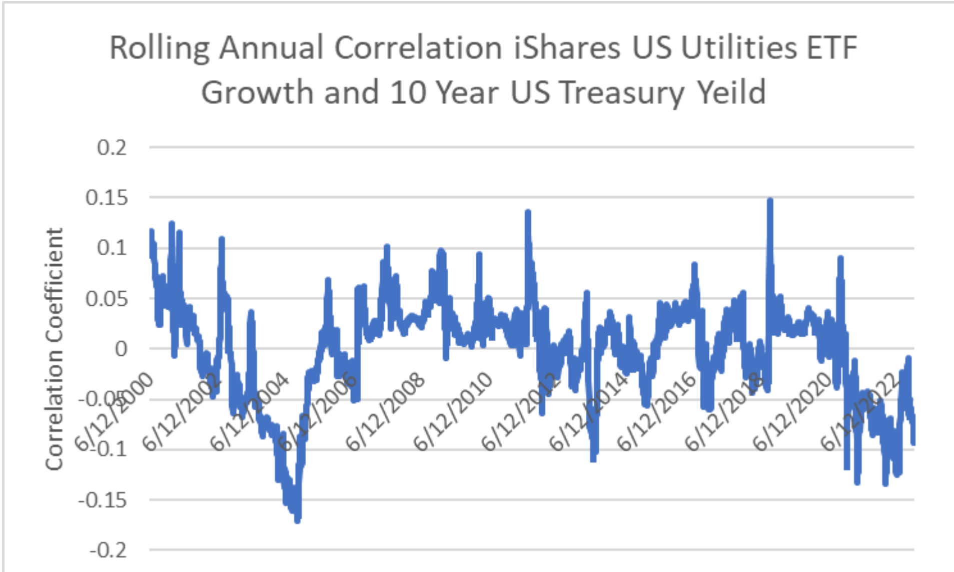
I calculated the correlation between the utility index price and Treasury yields within each straight-line segment of the figure above. I found the correlation to be positive in eight of 12 segments, as shown in the table below.

Table LK-10: Correlation Between Stock Price and 10-year Treasure Bond Yields

Start Date	End Date	Correlation
6/12/2000	5/30/2003	0.81
5/30/2003	6/14/2006	0.33
6/14/2006	12/5/2006	-0.87
12/5/2006	7/13/2007	0.22
7/13/2007	12/19/2008	0.54
12/19/2008	1/21/2010	0.44
1/21/2010	7/26/2012	-0.77
7/26/2012	1/23/2014	0.47
1/23/2014	6/30/2016	-0.82
6/30/2016	11/7/2018	0.21
11/7/2018	7/30/2020	-0.13
7/30/2020	8/23/2023	0.48

I also investigated the one-year rolling correlation between utility price growth and Treasury yields. There is no consistent relationship, as shown in the figure below.

Figure LK-5: Rolling Annual Correlation Between Stock Price Growth and Treasury Yield



Q EVEN IF A NEGATIVE RELATIONSHIP IS ASSUMED BETWEEN TREASURY YIELDS AND UTILITY SHARE PRICE, HOW IS THIS RELEVANT TO ROE ESTIMATES?

A Ms. Bulkley incorrectly concludes that a negative relationship between share price and Treasury yields implies a negative relationship between ROE and equity. While investor ROE requirements can drive stock price, so can investor expectations. For example, in the discounted cash flow model, if ROE is held constant but earnings expectations are decreased, the stock price will decrease.

Q IF STOCK PRICES ARE EXPECTED TO UNDERPERFORM, IS THAT A BASIS FOR PLACING LESS WEIGHT ON DISCOUNTED CASH FLOW RESULTS?

A No. Reliable ROE models such as the DCF and CAPM models assume efficient markets. This means that current market prices reflect all known information about the respective companies and markets. Ms. Bulkley makes a key assertion that is inconsistent with this, specifically that "the share prices of utilities are likely to decline."[43] Ms. Bulkley makes this assertion by

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[43] Exhibit No. AE B-1Tr page 6 line 15.

isolating a single market factor (Treasury yields), forecasting the factor to remain constant, and assuming the relationship between that factor and utility prices (that utility stock yields must exceed Treasury yields.) This approach to forecasting stock prices is not academically rigorous because it essentially assumes the result. Furthermore, if the relationships are real, market traders would short sell utility stock in the current market, driving down the stock price until there is no opportunity for inter-temporal arbitrage.

Q HOW DO CURRENT MARKET CONDITIONS FACTOR INTO ROE ESTIMATES?

A. Current market conditions are inputs to the DCF and CAPM models. These models automatically account for the impact of current and expected market conditions. It is unnecessary to make further adjustments.

Q. PLEASE SUMMARIZE YOUR COST OF EQUITY ANALYSIS AND RECOMMENDATION.

A. The DCF, CAPM, and ECAPM models result in a broad range of ROE estimates. However, all models overlap with some portion of the range of 8.5 to 9.5 percent, which I recommend as a reasonable ROE range. I recommend an ROE of 9.0 percent. This provides a return on equity sufficient to attract capital given the risk and returns of Pacific Power and the proxy group.

Q. WHAT ARE INDEPENDENT, THIRD-PARTY ESTIMATES OF THE UNITED STATES ELECTRIC UTILITY INDUSTRY COST OF EQUITY?

A. Cost of capital estimates rely in part on assumptions and judgements about model inputs. These assumptions and judgements may be influenced by the incentives of the analyst making estimates. In rate setting proceedings, utilities are incentivized to recommend higher cost of equity and ratepayer advocates are incentivized to recommend lower cost of equity. Even if individual analysist and experts sponsored by participants are free of bias and incentives, participants may select experts whose assumptions and judgements align with the participant's incentives. Cost of equity estimates produced by third parties without vested interests in the outcome of rate proceedings can avoid both incentive bias and selection bias.

The Kroll Cost of Capital Navigator is a third-party tool produced by a third party without a direct vested interest in the outcome of this rate proceeding. This tool includes an industry benchmarking tool that reports current industry cost of equity under multiple models. The only user input to the Kroll Cost of Capital Industry Benchmark Study is the reporting date, making the model results for this study free of user bias and selection bias. The table below summarizes the results of the Kroll Cost of Capital Industry Benchmark Cost of Equity. Results are provided for the median firm, all firms in the industry, the five largest firms and the five smallest firms. The mean and median values for every sub-group are well below Pacific Power's requested ROE.

Table LK-11:Kroll Cost of Capital Industry Benchmark

Kroll Industry Cost of Equity Capital (%): GICS 551010: Electric Utilities

	CAPM	CAPM + Size Prem		Build-Up		Discounted Cash Flow		Fama-French	Mean	Median
		CRSP	~~KRPR~~	CRSP	~~KRPR~~	~~1-Stage~~	3-Stage	5-Factor		
Median	6.90	7.40	~~9.90~~	7.40	~~12.10~~	~~10.80~~	7.90	8.10	8.81	8.00
SIC/GICS Composite	6.90	6.90	~~9.50~~	7.00	~~11.20~~	~~10.70~~	7.20	6.90	8.29	7.10
Large Composite	6.80	6.60	~~9.20~~	6.80	~~10.80~~	~~10.60~~	7.00	N/A	8.26	7.00
Small Composite	7.10	7.80	~~10.70~~	7.60	~~13.60~~	~~10.60~~	7.70	7.60	9.09	7.75

Sourced from the Cost of Capital Navigator: U.S. Industry Benchmarking Module on 09/10/2023

Three of eight models in the benchmark study, identified by strike through, contain assumptions that render them inappropriate for a rate setting context. These three models are discussed in more detail in the Cost of Equity section of this testimony. The table below illustrates the Cost of Equity results when these models are removed from the mean and median. Every relevant independent third-party model result is more consistent with my cost of equity recommendations than Pacific Power's cost of equity recommendations.

Table LK-12: Kroll Cost of Capital Industry Benchmark Excluding Inapplicable Models

Kroll Industry Cost of Equity Capital (%): GICS 551010: Electric Utilities

	CAPM	CAPM + Size Prem	Build-Up	3-Stage DCF	FF 5-Factor	Mean	Median
Median	6.90	7.40	7.40	7.90	8.10	7.54	7.40
SIC/GICS Composite	6.90	6.90	7.00	7.20	6.90	6.98	6.90
Large Composite	6.80	6.60	6.80	7.00	N/A	6.80	6.80
Small Composite	7.10	7.80	7.60	7.70	7.60	7.56	7.60

Sourced from the Cost of Capital Navigator: U.S. Industry Benchmarking Module on 09/10/2023

Q. WHAT KROLL MODELS DO YOU CONSIDER INAPPROPRIATE FOR RATE SETTING PURPOSES?

A. The Kroll Risk Premium Report "KRPR" CAPM + Size Premium and Build-Up models only utilize size measures that are not tuned to the capital-intensive utility industry, such as number of employees. The single stage discounted cash flow model relies on short-term industry growth forecasts rather than long-term forecasts.

Q. HOW DO YOU RECOMMEND THE COMMISSION USE THE KROLL ELECTRIC UTILITY INDUSTRY BENCHMARK STUDY?

A. This study should be used to validate whether my recommendations are reasonable. The Commission should view the mean and median results of five applicable models as a reasonable lower bound for this case. My models produce ROE estimates that exceed all applicable Kroll models because I intentionally selected model inputs that result in conservatively high cost of equity. For example, I include Value Line growth estimates in all three of my models. I made conservatively high ROE recommendations in order to promote gradualism in ROE changes, and to provide investors with a buffer against unexpected increases in the market ROE after rates are set.

To the extent that the Commission choses to place weight on the three models that I characterize as inappropriate, the Commission should limit this to evaluating the eight models in aggregate, by considering the mean and median values across all eight models. My recommended ROE of 9 percent is consistent with Kroll's Small Composite mean ROE estimate of 9.09 percent.

III. CAPITAL STRUCTURE

Q. PLEASE SUMMARIZE YOUR CAPITAL STRUCTURE TESTIMONY.

A. I recommend the use of a 51 percent common equity, 0.01 percent preferred stock, and 48.99 percent long-term debt capital structure. This structure is based on Pacific Power's forecasted capital structure with short-term debt replaced by long-term debt. Pacific Power has argued that its short-term debt is transitory and has a *de minimis* impact on weighted average cost of capital.[44] Pacific Power recommends removing short-term debt from its forecasted capital structure and replacing with a proportionate share of equity and long-term debt.

Given the *de minimis* impact of short-term debt, I recommend modeling short-term debt as long-term debt rather than a share of short-term and long-term debt. This has the effect of mitigating some of Pacific Power's requested increase in its share of equity.

Q. WHY HAS PACIFIC POWER'S REQUESTED SHARE OF EQUITY INCREASED?

A. Pacific Power claims that it needed to increase its equity share to above 51 percent to maintain a "single A" credit rating, and that this will result in an optimal capital structure.[45]

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44 Exh. NLK-1Tr at 3.
45 Exh. NLK-1Tr at 4-5.

Q. WHAT DOES PACIFIC POWER PROPOSE TO BE USED AS THE BASIS FOR ITS CAPITAL STRUCTURE?

A. Pacific Power proposes using its pro-forma 2024 capital structure, with short-term debt replaced by a proportionate share of long-term debt and equity.[46] This recommendation inflates the weighted average cost of capital above that necessary to maintain its alleged optimal bond rating, or 51percent. I recommend modeling short term debt be replaced by a mixture of long term debt and equity such that the equity ratio equals the optimal amount asserted by Pacific Power, or 51 percent. This approach will moderate the impact of Pacific Power's recent increases in equity and will result in a 51 percent common equity, 0.01 percent preferred stock, and 48.99 percent long term debt capital structure.

Q. CAN PACIFIC POWER ACHIEVE YOUR RECOMMENDED CAPITAL STRUCTURE?

A. Yes. Pacific Power manages its capital structure through its issuance of dividends to its parent, BHE.[47] I model Pacific Power achieving my recommended capital structure by maintaining Pacific Power's proposed level of long-term debt and issuing dividends to draw down Pacific Power's equity from Pacific Power's proposed level to the recommended level of 51 percent.

Q. WHAT COST OF DEBT AND PREFERRED STOCK DO YOU USE TO CALCULATE THE WEIGHTED AVERAGE COST OF CAPITAL?

A. I use Pacific Power's proposed rates of 4.77 percent and 6.75 percent, respectively. This reduces Pacific Power's weighted average cost of capital from 7.60 to 6.927 percent.

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[46] Exh. NLK-1Tr at 3.

[47] Exh. NLK-1Tr at 6.

IV. COST OF SERVICE

Q. WHAT ARE YOUR COST-OF-SERVICE RECOMMENDATIONS?

A. I recommend five changes to Pacific Power's filed cost of service study:

1. Allocate FERC Account 407, Amort of Prop Losses, Unrec Plant, functionalized to distribution plant, based on each schedule's allocation of distribution plant using Pacific Power's F102D factor. The proposed allocation reflects the relationship between distribution plant and property losses for distribution plant.
2. Allocate FERC Accounts 561 and 581, load dispatching costs, based on each schedule's Load Complexity, calculated as the share of annual hourly load ramping. The proposed allocation reflects that load variability drives load dispatching costs.
3. Allocate FERC Account 904 Uncollectible Accounts using weighted customer counts, Pacific Power's F136 factor. The proposed allocation reflects the WAC 480-85-060 requirement that costs functionalized to customer costs be allocated based on customer counts.
4. Modify Pacific Power's System Gross Miscellaneous Plant allocator, F102Co, such that when the allocator returns an error code, the backup allocator is an equal weighted average of F102, F136, Load Complexity, and Labor Allocation. This factor allocates a large number of non-plant related common costs, such as pensions. It is therefore appropriate that the allocation reflects a broad range of cost drivers, including labor costs, customer service costs, and operational costs.
5. Allocate FERC Account 926 Pensions and Benefits using Pacific Power's allocation of labor expense to each schedule. Pensions and benefits are directly related to labor expense.

a. Allocation of FERC Account 407

Q. WHAT COSTS ARE RECORDED TO FERC ACCOUNT 407?

A. According to the FERC uniform system of accounts, "This account shall be charged with amounts credited to account 182.1, Extraordinary Property Losses, and account 182.2, Unrecovered Plant and Regulatory Study Costs, when the Commission has authorized the amount in the latter account to be amortized by charges to electric operations."[48] More than 99 percent of Washington's allocation of system costs in this account are functionalized based on distribution poles and wires, indicating that these costs are primarily driven by distribution poles and wires.[49]

Q. HOW DOES PACIFIC POWER ALLOCATE THESE COSTS TO CUSTOMER SCHEDULES?

A. Pacific Power allocates these costs using the F110, System Intangible Plant allocation factor. This factor reflects each schedule's allocation of intangible plant, which is primarily software.

Q. WHY DOES PACIFIC POWER'S ALLOCATION PRESENT AN ISSUE?

A. Factor F110 does not appear to be related to property losses, unrecovered plant, or regulatory study costs. It is also unrelated to distribution poles and wires.

Q. HOW DO YOU RECOMMEND ALLOCATING THESE COSTS?

A. I recommend these costs be allocated based on each schedule's allocation of distribution plant using Pacific Power's F102D factor. The F102D factor reflects each schedule's share of system gross distribution plant. This factor is more directly related to property losses than the intangible plant allocation factor.

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[48] Code of Federal Regulations Title 18, Chapter I Subchapter C Part 101.
[49] Exh. RMM-4 at 21. Line 741 Column D divided by Line 744 Column D.

b. Allocation of FERC Accounts 561 and 581

Q. WHAT COSTS ARE RECORDED TO FERC ACCOUNTS 561 AND 581?

A. These accounts reflect labor, materials, and expense incurred to monitor current and next day load dispatching.[50] Such costs include direct switching, voltage control, current and next day load forecasting, and monitoring real-time flows of energy.[51]

Q. HOW DOES PACIFIC POWER ALLOCATE THESE COSTS TO CUSTOMER SCHEDULES?

A. Pacific Power allocates these costs using the F12 "12 Coincident Peak" and F20 allocation factor, "Maximum Schedule Peak."[52] The 12 CP and maximum schedule peak factors do not reflect the impact of inter hour or inter day load changes on the system.

Q. WHY NOT?

A. The 12 CP factor reflects each schedule's share of the monthly system coincident peaks in all 12 months. The Maximum Schedule Peak factor reflects the maximum load within each schedule. Both of these measures relate to peak load, not variability of load. A schedule with a single hour of energy use, and no energy in all other hours of the day, may have a high peak, but will not drive the costs recorded in this account because it will have very little impact on current and next day load dispatching, which occurs in all hours of the year, not only the peak hours. Similarly, a customer with flat load in all hours of the day could have a high peak, but will have minimal impact on the complexity of maintaining voltage control, forecasting load, and switching to manage load dispatch.

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[50] Code of Federal Regulations Title 18 Chapter I Subchapter C Part 101.

[51] Code of Federal Regulations Title 18 Chapter I Subchapter C Part 101.

[52] Exh. RMM-4 at 17, lines 446 and 498.

Q. HOW DO YOU RECOMMEND ALLOCATING THESE COSTS?

A. I recommend these costs be allocated using a factor that reflects load variability. I constructed this factor by calculating the absolute value of inter-hour load changes for each schedule across the year, summing this difference for all hours in the year, and calculating each schedule's share of total hourly load changes. This allocation factor is summarized in the table below.

Table LK-13: Annual inter-hour load change by schedule

	Residential Schedule 16	Small General Service Schedule 24	Large General Service < 1,000 kW Schedule 36	Large General Service > 1,000 kW Schedule 48	Large General Dedicated Facilities Schedule 48	Agricultural Pumping Schedule 40	Street & Area Lighting Sch. 15, 51-54, 57	Total
Inter Hour Load Change (MWh)	156,875	25,423	29,174	483	4,497	6,291	1,459	4,913
Share of Total	68.1%	11.0%	12.9%	3.4%	2.0%	2.1%	0.5%	100%

c. Allocation of FERC Account 904

Q. WHAT COSTS ARE RECORDED TO FERC ACCOUNT 904?

A. According to the FERC uniform system of accounts, "This account shall be charged with amounts sufficient to provide for losses from uncollectible utility revenues. Concurrent credits shall be made to account 144, Accumulated Provision for Uncollectible Accounts—Cr. Losses from uncollectible accounts shall be charged to account 144."[53]

Q. HOW DOES PACIFIC POWER ALLOCATE THESE COSTS TO CUSTOMER SCHEDULES?

A. Pacific Power allocates these costs using the F80 factor.

Q. WHY DOES PACIFIC POWER'S ALLOCATION PRESENT AN ISSUE?

A. The F80 factor directly assigns residential write-offs and recoveries to residential schedules, but allocates commercial, industrial, and irrigation write-offs and recoveries based on revenue.

[53] Code of Federal Regulations Title 18 Chapter I Subchapter C Part 101.

This allocation is inconsistent with WAC 480-85-060(3)'s requirement that costs functionalized to customer costs be allocated based on customer counts.

Q. HOW DO YOU RECOMMEND ALLOCATING THESE COSTS?

A. I recommend these costs be allocated using PacifiCorp's weighted customer count factor F136, which reflects both the weighted customer count factor F41 and F42. I make this recommendation to be consistent with WAC 480-85-060(3) described above. WAC 480-85-060(3) Table 2 indicates that Customer Service and Billing functionalized costs are to be allocated using weighted customer counts. Uncollectible accounts are appropriately considered part of the billing function. Therefore, these costs are appropriately allocated using weighted customer counts. Alternatively, if the Commission does not agree that the treatment of uncollectibles is governed by WAC 480-85-060(3), then it should allocate uncollectible costs using the average uncollectible by schedule, rather than using revenue as Pacific Power's filed model does.

d. Modification of PacifiCorp's Allocation Allocator F102CO

Q. WHAT IS PACIFIC POWER'S SYSTEM GROSS MISCELLANEOUS PLANT ALLOCATOR, F102CO?

A. The F102 factor is calculated as each schedule's allocated share of generation, transmission, and distribution gross plant.[54] This factor is calculated using the following process:

1. Functionalize plant to Generation, Transmission, Distribution, Customer, and Common.
2. Within each function, allocate costs to customer classes. (AWEC does not dispute the allocations Pacific Power makes in this step.)

[54] 230172-PAC-RMM-COSWA-FINAL.xlsx sheet "COS Factor Table" row 49.

3. Sum each schedule's allocated costs across all functions.
4. Calculate each schedule's share of allocated costs.

The F102Co factor is similar to the F102, but limited to plant that has been functionalized as common costs. This factor is calculated by modifying step 3 above to only sum costs functionalized as common costs. Because no generation, transmission, or distribution costs are functionalized as common costs, this results in an undefined number.

Q. HOW IS THE F102CO FACTOR USED IN PACIFIC POWER'S COST MODEL?

A. This factor is used to allocate several accounts functionalized to common:

- 920 Administrative and General Salaries
- 921 Office Supplies and Expenses
- 922 Administrative and General Expenses
- 923 Outside Services
- 925 Injuries and Damages
- 931 Rents

These accounts are not directly related to generation, distribution, and transmission costs.

Q. WHY DOES PACIFIC POWER'S ALLOCATOR PRESENT AN ISSUE?

A. Pacific Power's cost model does not functionalize any generation, transmission, or distribution plant as common. This results in an undefined calculation with zero in the denominator. Pacific Power's model defaults the F102Co factor to the F102 factor in the event of a calculation error such as an undefined number.

Q. WHAT IS YOUR RECOMMENDED CHANGE TO THIS FACTOR?

A. I recommend that this factor be changed to default to a broader factor that more accurately reflects administrative burden. The FERC accounts that this allocator is applied to do not relate only to plant costs. In addition to plant investment, labor costs, load complexity, and customer service all add to administrative burden. I recommend that F102Co default to an average of these four factors:

- Plant investment, using Pacific Power's F102 factor,
- Customer costs, using Pacific Power's F136 factor,
- Load complexity, using the hourly load change factor described in this testimony, and
- Labor costs, calculated as the weighted average of each schedule's total allocated labor costs, as summarized in Exhibit LDK-5.

e. Allocation of FERC Account 926

Q. WHAT COSTS ARE RECORDED TO FERC ACCOUNT 926?

A. According to the FERC uniform system of accounts, "This account shall include pensions paid to or on behalf of retired employees, or accruals to provide for pensions, or payments for the purchase of annuities for this purpose, when the utility has definitely, by contract, committed itself to a pension plan under which the pension funds are irrevocably devoted to pension purposes, and payments for employee accident, sickness, hospital, and death benefits, or insurance therefor. Include, also, expenses incurred in medical, educational or recreational activities for the benefit of employees, and administrative expenses in connection with employee pensions and benefits."[55]

[55] Code of Federal Regulations Title 18 Chapter I Subchapter C Part 101.

Q. HOW DOES PACIFIC POWER ALLOCATE THESE COSTS TO CUSTOMER SCHEDULES?

A. Pacific Power allocates these costs using the overall allocation of common costs F138Co. This factor reflects each schedule's total allocation of costs functionalized to common.

Q. WHY DOES PACIFIC POWER'S ALLOCATION PRESENT AN ISSUE?

A. Pension and benefit costs are directly related to labor costs. It is therefore more appropriate to allocate these costs using labor rather than the more general F138Co allocator. F138Co has many non-labor costs embedded in it, such as plant allocations and regulatory fee allocations, which are clearly unrelated to pensions and benefits.

Q. HOW DO YOU RECOMMEND ALLOCATING THESE COSTS?

A. I recommend these costs be allocated using each schedule's allocation of labor, as calculated in Exhibit LDK-5.

Q. WHAT IS THE IMPACT OF YOUR COST OF SERVICE RECOMMENDATIONS?

A. Under my recommended cost study, all schedules except for street lighting are within a reasonable range of rate parity. Parity ratio is calculated as a revenue divided by cost. If the parity ratio is 1, the schedule's revenue equals the cost to serve the schedule. This is a desired outcome because it indicates that rates are cost based. A parity ratio of 1.05 indicates that the schedule's revenues are five percent above the cost to serve the schedule, while a parity ratio of 0.95 indicates that the schedule's revenues are 5 percent below the cost to serve the schedule. The table below compares rate parity under my cost study with that of Pacific Power's.

Table LK-14: AWEC and Pacific Power Parity Ratios

Schedule	AWEC Parity Ratio	PAC Parity Ratio
Residential Schedule 16	0.971	0.988
Small General Service Schedule 24	1.060	1.070
Large General Service < 1,000 kW Schedule 36 & 29	1.058	1.037
Large General Service > 1,000 kW Schedule 48	1.001	0.977
Large General Dedicated Facilities Schedule 48	0.961	0.925
Agricultural Pumping Schedule 40	0.941	0.944
Street & Area Lighting Sch. 15, 51-54, 57	0.865	0.961
Total	1.000	1.000

V. RATE SPREAD

Q. WHAT RATE SPREAD DID PACIFIC POWER PROPOSE?

A. Pacific Power proposed a lower than average rate increase for Schedules 24, 29, and 36, and a higher than average rate increase for all other schedules, as summarized in the table below.[56]

Table LK-15: Pacific Power Proposed Revenue Increase by Schedule

A	B	C	D	E	F
Schedule	Description	Change Required per Adjusted Target Cost of Service	Present Revenue as a Percent of of Earned Cost of Service	Proposed Price Change	Proposed Revenue as a Percent of Adjusted Target Cost of Service
16,17,19	Residential	15.5%	98.8%	16.2%	100.6%
24	General - Small	6.3%	107.0%	6.5%	100.2%
29,36	General	8.8%	103.7%	10.0%	101.1%
47,48T	General - Large	15.4%	97.8%	16.2%	100.7%
48T-DF*	General - Large	21.3%	92.5%	16.3%	95.8%
40	Agricultural Pumping	20.8%	94.4%	16.2%	96.2%
15,51,53,54	Lighting	20.4%	96.1%	16.2%	96.6%
All		13.5%	100.0%	13.5%	100.0%

*Dedicated Facilities (DF)

Q. IS PACIFC POWER'S RATE SPREAD SUPPORTED BY EITHER PACIFIC POWER'S COST STUDY OR YOUR COST STUDY?

A. No, neither Pacific Power's cost study nor my cost study supports Pacific Power's recommendations. Commission Staff has previously recommended treating parity ratios within

[56] Reproduced from Exh. RMM-1T at 10.

5 percent of parity, or 1, as within the margin of error for cost studies, and parity ratios within 10 percent of parity as reasonable.[57] Under both Staff's test and Pacific Power's cost study parity ratios, reproduced in Table LK-14 above, all schedules are within the margin of error or within a reasonable range of 1. This means that if none of my recommended cost study changes are implemented, all rate schedules should receive the same percentage increase. Under my cost study, street and area lighting are the only schedules outside the reasonable range. The parity ratio for street and area lighting is 0.865, which is more than ten percent from parity. Therefore the street and area lighting schedules warrant a larger than average rate increase.

Q. WHAT IS YOUR RECOMMENDED RATE SPREAD?

A. I recommend street and area lighting be increased by 125 percent of the average rate increase, with all other schedules increased by an equal percentage.

VI. RATE DESIGN

Q. WHAT RATE DESIGN CHANGES DOES PACIFIC POWER PROPOSE FOR INDUSTRIAL SCHEDULES?

A. Pacific Power makes four recommendations regarding Schedule 48T:

- Ten percent movement towards cost of service for rate components,[58]
- Treat transmission costs and 11.5 percent of generation costs as load size costs rather than on peak demand costs,[59]
- Add a transmission pricing option,[60] and

[57] Dockets UE-200900, UG-200901, UE-200894, Exh. ELJ-1T at 10, Table 1.
[58] Exh. RMM-1T at 34:5.
[59] Exh. RMM-1T at 34:6-35:4.
[60] Exh. RMM-1T at 35:11-20.

- Clarify language for the load size charge.[61]

Pacific Power also recommends that Schedule 47T continue to be based on Schedule 48T rates.[62]

Q. WHICH OF THESE CHANGES DO YOU SUPPORT?

A. I support transmission pricing options, language clarification, and treatment of Schedule 47T. I do not support Pacific Power's proposed treatment of transmission and generation costs. I partially support the ten percent movement towards cost of service; however, I recommend that the percent movement be a percent change from current rates, rather than percent change of the difference between cost of service and current rates.

Q. WHY IS IT NOT APPROPRIATE TO TREAT TRANSMISSION AND GENERATION COSTS AS LOAD SIZE COSTS?

A. Load size costs should be limited to costs that are directly impacted by the peak load of a facility. These costs should also be consistent with the cost model used to allocate costs. Transmission and generation costs are driven by, and allocated, using peak demand, not facility size or non-coincident peak.

Q. WHAT IS THE IMPACT OF PACIFIC POWER'S RECOMMENDED CHANGE?

A. Pacific Power's proposal increases the load size charge by 1,058 percent, from $0.29 per kW to $3.01 per kW.[63] This is an unreasonably large change in rates over just two years.

Q. WHAT RATIONALE DOES PACIFIC POWER OFFER FOR THE PROPOSED CHANGE TO FACITLITY CHARGES?

A. Pacific Power offers no compelling rationale for treating transmission cost as load size costs. Pacific Power argues that 11.5 percent of demand-related generation costs are load size costs

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[61] Exh. RMM-1T at 36:12-21.
[62] Exh. RMM-1T at 37:5-7.
[63] Exh. RMM-11r at 19.

because they relate to the planning reserve margin to account for uncertain events and operating reserve requirements.[64] Pacific Power asserts that because unknown events can occur off peak, and the load size charge is not bound to on peak periods, reserve margin costs should be recovered through the load size charge.[65]

Q. WHAT IS YOUR RESPONSE TO PACIFIC POWER'S RATIONALE?

A. There are several problems with Pacific Power's rationale. First, while operating reserve margins must be held in every hour, these are more appropriately considered generation costs than demand costs because they are a cost of serving energy in every hour of the year, rather than a cost for meeting peak demand. Second, there is no evidence or reason to believe that any individual customer's maximum historic facility load correlates to system outages or unexpected system stresses. Third, the facility load charge is a persistent measure over the previous 12 months. In actual operations, Pacific Power can monetize excess capacity by selling to the market or dispatching less expensive resources. Thus the persistence of the load size charge will cause customers to pay for a cost that Pacific Power does not incur. Finally, if Pacific Power's rationale were accurate, then it would be appropriate to allocate demand costs using the sum of facility size for all customers. This would likely shift costs away from Schedule 48T because of the relatively large variability of small customer loads.

[64] Exh. RMM-1T at 34:14-19.
[65] Exh. RMM-1T at 35:1-4.

Q. WHY DO YOU RECOMMEND THAT PRICE CHANGES BE LIMITED TO 10 PERCENT CHANGES FROM CURRENT PRICES RATHER THAN 10 PERCENT OF THE DIFFERENCE BETWEEN THE COST OF SERVICE AND CURRENT PRICES?

A. Under Pacific Power's approach to limiting price changes, unreasonably large changes can still occur. For example, Pacific Power increases the facility charge by 1,058 percent over two years. Under my recommendation this increase would be closer to 20 percent.

Q. HOW WOULD YOUR RECOMMENDED LIMIT BE IMPLEMENTED WHILE STILL ACCOMODATING THE OVERAL SCHEDULE REVENUE REQUIREMENT CHANGE?

A. I recommend that the 10 percent change be applied as a cap to present rates after applying the schedule's average increase. For example, if a current rate is $1.00 per kW, and the schedule's revenue requirement increase is 20 percent, the final rate limit would be $1.20 plus or minus ten percent, or $0.12, depending on whether prices are above or below the component's cost of service.

VII. WILDFIRE

Q. PLEASE SUMMARIZE PACIFIC POWER'S PROPOSED TREATMENT OF WILD FIRE EXPENSES.

A. Pacific Power has proposed not seeking recovery of specific wildfire expenses.[66] To accomplish this, Pacific Power has removed $224 million in wildfire repair capital costs,[67] and adjusted injuries and damages expense to a three-year average.[68] However, Pacific Power has not proposed adjustments to wildfire litigation expense and is including 2022 wildfire litigation costs in its requested revenue requirement.[69]

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[66] Exh. LDK-3 (Response to AWEC Data Request 8).
[67] Exh. SLC-4 at 339.
[68] Exh. SLC-4 at 113
[69] Exh. LDK-3 (Response to AWEC Data Request 8).

Q. DO 2022 WILDFIRE LITIGATION COSTS INCLUDE COSTS ASSOCIATED WITH THE LABOR DAY FIRES?

A. [redacted]

Q. DOES PACIFIC POWER'S 3 YEAR INJURIES REPRESENT A REASONABLE AVERAGE LEVEL OF INJURIES AND DAMAGES?

A. No, Pacific Power's three-year average includes an abnormal level of injuries in 2019. I recommend modifying the three year average to a two year average. The table below identifies injuries and damages by year and compares the three year and two year average.

Table LK-16: Two Year Average Injuries and Damages Expense

	July 19 - June 20 Cash	July 20 - June 21 Cash	July 21 - June 22 Cash	Total Cash
Cash paid on claims	11,469,351	2,929,134	2,576,288	16,974,772
Remove amounts not requested	-	-	-	0
Net Paid	11,469,351	2,929,134	2,576,288	16,974,772
Third Party Insurance Claim Proceeds	-	-	-	-
Remove amounts not requested	-	-	-	-
Net Reimbursement from Commercial Insurance	-	-	-	-
Net Paid				16,974,772
Three-Year Average				5,658,257
Two-Year Average				2,752,711
AWEC Adjustment				(2,905,547)

Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATION ON WASHINGTON EXPENSES?

A. The table below summarizes the Washington allocation of my expense adjustment. My adjustment reduces expense in Account 925 by $545,054.

Confidential Table LK-17: AWEC Wildfire Adjustment

[redacted]

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.