Exhibit No.___(MPG-1T)
Docket No. UE-130043
Witness: Michael P. Gorman

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, v. PACIFICORP D/B/A PACIFIC POWER & LIGHT COMPANY, Respondent.	)	Docket No. UE-130043

RESPONSE TESTIMONY OF MICHAEL P. GORMAN

ON BEHALF OF

BOISE WHITE PAPER, L.L.C.

June 21, 2013

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q. WHAT IS YOUR OCCUPATION?

A. I am a consultant in the field of public utility regulation and a managing principal with Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. These are set forth in Exhibit No.___(MPG-2).

Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A. I am appearing on behalf of Boise White Paper, L.L.C.

Q. ARE YOU SPONSORING ANY EXHIBITS IN CONNECTION WITH THIS TESTIMONY?

A. Yes. I am sponsoring Exhibit No.___(MPG-2) through Exhibit No.___(MPG-22).

Q. WHAT IS THE SUBJECT OF YOUR RESPONSE TESTIMONY?

A. I will recommend a fair return on common equity, and overall rate of return ("ROR") for PacifiCorp d/b/a Pacific Power & Light Company ("PacifiCorp" or the "Company").

I. SUMMARY

Q. PLEASE SUMMARIZE YOUR ROR RECOMMENDATIONS.

A. I recommend the Washington Utilities and Transportation Commission (the "Commission") award PacifiCorp a return on common equity of 9.20%, and an overall ROR of 7.25%. Exhibit No.___(MPG-3). The Washington revenue requirement impact of my recommended 9.20% return on equity ("ROE") is $5.7 million.

I also recommend adjustments to the Company's proposed capital structure. I propose the Commission rely on the capital structure approved in the last two cases (UE-111190 and UE-100749). The Washington revenue requirement impact of my proposed capital structure is a $2.7 million reduction in PacifiCorp's proposed revenue increase, and the combined impact of my overall ROR recommendation is $8.3 million on a Washington basis. (Exhibit No.___(MPG-4)).

My recommended ROE and proposed capital structure will provide PacifiCorp with an opportunity to realize cash flow financial coverages and balance sheet strength that conservatively support PacifiCorp's current bond rating. Consequently, my recommended ROE represents fair compensation for PacifiCorp's investment risk, and it will preserve the Company's financial integrity and credit standing.

I will also respond to PacifiCorp witness Dr. Samuel Hadaway's proposed ROE of 10.0%. For the reasons discussed below, Dr. Hadaway's recommended ROE is excessive and should be rejected.

Q. DOES YOUR RECOMMENDED ROE REFLECT PACIFICORP'S EXISTING INVESTMENT RISK?

A. Yes. My recommended ROE reflects fair compensation for PacifiCorp's existing investment risk including its cost of service and financial position. These factors are reflected in PacifiCorp's existing bond rating and other risk factors used to select a comparable risk proxy group.

Q. HOW DID YOU ESTIMATE PACIFICORP'S CURRENT MARKET COST OF EQUITY?

A. I performed analyses using three Discounted Cash Flow ("DCF") models, a Risk Premium study, and a Capital Asset Pricing Model ("CAPM"). These analyses used a proxy group of publicly traded companies that have investment risk similar to

PacifiCorp. Based on the results from these assessments, I estimate PacifiCorp's current market cost of equity to be 9.20%.

Q. HOW DOES YOUR RECOMMENDED ROE COMPARE TO PACIFICORP'S LAST AUTHORIZED ROE?

A. On February 21, 2012, the Commission issued its final order in PacifiCorp's 2011 general rate case and approved a settlement, which included an ROE of 9.8%, which was actually the approved ROE in the prior rate case as proposed by the Company.[1/]

My recommended ROE is lower in this case than the ROE included in the settlement to PacifiCorp's rate case from February 2012. However, this lower ROE is justified based on clear evidence that capital market costs today are lower than they were in 2012 when the rate settlement process took place and when the rate settlement was ultimately approved. In addition, a settlement by definition is a compromise of positions.

Q. DO YOU BELIEVE MARKET COSTS OF CAPITAL ARE LOWER TODAY THAN THEY WERE IN PACIFICORP'S LAST RATE CASE?

A. Yes. Market costs of capital have declined since PacifiCorp's last rate case. This is illustrated by a comparison of bond yields in this case and the last case, and is evident from cost of capital estimates in this case versus the last case. In Table 1, I show the change in utility bond yields.

[1/] Docket UE-111190, Order 07 at P. 9; Settlement Stipulation at P. 21.

TABLE 1

Capital Costs – PacifiCorp Rate Cases

Description	Current Case*	Docket No. UE-111190	Yield Change
"A" Rated Utility Bond Yields	4.14%	4.34%	(0.20%)
"Baa" Rated Utility Bond Yields	4.63%	5.05%	(0.42%)
13-Week Period Ending	06/07/2013	02/17/2012	

Source:
* Exhibit No.___(MPG-17), page 1.

As shown in the table above, the current market cost of debt for "A" (by Standard & Poor's, "S&P") and "Baa" (by Moody's) rated utility bond yields has decreased in this case relative to PacifiCorp's last rate case. The current "A" rated utility bond yield is 0.20 percentage points lower now than it was in PacifiCorp's last rate case. Also, the current "Baa" utility bond yield is 0.42 percentage points lower than during PacifiCorp's last rate case.

Utility bond yields have declined by approximately 20 to 40 basis points since PacifiCorp's last rate case. This decline in utility bond yields suggests that PacifiCorp's cost of capital is lower now than it was in its 2011 rate case.

II. RATE OF RETURN

Electric Utility Industry Market Outlook

Q. PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.

A. I begin my estimate of a fair ROE for PacifiCorp by reviewing the market's assessment of electric utility industry investment risk, credit standing, and stock price performance in general. I used this information to get a sense of the market's

perception of the risk characteristics of electric utility investments in general, which is then used to produce a refined estimate of the market's return requirement for assuming investment risk similar to PacifiCorp's utility operations.

Based on the assessments described below, I find the credit rating outlook of the industry to be strong and supportive of the industry's financial integrity, and electric utilities' stocks have exhibited strong price performance over the last several years.

Further, the electric utility industry in general is in a large capital expenditure portion of its cycle, which is creating significant demands for external capital in order to support large capital improvement programs. Credit rating agencies and market participants have embraced the utilities' need for significant amounts of external capital by meeting the capital market demands of electric utilities at near historical low capital market costs. All of this supports my belief that PacifiCorp should have sufficient access to capital to support its major capital program, and relatively moderate capital costs are currently available and expected to be available for the next several years.

Based on this review of credit outlooks and stock price performance, I conclude that the market continues to embrace the electric utility industry as a safe-haven investment, and views utility equity and debt investments as low-risk securities.

Q. PLEASE DESCRIBE ELECTRIC UTILITIES' CREDIT RATING OUTLOOK.

A. Electric utilities' credit rating outlook has improved over the recent past and is stable. S&P recently provided an assessment of the credit rating of U.S. electric utilities. S&P's commentary included the following:

> **Effect on ratings**
>
> Notwithstanding the slow economic recovery, credit quality in the domestic utility industry has continued a long shift to greater stability, and even modest improvement in some cases, especially as many companies re-emphasize their core competencies. Most companies had stable outlooks and our ratings center of gravity for the sector remains solidly ingrained in the 'BBB+' category in vivid contrast to the average 'BB-' category for U.S. industrial companies. This is a function of the large percentage of firms with "excellent" (90%) or "strong" (10%) business risk profiles, which, however, is generally balanced with "significant" (49%) and "aggressive" (39%) financial risk profiles. As a consequence, at the end of the first quarter about 62% of the industry carried a 'BBB' category corporate credit rating ('BBB+', 'BBB', and 'BBB-'), about 36% were 'A-' and above, and just 2% were speculative grade ('BB+' and below).
>
> *** * ***
>
> **Industry Ratings Outlook**
>
> **Good access to funding expected to continue**
>
> Liquidity is adequate for most utilities and investor appetite for utility debt remains healthy, with deals continuing to be oversubscribed at very attractive rates. The amount of medium- to long-term debt and hybrid securities issued through the three months ended March 31, 2013 was about $8.7 billion. Credit fundamentals indicate that most, if not all, utilities should continue to have ample access to funding sources and credit. The relative certainty of financial performance provided by the regulatory framework under which utilities operate, their effective monopoly position, long-lived assets, and the financing necessary to fund these assets are all factors that make the utility sector attractive to investors. These elements have also helped utilities more effectively manage their rate-relief needs and mitigate the effect of sizable rate increases on customers.
>
> Some utilities have issued common stock to partially fund construction spending, which has helped to support capital structure balance. In

addition, many companies are accessing short-term credit markets through commercial paper programs at very low rates. Liquidity is an industry strength and has been improving, and banking syndicates are indicating a willingness to lengthen the terms of credit facilities out as far as five years in more and more cases.

Turbulence in global financial markets and the slow economic recovery have not noticeably affected regulated domestic utilities. Market access is crucial, especially in light of the significant capital spending the industry faces in addressing aging infrastructure, environmental compliance, and ongoing transmission and distribution investments.[2/]

Similarly, Fitch states:

Rating Outlook

Flat Growth Base Case: Fitch Ratings expects overall stable ratings for issuers within the U.S. Power and Gas Utility sector in 2013 despite modest deterioration in operating environment.

* * *

Stable Regulation but Authorized ROEs Trending Down

Fitch expects the downward pressure on authorized ROEs for regulated utilities to persist in tandem with falling interest rates in the economy. Lower ROEs are also associated with features increasingly common in tariff structures that minimize cash flow volatility. Many state regulators are awarding lower ROEs as an offset to awarding special tariff mechanisms such as revenue decoupling, forward test year, rate-adjustment trackers[,] etc.

* * *

Strong Liquidity Conditions to Prevail

Fitch expects the power and gas utility sectors to continue to enjoy strong capital market access. Low interest rates due to accommodative monetary policies by the Fed continue to bring down the cost of debt for companies, which represents a significant expense item for the capital-intensive utility sector. Since 2006, interest expense has declined almost 150 bps for the typical utility holding company as financing costs for new debt issuance is at historic lows and these

[2/] *Standard & Poor's Ratings Direct*: "Industry Report Card: Stable-To-Modestly Improved Industry Outlook Supports Ratings For U.S. Regulated Electric, Gas, And Water Utilities," April 19, 2013 at 3-4 and 6-7, emphasis added.

companies have unprecedented access to the capital and bank markets.[3/]

The Edison Electric Institute ("EEI") also opined as follows:

Steady Industry Fundamentals

Indeed, broad global macroeconomic forces have been the principle [sic] driver of utility stock returns in recent years, relative to other market sectors. Investors now take mostly as a given the industry's reasonably strong business fundamentals. Utilities are undertaking sizeable and wide-ranging capital investment programs that include distribution network upgrades, Smart Grid investments, a significant boost in the pace of transmission investment, rising emissions-related capex driven by the need to comply with EPA regulations, and generation investments in select power markets.

* * *

Credit analysts are generally positive on the industry's ability to finance an aggressive pace of investment, noting that while it is now cash flow negative on an annual operating basis, its balance sheets are generally strong and utilities have access to a diverse range of funding sources. The industry weathered the storm of the 2008/2009 financial crisis by postponing optional capex projects and finding cost savings where possible without jeopardizing service quality. Today's economic backdrop is much improved from that period, and with interest rates at multi-decade lows and investors of all types hungry for yield, the capital markets are wide open for most economic sectors, including utilities. The execution risk inherent in managing large, complex construction projects in a way that addresses the interests of both shareholders and regulators seems far more pronounced than financing risk.[4/]

Q. PLEASE DESCRIBE ELECTRIC UTILITY STOCK PRICE PERFORMANCE OVER THE LAST SEVERAL YEARS.

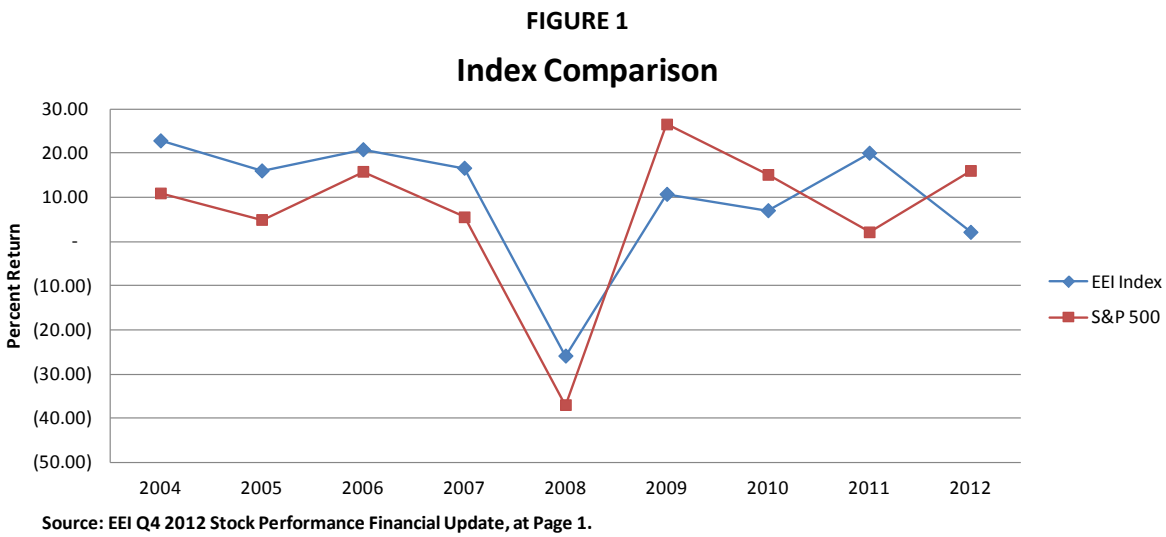
A. As shown in the graph below, the EEI has recorded electric utility stock price performance compared to the market. The EEI data shows that its Electric Utility Index has outperformed the market in downturns and trailed the market during

[3/] *FitchRatings*: "2013 Outlook: Utilities, Power, and Gas," December 7, 2012 at 1, 6-7 and 10, emphasis added.

[4/] *EEI Q3 2012 Financial Update* "Stock Performance" at 5, emphasis added.

recovery. This supports my conclusion that utility stock investments are regarded by market participants as a moderate to low-risk investment.

FIGURE 1



Source: EEI Q4 2012 Stock Performance Financial Update, at Page 1.

EEI describes electric utility stock price/valuation as sustainable:

> **Mixed Valuation Signals**
>
> The broad market's gains during Q3 along with the EEI Index's flat performance removed some of the richness to utility share valuations that several analysts noted at the end of Q2. Indeed, the magnitude of underperformance for the first nine months of 2012 is similar to that which occurred during the same period of 2009, after markets bottomed and then recovered from the losses produced by the financial crisis. As the market recovery continued in 2010, with 14% to 17% gains, the staid utility sector's 7% return could not keep pace. Yet when 2011 produced worries of economic slowdown, the worsening of the European debt crisis and the summer's woefully memorable deficit gridlock and S&P downgrade of U.S. Treasury debt in August — along with sharply falling interest rates — the EEI Index powered forward with a 20% return against single-digit gains across the broader markets.
>
> With the industry business models now set on regulated or mostly regulated structures, and with slow growth in earnings and dividends as the main appeal for investors, such periodic reversals of fortune, driven by changing economic prospects and investor sentiments, seem likely to continue. Interest rates

> are now at multi-decade lows and while analysts still cite utility price/earnings ratios as above average, 4% dividend yields give utility shares considerable price support relative to the lower yields available from bonds.[5/]

Q. WHAT ARE THE IMPORTANT TAKEAWAY POINTS FROM THIS ASSESSMENT OF ELECTRIC UTILITY INDUSTRY CREDIT AND INVESTMENT RISK OUTLOOKS?

A. Credit rating agencies consider the electric utility industry to be stable and believe investors will continue to provide an abundance of capital to support utilities' large capital programs and at moderate capital costs. All of this supports the continued belief that electric utility investments are generally regarded as safe-haven or low-risk investments, and the market embraces low-risk investments – like utility investments. The demand for low-risk investments will provide funding for electric utilities in general.

PacifiCorp Investment Risk

Q. PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF THE INVESTMENT RISK OF PACIFICORP.

A. The market assessment of PacifiCorp's investment risk is best described by credit rating analysts' reports. PacifiCorp's current corporate bond ratings from S&P and Moody's are "A-" and "Baa1," respectively. Both rating agencies have a Stable outlook for PacifiCorp.[6/]

Specifically, S&P states the following:

> **Rationale**
>
> Standard & Poor's Ratings Services' 'A-' corporate credit rating on PacifiCorp reflects an "excellent" business risk profile and a "significant" financial risk profile under our criteria. Our assessment of the business risk profile takes into account

[5/] *Id*. at 6, emphasis added.
[6/] Exhibit No.___(BNW-1T) at 4.

> PacifiCorp's position as a vertically integrated electric utility with geographical, market, and regulatory diversity over its six-state service territory. PacifiCorp provides power to its 1.7 million retail customers in Utah, Wyoming, and Idaho as Rocky Mountain Power and in Oregon, Washington, and California as Pacific Power. Utah and Oregon are the most important markets for the company, providing about 45% and 25% of annual retail sales, respectively. The utility's significant financial profile is supported through steady operating cash flow and restrained leverage to finance new capital spending.
>
> PacifiCorp is indirectly owned by MidAmerican Energy Holdings Co. (MEHC; BBB+/Stable/A-2) and has insulator provisions that allow us to rate PacifiCorp above the 'BBB+' corporate credit rating on MEHC if PacifiCorp's stand-alone credit measures and business risk profile support the higher rating. In turn, MEHC is privately held and majority owned by Berkshire Hathaway (AA+/Negative/A-1+). Our criteria provide that our corporate credit rating on PacifiCorp can be no more than three notches above the MEHC consolidated credit rating. Ratings on MEHC and PacifiCorp are one notch apart.[7/]

Similarly, Moody's states:

> PacifiCorp's ratings are supported by the stability of the utility's regulated cash flows, the geographically diverse and relatively constructive regulatory environments in which it operates, the diversification of its generation portfolio, and solid credit metrics. The rating also considers PacifiCorp's position as a subsidiary of MEHC, a holding company whose subsidiaries are primary engaged in regulated activities, and the benefits from its affiliation with BRK.
>
> *** * ***
>
> Reasonably supportive regulatory environment
>
> PacifiCorp's rating recognizes the rate-regulated nature of its electric utility operations which generate stable and predictable cash flows. PacifiCorp operates in regulatory jurisdictions that Moody's considers as average in terms of framework, consistency and predictability of decisions along with an expectation of timely recovery of costs and investments. This "average" assessment is in line with Moody's views of most

[7/] *Standard & Poor's RatingsDirect*: "Summary: PacifiCorp," October 23, 2012 at 2, provided by PacifiCorp in Mr. Williams' Exhibit No.___(BNW-2), page 2 of 5.

U.S. state jurisdictions compared to regulatory environments elsewhere in the world.[8/]

Fitch states:

> **Ratings Affirmed:** On Sept. 29, 2011, Fitch Ratings affirmed PacifiCorp's (PPW) ratings with a Stable Rating Outlook. PPW's ratings and outlook reflect the electric utility's solid credit-protection measures, a diversified service territory, a generally balanced regulatory environment, and relatively predictable operating earnings and cash flow characteristics.
>
> * * *
>
> **Ring-Fence Provisions:** Structural protections insulate PPW in the event of financial stress at intermediate holding company MidAmerican Energy Holdings Co. (MEHC, IDR 'BBB+'/Outlook Stable) without impeding the parent's ability to infuse capital into PPW.
>
> **Regulation Key:** Timely recovery of large capital investment program in rates is crucial to PPW's credit quality in Fitch's view. The ratings assume recovery of capital and operating costs in rates will support credit metrics consistent with the company's 'BBB' IDR and Stable Outlook.
>
> * * *
>
> **Improved Risk Profile:** Since being acquired by MidAmerican Energy Holdings Company (MEHC) in 2006, the utility's business risk has been improved by the adoption of rate mechanisms designed to reduce regulatory lag and facilitate timely recovery of fuel and purchased power costs.[9/]

PacifiCorp's Proposed Capital Structure

Q. WHAT CAPITAL STRUCTURE IS THE COMPANY REQUESTING TO USE TO DEVELOP ITS OVERALL ROR FOR ELECTRIC OPERATIONS IN THIS PROCEEDING?

A. PacifiCorp's June 30, 2013 forecasted capital structure, as supported by PacifiCorp witness Mr. Bruce N. Williams, is shown below in Table 2.

8/ *Moody's Investors Service Credit Opinion*: "PacifiCorp," May 8, 2012, provided by PacifiCorp in Mr. Williams' Exhibit No.___(BNW-5) at 2.

9/ *FitchRatings Corporates*: "PacifiCorp," November 16, 2011, provided by PacifiCorp in Mr. Williams' Exhibit No.___(BNW-4) at 1.

TABLE 2

PacifiCorp's Proposed Capital Structure

Description	Percent of Total Capital
Long-Term Debt	47.21%
Preferred Stock	0.28%
Common Equity	52.51%
Total Capital Structure	100.00%

Source: Exhibit No. (BNW-1T) at 2.

Q. ARE YOU PROPOSING THAT PACIFICORP'S PROPOSED CAPITAL STRUCTURE BE USED TO SET RATES IN THIS PROCEEDING?

A. No. I recommend continued use of the hypothetical capital structure used to set PacifiCorp's rates in at least its last two rates cases. This capital structure has been reviewed by credit rating agencies, which has contributed toward the Stable credit outlook that PacifiCorp has received most recently from S&P and Moody's. Specifically, S&P states:

> Our assessment of PacifiCorp's financial risk profile as significant is based on its consolidated financial measures, which include adjusted financial measures that are mostly in line with the rating. For the 12 months ended June 30, 2012, adjusted funds from operations (FFO) to total debt was a robust 21%. Debt leverage was adequate as demonstrated by adjusted total debt to total capital of 51%, but adjusted debt to EBITDA of 4.3x. Adjusted net cash flow (FFO less dividends) to capital spending was healthy at more than 100% and, after reducing cash flow from operations with capital spending and dividends, adjusted discretionary cash flow was negative $46 million.[10/]

[10/] *Standard & Poor's RatingsDirect on the Global Credit Portal*: "Summary: PacifiCorp," October 23, 2012 at 2, provided by PacifiCorp in Mr. Williams' Exhibit No.___(BNW-2), page 2 of 5.

Similarly, Moody's states:

> PacifiCorp paid dividends of $50 million to MEHC in February 2012, and $550 million in 2011, which was its first since being acquired by MEHC in 2006. MEHC had made equity contributions in each of previous five years totaling $1.1 billion to help PacifiCorp finance its capital expenditures during this period. The dividends were intended to manage PacifiCorp's equity ratio (as measured by unadjusted equity to equity plus debt) around 50% after it had accreted to 53% as of year-end 2010. PacifiCorp is not held to a regular dividend, but will likely make additional dividends periodically, depending on its capital requirements and equity ratio.[11/]

Hence, I propose a capital structure in this case be set equal to the same capital structure used to set PacifiCorp's rates in Washington in the last two rates cases. That capital structure is shown below in Table 3.

TABLE 3

Ratemaking Capital Structure

Description	Percent of Total Capital
Long-Term Debt	50.6%
Preferred Stock	0.3%
Common Equity	49.1%
Total Capital Structure	100.0%

Sources: Dockets UE-111190 and UE-100749.

I recommend continuing to use this hypothetical capital structure because it supports PacifiCorp's current bond rating, and is generally consistent with cost management for PacifiCorp in managing its cost of service in Washington. Further, the 52% common equity PacifiCorp is seeking is unnecessary and imposes unnecessarily high costs on Washington ratepayers.

[11/] *Moody's Investors Service Credit Opinion*: "PacifiCorp," May 8, 2012, provided by PacifiCorp in Mr. Williams' Exhibit No.___(BNW-5), page 3 of 7.

Q. WHY DO YOU BELIEVE THAT THE PROPOSED CAPITAL STRUCTURE WILL HELP SUPPORT PACIFICORP'S CURRENT INVESTMENT GRADE BOND RATING?

A. This is discussed later in my testimony where I show that the cost of service implied by this capital structure, and other components of PacifiCorp's cost of service in this proceeding, will produce strong credit rating metrics that are consistent with S&P's benchmarks for PacifiCorp's current investment grade bond rating.

Q. WHY DO YOU BELIEVE IT IS IMPORTANT FOR THE CAPITAL STRUCTURE TO REFLECT THE UTILITY MANAGEMENT'S EFFORTS TO MINIMIZE ITS COST OF SERVICE WHILE PRESERVING ITS INVESTMENT GRADE BOND RATING?

A. A utility managing its capital structure is important to balance its obligations to minimize its cost of capital, while at the same time support its financial integrity and access to capital. This balance requires a utility to manage its capital structure to maintain a reasonable balance of common equity and debt such that cost of capital is minimized and its credit rating is preserved.

A capital structure too heavily weighted with debt will result in an increase in its financial risk and likely drive up its overall cost of capital. Conversely, a capital structure too heavily weighted with common equity will unnecessarily increase its overall cost of capital, because common equity is the most expensive form of capital. For example, an authorized ROE of 9.0%, adjusted for income tax has a revenue requirement cost of 14.5%.[12/] Conversely, current debt interest rates are around 4.5%, and the interest expense is tax deductible. Therefore, the revenue requirement cost of debt capital is 4.5%. As such, common equity is three times more expensive than debt

[12/] 9.0% X $\frac{1}{(1 - \text{Tax Rate})}$ (assuming a 38% composite tax rate)

capital. However, insufficient common equity capital will drive up the utility's financial risk and increase its cost of debt and equity capital.

Return on Equity

Q. PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF COMMON EQUITY."

A. A utility's cost of common equity is the return investors require on an investment in the utility. Investors expect to achieve their return requirement from receiving dividends and stock price appreciation.

Q. PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED UTILITY'S COST OF COMMON EQUITY.

A. In general, determining a fair cost of common equity for a regulated utility has been framed by two hallmark decisions of the U.S. Supreme Court: Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679 (1923) and Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

These decisions identify the general standards to be considered in establishing the cost of common equity for a public utility. Those general standards provide that the authorized return should: (1) be sufficient to maintain financial integrity; (2) attract capital under reasonable terms; and (3) be commensurate with returns investors could earn by investing in other enterprises of comparable risk.

Q. PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE PACIFICORP'S COST OF COMMON EQUITY.

A. I have used several models based on financial theory to estimate PacifiCorp's cost of common equity. These models are: (1) a constant growth Discounted Cash Flow ("DCF") model using consensus analysts' growth rate projections; (2) a constant growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF

model; (4) a Risk Premium model; and (5) a Capital Asset Pricing Model ("CAPM"). I have applied these models to a group of publicly traded utilities that I have determined share investment risk similar to PacifiCorp's.

Risk Proxy Group

Q. HOW DID YOU SELECT A UTILITY PROXY GROUP SIMILAR IN INVESTMENT RISK TO PACIFICORP TO ESTIMATE ITS CURRENT MARKET COST OF EQUITY?

A. I relied on the same utility proxy group used by PacifiCorp's witness Dr. Hadaway to estimate PacifiCorp's ROE. However, I excluded TECO Energy Inc. because it announced its acquisition of New Mexico Gas on May 28, 2013.

Q. PLEASE DESCRIBE WHY YOU BELIEVE YOUR PROXY GROUP IS REASONABLY COMPARABLE IN INVESTMENT RISK TO PACIFICORP.

A. The proxy group is shown in Exhibit No.___(MPG-5). This proxy group has an average corporate credit rating from S&P of "BBB+," which is similar to S&P's corporate credit rating for PacifiCorp of "A-." The proxy group's corporate credit rating from Moody's of "Baa1" is identical to PacifiCorp's corporate credit rating from Moody's. The comparable bond rating indicates that the proxy group has reasonably comparable investment risk to PacifiCorp.

The proxy group has an average common equity ratio of 47.6% (including short-term debt) from SNL Financial ("SNL") and 51.3% (excluding short-term debt) from *The Value Line Investment Survey* ("*Value Line*") in 2012. The proxy group's common equity ratio is comparable to my proposed common equity ratio of 49.1%.

I also compared PacifiCorp's business risk to the business risk of the proxy group based on S&P's ranking methodology. PacifiCorp has an S&P business risk profile of "Excellent," which is identical to the S&P business risk profile of the proxy

group. The S&P business risk profile score indicates that PacifiCorp's business risk is comparable to that of the proxy group.[13/]

Based on these proxy group selection criteria, I believe that my proxy group reasonably approximates the investment risk of PacifiCorp, and can be used to estimate a fair ROE for PacifiCorp.

Discounted Cash Flow Model

Q. PLEASE DESCRIBE THE DCF MODEL.

A. The DCF model posits that a stock price is valued by summing the present value of expected future cash flows discounted at the investor's required rate of return or cost of capital. This model is expressed mathematically as follows:

$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \ldots . \frac{D_\infty}{(1+K)^\infty} \quad \text{where} \qquad \text{(Equation 1)}$$

P_0 = Current stock price
D = Dividends in periods 1 - ∞
K = Investor's required return

This model can be rearranged in order to estimate the discount rate or investor-required return, "K." If it is reasonable to assume that earnings and dividends will grow at a constant rate, then Equation 1 can be rearranged as follows:

[13/] S&P ranks the business risk of a utility company as part of its corporate credit rating review. S&P considers total investment risk in assigning bond ratings to issuers, including utility companies. In analyzing total investment risk, S&P considers both the business risk and the financial risk of a corporate entity, including a utility company. S&P's business risk profile score is based on a six-notch credit rating starting with "Vulnerable" (highest risk) to "Excellent" (lowest risk). The business risk of most utility companies falls within the lowest risk category, "Excellent," or the category one notch lower (more risk), "Strong." *Standard & Poor's RatingsDirect:* "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

$$K = D_1/P_0 + G \qquad \text{(Equation 2)}$$

K = Investor's required return
D_1 = Dividend in first year
P_0 = Current stock price
G = Expected constant dividend growth rate

Equation 2 is referred to as the annual "constant growth" DCF model.

Q. PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.

A. As shown in Equation 2 above, the DCF model requires a current stock price, expected dividend, and expected growth rate in dividends.

Q. WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH DCF MODEL?

A. I relied on the average of the weekly high and low stock prices of the utilities in the proxy group over a 13-week period ending on June 7, 2013. An average stock price is less susceptible to market price variations than a spot price. Therefore, an average stock price is less susceptible to aberrant market price movements, which may not be reflective of the stock's long-term value.

A 13-week average stock price reflects a period that is still short enough to contain data that reasonably reflect current market expectations, but the period is not so short as to be susceptible to market price variations that may not reflect the stock's long-term value. In my judgment, a 13-week average stock price is a reasonable balance between the need to reflect current market expectations and the need to capture sufficient data to smooth out aberrant market movements.

Q. WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?

A. I used the most recently paid quarterly dividend, as reported in *Value Line*.[14/] This dividend was annualized (multiplied by 4) and adjusted for next year's growth to produce the D_1 factor for use in Equation 2 above.

Q. WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A. There are several methods that can be used to estimate the expected growth in dividends. However, regardless of the method, for purposes of determining the market-required return on common equity, one must attempt to estimate investors' consensus about what the dividend or earnings growth rate will be, and not what an individual investor or analyst may use to make individual investment decisions.

As predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.[15/] That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence observable stock prices than growth rates derived only from historical data.

For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional security analysts' earnings growth estimates as a proxy for investor consensus dividend growth rate expectations. I used the average of analysts' growth rate estimates from three sources: Zacks, SNL, and Reuters. All such projections were available on June 7, 2013, and all were reported online.

14/ *The Value Line Investment Survey*, March 22, May 3, and May 24, 2013.

15/ *See, e.g.*, David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

Each consensus growth rate projection is based on a survey of security analysts. There is no clear evidence whether a particular analyst is most influential on general market investors. Therefore, a single analyst's projection does not as reliably predict consensus investor outlooks as does a consensus of market analysts' projections. The consensus estimate is a simple arithmetic average, or mean, of surveyed analysts' earnings growth forecasts. A simple average of the growth forecasts gives equal weight to all surveyed analysts' projections. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations.

Q. WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A. The growth rates I used in my DCF analysis are shown in Exhibit No.___(MPG-6). The average growth rate for my proxy group is 5.27%.

Q. WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?

A. As shown in Exhibit No.___(MPG-7), the average and median constant growth DCF returns for my proxy group are 9.21% and 9.33%, respectively.

Q. DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

A. Yes. The three- to five-year growth rates are above the sustainable long-term growth rate, as required by the constant growth DCF model. Therefore, I believe my constant growth DCF analysis, using consensus analysts' growth projections produces overstated results. Therefore, I have developed additional DCF studies to enhance the information available to accurately estimate PacifiCorp's current market cost of common equity.

Sustainable Growth DCF

Q. PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE LONG-TERM GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.

A. A sustainable growth rate is based on the percentage of the utility's earnings that is retained and reinvested in utility plant and equipment. These reinvested earnings increase the earnings base (rate base). Earnings grow when plant funded by reinvested earnings is put into service, and the utility is allowed to earn its authorized return on such additional rate base investment.

The internal growth methodology is tied to the percentage of earnings retained in the company and not paid out as dividends. The earnings retention ratio is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings retention ratio increases. An increased earnings retention ratio will fuel stronger growth because the business funds more investments with retained earnings. The payout ratios of the proxy group are shown in my Exhibit No.___(MPG-8). These dividend payout ratios and earnings retention ratios then can be used to develop a sustainable long-term earnings retention growth rate. A sustainable long-term earnings retention ratio will help gauge whether analysts' current three- to five-year growth rate projections can be sustained over an indefinite period of time.

The data used to estimate the long-term sustainable growth rate is based on the Company's current market to book ratio and on *Value Line's* three- to five-year projections of earnings, dividends, earned returns on book equity, and stock issuances.

As shown in Exhibit No.___(MPG-9), page 1, the average sustainable growth rate for the proxy group using this internal growth rate model is 4.48%.

Q. WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM GROWTH RATES?

A. A DCF estimate based on these sustainable growth rates is developed in Exhibit No.___(MPG-10). As shown there, a sustainable growth DCF analysis produces proxy group average and median DCF results of 8.38% and 8.35%, respectively.

Multi-Stage Growth DCF Model

Q. HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

A. Yes. My first constant growth DCF is based on consensus analysts' growth rate projections, so it is a reasonable reflection of rational investment expectations over the next three to five years. The limitation on the constant growth DCF model is that it cannot reflect a rational expectation that a period of high/low short-term growth can be followed by a change in growth to a rate that is more reflective of long-term sustainable growth. Hence, I performed a multi-stage growth DCF analysis to reflect this outlook of changing growth expectations.

Q. WHEN DO YOU BELIEVE SHORT-TERM GROWTH RATES CHANGE OVER TIME?

A. Analyst projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies typically go through cycles in making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which accelerates their earnings growth. Once a major construction cycle is completed or levels off, growth in the utility rate base slows, and its earnings slow from an abnormally high three- to five-year growth rate period to a lower sustainable growth rate.

As major construction cycles extend over longer periods of time, even with an accelerated construction program, the growth rate of the utility will slow simply because it is adding to a larger rate base, and the utility has limited human and capital resources available to expand its construction program. Hence, the three- to five-year growth rate projection should be used as a long-term sustainable growth rate but not without making a reasonable informed judgment to determine whether it considers the current market environment, the industry, and whether the three- to five-year growth outlook is sustainable.

Q. IS THE USE OF A MULTI-STAGE DCF MODEL SUPPORTED IN ACADEMIC AND INDUSTRY LITERATURE?

A. Yes. In his book *New Regulatory Finance*, Dr. Roger Morin states the following:

> Dividends need not be, and probably are not, constant from period to period. Moreover, there are circumstances where the standard DCF model cannot be used to assess investor return requirements. For example, if a utility company is in the process of altering its dividend payout policy and dividends are not expected to grow at the same rate as earnings during the transition period, the standard DCF model is inapplicable. This is because the expected growth in stock price has to be different from that of dividends, earnings, and book value if the market price is to converge toward book value.
>
> * * *
>
> A Non-Constant Growth DCF model is appropriate whenever the growth rate is expected to change, and the only way to produce a change in the forecast payout ratio is by introducing an intermediate growth rate that is different from the long-term growth rate, as in the previous example.[16/]

Q. PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

A. The multi-stage growth DCF model reflects the possibility of non-constant growth for a company over time. The multi-stage growth DCF model reflects three growth

[16/] *New Regulatory Finance*, Roger A. Morin, PhD, 2006 Public Utilities Reports, Inc., Vienna, Virginia, pp. 264 and 267.

periods: (1) a short-term growth period, which consists of the first five years; (2) a transition period, which consists of the next five years (6 through 10); and (3) a long-term growth period, starting in year 11 through perpetuity.

For the short-term growth period, I relied on the consensus analysts' growth projections described above in relationship to my constant growth DCF model. For the transition period, the growth rates were reduced or increased by an equal factor, which reflects the difference between the analysts' growth rates and the United States Gross Domestic Product ("U.S. GDP") growth rate. For the long-term growth period, I assumed each company's growth would converge to the maximum sustainable growth rate for a utility company as proxied by the consensus analysts' projected growth for the U.S. GDP of 4.9%.

Q. WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE MAXIMUM SUSTAINABLE GROWTH RATE FOR A UTILITY?

A. Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the overall economy. Utilities' earnings/dividend growth is created by increased utility investment or rate base. Such investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth, and sales growth, in turn, is tied to economic growth in their service areas. The Energy Information Administration ("EIA") has observed that utility sales growth is less than U.S. GDP growth, as shown in Exhibit No.___(MPG-11). Utility sales growth has lagged behind GDP growth for more than a decade. As a result, nominal GDP growth is a very conservative, albeit overstated, proxy for electric utility sales growth, rate base growth, and earnings growth.

Therefore, GDP growth is a conservative proxy for the highest sustainable long-term growth rate of a utility.

Q. IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?

A. Yes. This concept is supported in both published analyst literature and academic work. Specifically, in a textbook entitled "Fundamentals of Financial Management," published by Eugene Brigham and Joel F. Houston, the authors state as follows:

> The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[17/]

Q. HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH RATE THAT REFLECTS THE CONSENSUS OF THE MARKET?

A. I relied on the consensus analysts' projections of long-term GDP growth. *The Blue Chip Financial Forecasts* publishes consensus economists' GDP growth projections twice a year. These consensus analysts' GDP growth outlooks are the best available measure of the market's assessment of long-term GDP growth. These analyst projections reflect all current outlooks for GDP, as reflected in analyst projections, and are likely the most influential on investors' expectations of future growth outlooks. The consensus economists' published GDP growth rate outlook is 5.0% to 4.8% over the next 10 years.[18/]

Therefore, I propose to use the consensus economists' projected 5- and 10-year average GDP consensus growth rates of 5.0% and 4.8%, respectively, as published by

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17/ *Fundamentals of Financial Management*, Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298.

18/ *Blue Chip Financial Forecasts*, June 1, 2013 at 14.

Blue Chip Financial Forecasts, as an estimate of long-term sustainable growth. *Blue Chip Financial Forecasts'* projections provide real GDP growth projections of 2.8% and 2.5%, and GDP inflation of 2.1% and 2.2%[19/] over the 5-year and 10-year projection periods, respectively. This consensus GDP growth forecast represents the most likely views of market participants because it is based on published consensus economist projections.

Q. DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP GROWTH?

A. Yes, and these sources corroborate my consensus analysts' projections. The U.S. EIA in its *Annual Energy Outlook* projects real GDP out until 2040. In its *2013 Annual Report*, the EIA projects real GDP through 2040 to be in the range of 2.0% to 2.9%, with a midpoint or reference case of 2.5%.[20/]

Also, the Congressional Budget Office ("CBO") makes long-term economic projections. The CBO is projecting real GDP growth of 2.6% to 2.2% during the next 5 and 10 years, respectively, with GDP price inflation of 2.0%.[21/] The CBO's real GDP projections are higher than the consensus, but its GDP inflation is lower than the consensus economists.

The real GDP and nominal GDP growth projections made by the U.S. EIA and those made by the CBO support the use of the consensus analyst 5-year and 10-year projected GDP growth outlooks as a reasonable market assessment of long-term prospective GDP growth.

19/ GDP growth is the product of real and inflation GDP growth.
20/ *DOE/EIA Annual Energy Outlook 2013 With Projections to 2040*, April 2013 at 56.
21/ *CBO: The Budget and Economic Outlook: Fiscal Years 2013 to 2023*, February 2013 at 64.

Q. WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR MULTI-STAGE GROWTH DCF ANALYSIS?

A. I relied on the same 13-week stock price and the most recent quarterly dividend payment data discussed above. For stage one growth, I used the consensus analysts' growth rate projections discussed above in my constant growth DCF model. The transition period begins in year 6 and ends in year 10. For the long-term sustainable growth rate starting in year 11, I used 4.9%, the average of the consensus economists' 5-year and 10-year projected nominal GDP growth rates.

Q. WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF MODEL?

A. As shown in Exhibit No.___(MPG-12), the average and median DCF returns on equity for my proxy group are 8.91% and 8.88%, respectively.

Q. PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

A. The results from my DCF analyses are summarized in Table 4 below:

TABLE 4

Summary of DCF Results

Description	Proxy Average
Constant Growth DCF Model (Analysts' Growth)	9.21%
Constant Growth DCF Model (Sustainable Growth)	8.38%
Multi-Stage Growth DCF Model	8.91%

I conclude that a reasonable DCF return for PacifiCorp in this case is conservatively 9.10%. This return estimate largely reflects my constant growth and multi-stage DCF analyses.

Risk Premium Model

Q. PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

A. This model is based on the principle that investors require a higher return to assume greater risk. Common equity investments have greater risk than bonds because bonds have more security of payment in bankruptcy proceedings than common equity and the coupon payments on bonds represent contractual obligations. In contrast, companies are not required to pay dividends or guarantee returns on common equity investments. Therefore, common equity securities are considered to be more risky than bond securities.

This risk premium model is based on two estimates of an equity risk premium. First, I estimated the difference between the required return on utility common equity investments and U.S. Treasury bonds. The difference between the required return on common equity and the Treasury bond yield is the risk premium. I estimated the risk premium on an annual basis for each year over the period 1986 through 2012. The common equity required returns were based on regulatory commission-authorized returns for electric utility companies. Authorized returns are typically based on expert witnesses' estimates of the contemporary investor-required return.

The second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary "A" rated utility bond yields. I selected the period 1986 through 2012 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Exhibit No.___(MPG-13), which shows that the market to book ratio since 1986 for the electric utility industry was consistently above 1.0. Over this

period, regulatory authorized returns were sufficient to support market prices that at least exceeded book value. This is an indication that regulatory authorized returns on common equity supported a utility's ability to issue additional common stock without diluting existing shares. It further demonstrates that utilities were able to access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Exhibit No.___(MPG-14), the average indicated equity risk premium over U.S. Treasury bond yields has been 5.30%. Of the 27 observations, 21 indicated risk premiums fall in the range of 4.41% to 6.18%. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current return on common equity using this methodology.

As shown in Exhibit No.___(MPG-15), the average indicated equity risk premium over contemporary Moody's utility bond yields was 3.89% over the period 1986 through 2012. The indicated equity risk premium estimates based on this analysis primarily fall in the range of 3.03% to 4.88% over this time period.

Q. DO YOU BELIEVE THAT THESE EQUITY RISK PREMIUM ESTIMATES ARE BASED ON A TIME PERIOD THAT IS TOO LONG OR TOO SHORT TO DRAW ACCURATE CONCLUSIONS CONCERNING CONTEMPORARY MARKET CONDITIONS?

A. No. Contemporary market conditions can change dramatically during the period that rates determined in this proceeding will be in effect. A relatively long period of time where stock valuations reflect premiums to book value is an indication that the authorized returns on equity and the corresponding equity risk premiums were supportive of investors' return expectations and provided utilities access to the equity

markets under reasonable terms and conditions. Further, this time period is long enough to smooth abnormal market movement that might distort equity risk premiums. While market conditions and risk premiums do vary over time, this historical time period is a reasonable period to estimate contemporary risk premiums.

The time period I use in this risk premium study is a generally accepted period to develop a risk premium study using "expectational" data. Conversely, studies have recommended that use of "actual achieved return data" should be based on very long historical time periods. The studies find that achieved returns over short time periods may not reflect investors' expected returns due to unexpected and abnormal stock price performance. However, these short-term abnormal actual returns would be smoothed over time and the achieved actual returns over long time periods would approximate investors' expected returns. Therefore, it is reasonable to assume that averages of annual achieved returns over long time periods will generally converge on the investors' expected returns.

My risk premium study is based on expectational data, not actual returns, and, thus, need not encompass very long time periods.

Q. BASED ON HISTORICAL DATA, WHAT RISK PREMIUM HAVE YOU USED TO ESTIMATE PACIFICORP'S COST OF COMMON EQUITY IN THIS PROCEEDING?

A. The equity risk premium should reflect the relative market perception of risk in the utility industry today. I have gauged investor perceptions in utility risk today in Exhibit No.___(MPG-16). On that schedule, I show the yield spread between utility bonds and Treasury bonds over the last 33 years. As shown in this schedule, the 2011 utility bond yield spreads over Treasury bonds for "A" rated and "Baa" rated utility

bonds are 1.13% and 1.65%, respectively. The utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility bonds for 2012 are 1.21% and 1.91%, respectively. The current average "A" and "Baa" rated utility bond yield spreads over Treasury bond yields are now lower than the 33-year average spreads of 1.56% and 1.98%, respectively.

A current 13-week average "A" rated utility bond yield of 4.14%, when compared to the current Treasury bond yield of 3.08% as shown in Exhibit No.___(MPG-17), page 1 implies a yield spread of around 1.00%. This current utility bond yield spread is lower than the 33-year average spread for "A" utility bonds of 1.56%. Similarly, the current spread for the "Baa" utility yields of 1.55% is lower than the 33-year average spread of 1.98%.

These utility bond yield spreads are clear evidence that the market considers the utility industry to be a relatively low-risk investment and demonstrates that utilities continue to have strong access to capital.

Q. HOW DID YOU ESTIMATE PACIFICORP'S COST OF COMMON EQUITY WITH THIS RISK PREMIUM MODEL?

A. I added a projected long-term Treasury bond yield to my estimated equity risk premium over Treasury yields. The 13-week average 30-year Treasury bond yield, ending June 7, 2013 was 3.08%, as shown in Exhibit No.___(MPG-17), page 1. *Blue Chip Financial Forecasts* projects the 30-year Treasury bond yield to be 3.70%, and a 10-year Treasury bond yield to be 2.50%.[22/] Using the projected 30-year bond yield of 3.70%, and a Treasury bond risk premium of 4.41% to 6.18%, as developed above, produces an estimated common equity return in the range of 8.11% (3.70% + 4.41%)

[22/] *Blue Chip Financial Forecasts*, June 1, 2013 at 2.

to 9.88% (3.70% + 6.18%). Based on the large risk premium in the market yield spreads, I recommend giving 75% weight to my high-end risk premium and 25% weight to my low risk premium estimate. This produces an equity risk premium estimate of 9.44%.[23/] I believe this is appropriate given the unusually large yield spreads between Treasury bond and utility bond yields.

I next added my equity risk premium over utility bond yields to a current 13-week average yield on "Baa" rated utility bonds for the period ending June 7, 2013 of 4.63%. Adding the utility equity risk premium of 3.03% to 4.88%, as developed above, to a "Baa" rated bond yield of 4.63%, produces a cost of equity in the range of 7.66% (4.63% + 3.03%) to 9.51% (4.63% + 4.88%). Again, recognizing the unusually wide Treasury to utility bond yield spreads, I recommend a risk premium return on equity of 9.05%.[24/]

My risk premium analyses produce a return estimate in the range of 9.05% to 9.44%, with a midpoint of 9.25%.

Capital Asset Pricing Model ("CAPM")

Q. PLEASE DESCRIBE THE CAPM.

A. The CAPM method of analysis is based upon the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:

[23/] 75% x 9.88% + 25% x 8.11% = 9.44%.
[24/] 75% x 9.51% + 25% x 7.66% = 9.05%.

$R_i = R_f + B_i \times (R_m - R_f)$ where:

R_i = Required return for stock i
R_f = Risk-free rate
R_m = Expected return for the market portfolio
B_i = Beta - Measure of the risk for stock

The stock-specific risk term in the above equation is beta. Beta represents the investment risk that cannot be diversified away when the security is held in a diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks can be eliminated by balancing the portfolio with securities that react in the opposite direction to firm-specific risk factors (e.g., business cycle, competition, product mix, and production limitations).

The risks that cannot be eliminated when held in a diversified portfolio are non-diversifiable risks. Non-diversifiable risks are related to the market in general and are referred to as systematic risks. Risks that can be eliminated by diversification are regarded as non-systematic risks. In a broad sense, systematic risks are market risks, and non-systematic risks are business risks. The CAPM theory suggests that the market will not compensate investors for assuming risks that can be diversified away. Therefore, the only risk that investors will be compensated for are systematic or non-diversifiable risks. The beta is a measure of the systematic or non-diversifiable risks.

Q. PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.

A. The CAPM requires an estimate of the market risk-free rate, the company's beta, and the market risk premium.

Q. WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?

A. As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield is 3.70%.[25/] The current 30-year Treasury bond yield is 3.08%, as shown in Exhibit No.___(MPG-17), page 1. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 3.70% for my CAPM analysis.

Q. WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE OF THE RISK-FREE RATE?

A. Treasury securities are backed by the full faith and credit of the United States government, so long-term Treasury bonds are considered to have negligible credit risk. Also, long-term Treasury bonds have an investment horizon similar to that of common stock. As a result, investor-anticipated long-run inflation expectations are reflected in both common-stock required returns and long-term bond yields. Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate) included in a long-term bond yield is a reasonable estimate of the nominal risk-free rate included in common stock returns.

Treasury bond yields, however, do include risk premiums related to unanticipated future inflation and interest rates. A Treasury bond yield is not a risk-free rate. Risk premiums related to unanticipated inflation and interest rates are systematic or market risks. Consequently, for companies with betas less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated estimate of the CAPM return.

[25/] *Blue Chip Financial Forecasts*, June 1, 2013 at 2.

Q. WHAT BETA DID YOU USE IN YOUR ANALYSIS?

A. As shown in Exhibit No.___(MPG-18), the proxy group average *Value Line* beta estimate is 0.71.

Q. HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?

A. I derived two market risk premium estimates, a forward-looking estimate and one based on a long-term historical average.

The forward-looking estimate was derived by estimating the expected return on the market (as represented by the S&P 500) and subtracting the risk-free rate from this estimate. I estimated the expected return on the S&P 500 by adding an expected inflation rate to the long-term historical arithmetic average real return on the market. The real return on the market represents the achieved return above the rate of inflation.

Morningstar's *Stocks, Bonds, Bills and Inflation 2013 Classic Yearbook* estimates the historical arithmetic average real market return over the period 1926 to 2012 as 8.7%.[26/] A current consensus analysts' inflation projection, as measured by the Consumer Price Index, is 2.3%.[27/] Using these estimates, the expected market return is 11.20%.[28/] The market risk premium then is the difference between the 11.20% expected market return, and my 3.70% risk-free rate estimate, or approximately 7.50%.

The historical estimate of the market risk premium was also estimated by Morningstar in *Stocks, Bonds, Bills and Inflation 2013 Classic Yearbook*. Over the period 1926 through 2012, Morningstar's study estimated that the arithmetic average

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26/ *Morningstar, Inc., Ibbotson SBBI 2013 Classic Yearbook*; Market Results for Stocks, Bonds, Bills, and Inflation 1926-2012 at 88.

27/ *Blue Chip Financial Forecasts*, June 1, 2013 at 2.

28/ { [(1 + 0.087) ∗ (1 + 0.023)] – 1 } ∗ 100.

of the achieved total return on the S&P 500 was 11.8%,[29/] and the total return on long-term Treasury bonds was 6.1%.[30/] The indicated market risk premium is 5.7% (11.8% - 6.1% = 5.7%). The average of my market risk premium estimates is 6.6% (7.5% to 5.7%).

Q. HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO THAT ESTIMATED BY MORNINGSTAR?

A. Morningstar's analysis indicates that a market risk premium falls somewhere in the range of 6.0% to 6.7%. My market risk premium falls in the range of 5.7% to 7.5%. My average market risk premium of 6.6% is at the high end of Morningstar's range.

Morningstar estimates a forward-looking market risk premium based on actual achieved data from the historical period of 1926 through 2012. Using this data, Morningstar estimates a market risk premium derived from the total return on large company stocks (S&P 500), less the income return on Treasury bonds. The total return includes capital appreciation, dividend or coupon reinvestment returns, and annual yields received from coupons and/or dividend payments. The income return, in contrast, only reflects the income return received from dividend payments or coupon yields. Morningstar argues that the income return is the only true risk-free rate associated with Treasury bonds and is the best approximation of a truly risk-free rate.[31/] I disagree with this assessment from Morningstar, because it does not reflect a true investment option available to the marketplace and therefore does not produce a legitimate estimate of the expected premium of investing in the stock market versus

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29/ *Morningstar, Inc. Ibbotson SBBI 2013 Classic Yearbook* at 87.

30/ *Id*.

31/ *Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook: Market Results for Stocks, Bonds, Bills, and Inflation 1926-2012* at 55.

that of Treasury bonds. Nevertheless, I will use Morningstar's conclusion to show the reasonableness of my market risk premium estimates.

Morningstar's range is based on several methodologies. First, Morningstar estimates a market risk premium of 6.7% based on the difference between the total market return on common stocks (S&P 500) less the income return on Treasury bond investments. Second, Morningstar found that if the New York Stock Exchange (the "NYSE") was used as the market index rather than the S&P 500, that the market risk premium would be 6.5%, not 6.7%. Third, if only the two deciles of the largest companies included in the NYSE were considered, the market risk premium would be 6.0%.[32/]

Finally, Morningstar found that the 6.7% market risk premium based on the S&P 500 was influenced by an abnormal expansion of price-to-earnings ("P/E") ratios relative to earnings and dividend growth during the period 1980 through 2001. Morningstar believes this abnormal P/E expansion is not sustainable.[33/] Therefore, Morningstar adjusted this market risk premium estimate to normalize the growth in the P/E ratio to be more in line with the growth in dividends and earnings. Based on this alternative methodology, Morningstar published a long-horizon supply-side market risk premium of 6.0%.[34/]

32/ Morningstar observes that the S&P 500 and the NYSE Decile 1-2 are both large capitalization benchmarks. *Id.* at 54.

33/ *Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook: Market Results for Stocks, Bonds, Bills, and Inflation 1926-2012* at 54.

34/ *Id*.

Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A. As shown in Exhibit No.___(MPG-19), based on Morningstar's market risk premium of 6.7%, a risk-free rate of 3.70%, and a beta of 0.71, my CAPM analysis produces a return of 8.47% (rounded to 8.50%.)

ROE Summary

Q. BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO YOU RECOMMEND FOR PACIFICORP?

A. Based on my analyses, I estimate PacifiCorp's current market cost of equity to be 9.20%.

TABLE 5

Return on Common Equity Summary

Description	Results
DCF	9.10%
Risk Premium	9.25%
CAPM	8.50%

My recommended return on common equity is 9.20%. My recommended ROE is in the range of 9.10% to 9.25% and is supported by the results of my DCF studies and my risk premium studies. I am placing minimal weight on the results of my CAPM study because of my concerns about the risk-free rate and market risk premium outlined in this study.

Financial Integrity

Q. WILL YOUR RECOMMENDED OVERALL ROR SUPPORT AN INVESTMENT GRADE BOND RATING FOR PACIFICORP?

A. Yes. I have reached this conclusion by comparing the key credit rating financial ratios for PacifiCorp, at my proposed ROE and capital structure, to S&P's benchmark financial ratios using S&P's new credit metric ranges.

Q. PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT METRIC METHODOLOGY.

A. S&P publishes a matrix of financial ratios that correspond to its assessment of the business risk of the utility company and related bond rating. On May 27, 2009, S&P expanded its matrix criteria[35/] by including additional business and financial risk categories. Based on S&P's most recent credit matrix, the business risk profile categories are "Excellent," "Strong," "Satisfactory," "Fair," "Weak," and "Vulnerable." Most electric utilities have a business risk profile of "Excellent" or "Strong." The financial risk profile categories are "Minimal," "Modest," "Intermediate," "Significant," "Aggressive," and "Highly Leveraged." Most of the electric utilities have a financial risk profile of "Aggressive." PacifiCorp has an "Excellent" business risk profile and a "Significant" financial risk profile.

Q. PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK RATIOS IN ITS CREDIT RATING REVIEW.

A. S&P evaluates a utility's credit rating based on an assessment of its financial and business risks. A combination of financial and business risks equates to the overall assessment of PacifiCorp's total credit risk exposure. S&P publishes a matrix of

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35/ S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

financial ratios that defines the level of financial risk as a function of the level of business risk.

S&P publishes ranges for three primary financial ratios that it uses as guidance in its credit review for utility companies. The three primary financial ratio benchmarks it relies on in its credit rating process include: (1) Total Debt to Total Capital; (2) Debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA"); and (3) Funds From Operations ("FFO") to Total Debt.[36/]

Q. HOW DID YOU APPLY S&P'S FINANCIAL RATIOS TO TEST THE REASONABLENESS OF YOUR ROR RECOMMENDATIONS?

A. I calculated each of S&P's financial ratios based on PacifiCorp's cost of service for its Washington jurisdictional electric operations. While S&P would normally look at total consolidated PacifiCorp financial ratios in its credit review process, my investigation in this proceeding is not the same as S&P's. I am attempting to judge the reasonableness of my proposed cost of capital for rate-setting in PacifiCorp's Washington regulated utility operations. Hence, I am attempting to determine whether my proposed ROR will in turn support cash flow metrics, balance sheet strength, and earnings that will support an investment grade bond rating and PacifiCorp's financial integrity.

Q. DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT ("OBSD")?

A. Yes. As shown in Exhibit No.___(MPG-20), page 4, I estimated OBSD equivalents of $275.8 million attributed to PacifiCorp's operating leases and purchased power agreements ("PPA") as available online from Standard & Poor's RatingsDirect. S&P includes other off-balance sheet debt adjustments which I did not include in my

36/ *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

analysis. S&P's inclusion of intermediate hybrids,[37/] post-retirement benefits, and accrued interest not reported on the Company's debt and asset retirement obligations, were not included in my analysis. Each of these factors are either reflected in PacifiCorp's cost of service, or I could not find evidence that they relate to regulated utility operations. As such, I did not include them in the metrics to judge the reasonableness of my ROR for retail operations in Washington in this proceeding.

Q. PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS FOR PACIFICORP.

A. The S&P financial metric calculations for PacifiCorp at a 9.20% return are developed on Exhibit No.___(MPG-20), page 1.

PacifiCorp's adjusted total debt ratio is approximately 52%. This is at the low end of the "Aggressive" utility guideline range of 50% to 60%. This total debt ratio will support an investment grade bond rating.

As shown in Exhibit No.___(MPG-20), page 1, column 1, based on an equity return of 9.20%, PacifiCorp will be provided an opportunity to produce a debt to EBITDA ratio of 3.2x. This is at the low end of S&P's "Significant" guideline range of 3.0x to 4.0x.[38/] This ratio also supports an investment grade credit rating.

Finally, PacifiCorp's retail operations FFO to total debt coverage at a 9.20% equity return would be 24%, which is within the "Significant" metric guideline range of 20% to 30%. The FFO/total debt ratio will support an investment grade bond rating.

[37/] This was included but not in the OBSD calculation. Refer to Exhibit No.___(MPG-20), page 3, where the 50% of Preferred Stock was included as debt-like instruments.

[38/] *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009 at 4.

At my recommended ROE of 9.20% and proposed capital structure, PacifiCorp's financial credit metrics are supportive of its current "A-" utility bond rating.

III. RESPONSE TO PACIFICORP WITNESS DR. SAMUEL HADAWAY

Q. WHAT RETURN ON COMMON EQUITY IS PACIFICORP PROPOSING FOR THIS PROCEEDING?

A. PacifiCorp is proposing to set rates based on an ROE of 10.0%. PacifiCorp's ROE proposal is based on the analysis and judgment of Dr. Hadaway. Dr. Hadaway's results are summarized at page 30 of his direct testimony.

Q. DO DR. HADAWAY'S METHODOLOGIES SUPPORT HIS 10.0% ROE FOR HIS PROXY GROUP?

A. No. As discussed in detail below, Dr. Hadaway's own analyses would support an ROE in the range of 8.9% to 9.5% if his models are properly applied. These adjustments to Dr. Hadaway's ROE estimates support my recommended ROE.

Q. PLEASE DESCRIBE THE METHODOLOGY USED BY DR. HADAWAY TO SUPPORT HIS RETURN ON COMMON EQUITY RECOMMENDATION.

A. Dr. Hadaway develops his return on common equity recommendation using three versions of the DCF model, and two utility risk premium analyses. He also applied a CAPM analysis but he did not include these results in his proposed ROE. I have summarized Dr. Hadaway's results in Table 6 under column 1. Under column 2, I show the results of Dr. Hadaway's analyses adjusted for updated data and more reasonable application of the models.

As shown in Table 6, using consensus economists' projection of GDP growth rather than Dr. Hadaway's inflated GDP growth estimates, his own DCF analyses would support an ROE for PacifiCorp in the range of 9.1% to 9.5%.

TABLE 6

Summary of Dr. Hadaway's ROE Estimate

Description	Hadaway Results[1] (1)	Adjusted Hadaway Results[2] (2)
DCF Analysis		
Constant Growth (Analysts' Growth)	9.4% - 9.5%	9.4% - 9.5%
Constant Growth (GDP Growth)	9.9% - 10.0%	9.1% - 9.2%
Multi-Stage Growth Model	9.8% - 9.9%	9.1% - 9.2%
Indicated DCF Range	9.4% - 10.0%	9.1% - 9.5%
Risk Premium Analysis		
Forecasted Utility Debt + Equity Risk Premium	9.6%	Reject
Current Utility Debt + Equity Risk Premium	9.3%	8.9%
Risk Premium Estimate	9.5%	8.9%
Recommended ROE	10.0%	
Adjusted ROE Range		8.9% - 9.5%

Sources:
[1] Exhibit No.___(SCH-1T) at 30.
[2] Exhibit No.___(MPG-21).

Proper adjustments to Dr. Hadaway's utility risk premium estimates to reflect the unadjusted equity risk premium would reduce this estimate from 9.5% to 8.9%. Therefore, Dr. Hadaway's ROE estimate with reasonable adjustments will produce an ROE for PacifiCorp in the range of 8.9% to 9.5%. However, a majority of the adjusted results fall in the range of 9.1% to 9.2%, which is consistent with my recommended ROE.

Q. PLEASE DESCRIBE DR. HADAWAY'S CONSTANT GROWTH DCF ANALYSIS.

A. Dr. Hadaway's constant growth DCF analysis is shown in his Exhibit No.___(SCH-7). As shown in that exhibit, Dr. Hadaway's constant growth DCF analysis is based on a

recent stock price, an annualized dividend and an average of three growth rates: (1) *Value Line*; (2) Zacks; and (3) Thomson.

Q. ARE DR. HADAWAY'S DCF ESTIMATES RELIABLE?

A. No. His GDP growth rate used in his constant growth and multi-stage growth models is based on an inflated GDP growth rate of 5.7%. Exhibit No.___(SCH-6). This GDP growth is excessive and not reflective of current market expectations.

Q. HOW DID DR. HADAWAY DEVELOP HIS GDP GROWTH RATE?

A. He states that the GDP growth rate is based on the achieved GDP growth over the last 10, 20, 30, 40, 50, and 60-year periods. Dr. Hadaway's projected GDP growth rate is unreasonable. Historical GDP growth over the last 20- and 40-year periods was strongly influenced by the actual inflation rate experienced over that time period.

Q. WHY IS DR. HADAWAY'S DCF ESTIMATE EXCESSIVE IN COMPARISON TO THAT OF PUBLISHED MARKET ANALYSTS?

A. The consensus economists' projected GDP growth rate is much lower than the GDP growth rate used by Dr. Hadaway in his DCF analysis. A comparison of Dr. Hadaway's GDP growth rate and consensus economists' projected GDP growth over the next five and 10 years is shown in Table 7. As shown in this table, Dr. Hadaway's GDP rate of 5.7% reflects real GDP of 2.6% and an inflation adjusted GDP of 3.0%. However, consensus economists' projections of nominal GDP include GDP inflation projections over the next 5 and 10 years of 2.1% and 2.2%, respectively.[39/]

[39/] *Blue Chip Financial Forecasts*, June 1, 2012 at 14.

As is clearly evident in Table 7, Dr. Hadaway's historical GDP growth reflects historical inflation, which is much higher than, and not representative of, consensus market expected forward-looking inflation.

TABLE 7

GDP Projections

Description	GDP Inflation	Real GDP	Nominal GDP
Dr. Hadaway	3.0%	2.6%	5.7%
Consensus 5-Year Projection	2.1%	2.8%	5.0%
Consensus 10-Year Projection	2.2%	2.5%	4.8%

Source: *Blue Chip Financial Forecasts*, June 1, 2013 at 14.

As such, Dr. Hadaway's 5.7% nominal GDP growth rate is not reflective of consensus market expectations and should be rejected. Indeed, Dr. Hadaway's 5.7% GDP growth rate outlook is inconsistent with the consensus of economists' independent projections of future long-term GDP growth, and also inconsistent with projections made by the U.S. EIA, and CBO as referenced in my testimony above where I describe the parameters used in my own multi-stage growth DCF analyses. Those agencies also project real GDP in line with what Dr. Hadaway and his consensus projections include, however their outlook for future inflation is much lower than Dr. Hadaway, and much more consistent with the consensus independent economists' projections discussed in Table 7 above. For all these reasons, Dr. Hadaway's GDP growth outlook rate projections are simply out of line and out of touch with the consensus market outlooks.

Q. HOW WOULD DR. HADAWAY'S DCF ANALYSES CHANGE IF CURRENT MARKET-BASED GDP GROWTH RATE PROJECTIONS ARE INCLUDED IN HIS ANALYSIS RATHER THAN HIS EXCESSIVE GDP GROWTH RATE?

A. As shown in Exhibit No.___(MPG-21), page 1, I updated Dr. Hadaway's DCF analyses using more recent market data and a GDP growth rate of 4.9%. This GDP growth rate is the consensus economists' 5- and 10-year projected growth rate of the GDP as published in the *Blue Chip Financial Forecasts*. As shown in Exhibit No.___(MPG-21), using this consensus economists' projected GDP growth rate, reduces Dr. Hadaway's long-term constant growth DCF result from 10.0% to 9.2% and his multi-stage growth DCF from 9.8% to 9.1%.

Q. PLEASE SUMMARIZE YOUR ADJUSTMENTS TO DR. HADAWAY'S DCF STUDIES.

A. Using a more reasonable GDP growth rate reduces the average DCF result produced by Dr. Hadaway's studies from 9.8% down to 9.3%. Dr. Hadaway's original estimates and these updated and adjusted results are shown below in Table 8.

TABLE 8

Adjusted Hadaway DCF

Description	Range Average	
	Hadaway DCF	**Adjusted DCF**
Constant Growth (Analysts' Growth)	9.5%	9.5%
Constant Growth (GDP Growth)	10.0%	9.2%
Multi-Stage Growth Model	9.8%	9.1%
Average	9.8%	9.3%

As shown above in Table 8, using a consensus economists' GDP forecast, rather than the GDP forecast derived by Dr. Hadaway, would support an ROE no higher than 9.3%, which is very generous considering the fact that his constant growth DCF

results are based on a growth rate above the sustainable growth rate of the U.S. economy.

Q. PLEASE DESCRIBE DR. HADAWAY'S UTILITY RISK PREMIUM ANALYSIS.

A. Dr. Hadaway's utility bond yield versus authorized return on common equity risk premium is shown in Exhibit No.___(SCH-8). As shown in this exhibit, Dr. Hadaway estimated an annual equity risk premium by subtracting Moody's average bond yield from the electric utility regulatory commission authorized return on common equity over the period 1980 through 2011. Based on this analysis, Dr. Hadaway estimates an average indicated equity risk premium over current utility bond yields of 3.33%.

Dr. Hadaway then adjusts this average equity risk premium using a regression analysis based on an expectation that there is an ongoing inverse relationship between interest rates and equity risk premiums. Based on this regression analysis, Dr. Hadaway increases his equity risk premium from 3.33%, up to 5.15% and 5.37% relative to projected and current "A" bond yield of 4.45% and 3.92%, respectively. He then adds these inflated equity risk premiums to the projected and current "A" rated utility bond yield of 4.45% and 3.92% to produce an ROE of 9.60% and 9.29%, respectively.

Q. ARE DR. HADAWAY'S UTILITY RISK PREMIUM ANALYSES REASONABLE?

A. No. Dr. Hadaway develops a forward-looking risk premium model, relying on forecasted interest rates and volatile utility spreads, which are highly uncertain and produce inaccurate results. Further, Dr. Hadaway's proposal to adjust the actual equity risk premium of 3.33% to reflect the inverse relationship between interest rates and utility risk premiums to 5.15% and 5.37% is unreasonable. This adjustment is

inappropriate and not consistent with academic literature that finds that this relationship should change with risk changes and not simply changes to interest rates.

Q. DO YOU HAVE ANY COMMENTS CONCERNING DR. HADAWAY'S FORECASTED UTILITY BOND YIELD OF 4.45%?

A. Yes. Dr. Hadaway develops his forecasted utility bond yield based on the 3-month historical spread of A-rated utility bond yields and 30-year Treasury yields of 1.06% added to his projected long-term Treasury yield of 3.39%. This approach is unreasonable, because Dr. Hadaway relies on projected interest rates with historical yield spreads. The accuracy of his interest rate projections is highly problematic, and he provides no support for his assumption that yield spreads will stay flat if Treasury yields increase. This yield spread relationship is volatile and uncertain, as are interest rate projections. Indeed, while interest rates have been projected to increase over the last several years, those increased interest rate projections have turned out to be wrong.

Q. WHY DO YOU BELIEVE THAT THE ACCURACY OF FORECASTED INTEREST RATES IS HIGHLY PROBLEMATIC?

A. Over the last several years, observable current interest rates have been a more accurate predictor of future interest rates than economists' consensus projections. Exhibit No.___(MPG-22) illustrates this point. On this exhibit, under Columns 1 and 2, I show the actual market yield at the time a projection is made for Treasury bond yields two years in the future. In Column 1, I show the actual Treasury yield and, in Column 2, I show the projected yield two years out.

As shown in Columns 1 and 2, over the last several years Treasury yields were projected to increase relative to the actual Treasury yields at the time of the projection. In Column 4, I show what the Treasury yield actually turned out to be two years after

the forecast. Under Column 5, I show the actual yield change at the time of the projections relative to the projected yield change.

As shown in this exhibit, over the last several years, economists consistently have been projecting that interest rates will increase. However, as demonstrated under Column 5, those yield projections have turned out to be overstated in virtually every case. Indeed, actual Treasury yields have decreased or remained flat over the last five years, rather than increase as the economists' projections indicated. As such, current observable interest rates are just as likely to predict future interest rates as are economists' projections.

Q. WHY IS DR. HADAWAY'S USE OF A SIMPLE INVERSE RELATIONSHIP BETWEEN INTEREST RATES AND EQUITY RISK PREMIUMS NOT REASONABLE?

A. Dr. Hadaway's belief that there is a simplistic inverse relationship between equity risk premiums and interest rates is not supported by academic research. While academic studies have shown that, in the past, there has been an inverse relationship between these variables, researchers have found that the relationship changes over time and is influenced by changes in perception of the risk of bond investments relative to equity investments, and not simply changes to interest rates.[40/]

In the 1980s, equity risk premiums were inversely related to interest rates, but that was likely attributable to the interest rate volatility that existed at that time. Interest rate volatility currently is much lower than it was in the 1980s.[41/] As such,

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[40/] "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, 2001; "The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985.

[41/] "The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985, at 44.

when interest rates were more volatile, the relative perception of bond investment risk increased relative to the investment risk of equities. This changing investment risk perception caused changes in equity risk premiums.

In today's marketplace, interest rate variability is not as extreme as it was during the 1980s. Nevertheless, changes in the perceived risk of bond investments relative to equity investments still drive changes in equity premiums. However, a relative investment risk differential cannot be measured simply by observing nominal interest rates. Changes in nominal interest rates are highly influenced by changes to inflation outlooks, which also change equity return expectations. As such, the relevant factor needed to explain changes in equity risk premiums is the relative changes to the risk of equity versus debt securities investments, not simply changes to interest rates.

Importantly, Dr. Hadaway's analysis simply ignores investment risk differentials. He bases his adjustment to the equity risk premium exclusively on changes in nominal interest rates. This is a flawed methodology that does not produce accurate or reliable risk premium estimates. His results should be rejected by the Commission.

Q. HOW WILL DR. HADAWAY'S RISK PREMIUM RESULTS CHANGE IF MORE REASONABLE MARKET DATA IS CONSIDERED?

A. Using Dr. Hadaway's projected equity risk premium adjusted for an inverse relationship of 5.15%, relative to the current observable "A" rated utility bond yield of 4.14%, would indicate an ROE of 9.29%. Alternatively, modifying his equity risk premiums to consider yield spreads, rather than simply the inverse relationship between equity risk premiums and interest rates, would also reduce the level of equity risk premium estimated by Dr. Hadaway. Simply observing the highest equity risk

premiums authorized over the last five years would indicate an average equity risk premium of 5.05%. Relying on an equity risk premium of 4.14%, relative to current observable utility bond yields of 5.05%, or Dr. Hadaway's projected "A" rated utility bond yield of 4.45%, would indicate a return on common equity for PacifiCorp in the range of 8.59% to 9.19%, or 8.90%.

Q. DOES THIS CONCLUDE YOUR RESPONSE TESTIMONY?

A. Yes, it does.