Exhibit No.___(MPG-1T)
Docket No. UE-100749
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-100749

RESPONSIVE TESTIMONY OF MICHAEL P. GORMAN

ON BEHALF OF

THE INDUSTRIAL CUSTOMERS OF NORTHWEST UTILITIES

October 5, 2010

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Michael 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 of 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 the Industrial Customers of Northwest Utilities ("ICNU").

Q. WHAT IS THE SUBJECT OF YOUR TESTIMONY?

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

Summary

Q. PLEASE SUMMARIZE YOUR RETURN ON EQUITY RECOMMENDATIONS.

A. Based on my proposed capital structure, I recommend the Washington State Utilities and Transportation Commission (the "Commission") award PacifiCorp a return on common equity of 9.5%, which is the midpoint of my estimated range of 9.1% to 9.9%.

I recommend an overall rate of return of 7.66% for PacifiCorp, as shown on Exhibit No.___(MPG-3) at 1.

I demonstrate that my recommended return on equity 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 return on equity 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 return on equity of 10.6%. For the reasons discussed below, Dr. Hadaway's recommended return on equity for PacifiCorp is excessive and should be rejected.

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

A. I did this by development of a comparable proxy investment group of publicly traded utility companies that have investment risk similar to PacifiCorp. I then performed three versions of the Discounted Cash Flow ("DCF") model, Risk Premium ("RP") study, and Capital Asset Pricing Model ("CAPM") analysis. Based on these assessments, and as discussed in more detail below, I estimate PacifiCorp's current market cost of equity to be 9.5%.

Q. WHAT IS THE REVENUE REQUIREMENT IMPACT OF YOUR RETURN ON EQUITY AND CAPITAL STRUCTURE ADJUSTMENTS?

A. The revenue impact from reducing PacifiCorp's return on equity from 10.6% down to 9.5% and reducing the common equity ratio of the forecasted test year capital structure from 52.1% to 49.1% lowers its claimed Washington jurisdictional revenue deficiency by $9.4 million ($7.2 million is related to return on equity and $2.2 million is related to capital structure).

Rate of Return

Q. PLEASE SUMMARIZE THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony:

1. I will review the current electric utility industry market outlook.

2. I will review the investment risk of PacifiCorp.

3. I will propose a capital structure that will maintain PacifiCorp's financial integrity.

4. I will estimate a fair return on equity for PacifiCorp.

5. I will show that my recommended rate of return will support PacifiCorp's financial integrity and investment grade bond rating.

6. Finally, I will respond to PacifiCorp witness Dr. Samuel C. Hadaway's recommended return on equity of 10.6% and explain why it is excessive and unreasonable.

Electric Utility Industry Market Outlook

Q. PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.

A. I review the credit rating and investment return performance of the electric utility industry. Based on the assessments below, I find the credit rating outlook of the industry to be strong and supportive of the industry's financial integrity. Further, electric utilities' stocks have exhibited strong return performance and are again characterized as a safe investment.

Q. PLEASE DESCRIBE THE ELECTRIC UTILITIES' CREDIT RATING OUTLOOK.

A. Electric utilities' credit rating outlook is improving over the recent past. Standard & Poor's ("S&P") recently provided an assessment of the credit rating of U.S. electric utilities for the second quarter of 2010. S&P's commentary included the following:

> The past three months witnessed several outlook changes, most of which were positive or revisions to stable from negative. The principal drivers for the positive outlooks were constructive rate decisions, overall improving business risk profiles, and stronger measures of bondholder protection.

* * *

The universe of U.S. electric utilities is relatively highly rated, certainly compared with the average 'B' category for U.S. industrial companies. This is due to the large percentage of firms carrying 'excellent' (84%) and 'strong' (13%) business risk profiles. …What typically distinguishes one utility's business profile score from another is the quality of the regulatory climate and management's commitment to credit quality and financial policies. We consider the financial risk profile for most electric companies to be 'aggressive' …

The ratings distribution for electric utilities in the U.S. remains solidly entrenched in investment grade. Approximately 67% of the industry carries a 'BBB' category corporate credit rating ('BBB+', 'BBB', and 'BBB-'), nearly 29% 'A-'and above, and about 4% below investment grade ('BB+' and below). Some 86% of all domestic electric utility companies carry a stable outlook, so the number of rating changes is expected to remain moderate in the near to intermediate term. Ratings stability for the electric sector continues to be based in large part on the following expectations:

- Generally responsive rate orders, including mechanisms or automatic provisions that allow that for the timely recovery of commodity prices, environmental compliance costs, and other expenses;
- Receptive capital markets, access to liquidity, and manageable debt maturity schedules;
- Moderation in growth and expansion capital expenditures; and
- Credit-supportive actions by utility management.[1/]

From an economic standpoint, S&P stated the following:

Effects On Ratings

. . . Regulated electric utilities have been, and are expected to continue, weathering the difficult economy with little lasting effect on the collective financial risk profile of the industry, and we assess ratings and outlooks based on our stable view of industry and company-specific factors. Outlooks and ratings should remain predominantly unchanged, even if industry conditions worsen in the near term, as described in our pessimistic scenario (see table 1). However, if lack of economic growth persists for an extended period, regulatory risk could rise if concerns about the plight of ratepayers leads to resistance to rate increases.

[1/] Standard & Poor's RatingsDirect on the Global Credit Portal: "Ratings Roundup: Strongly Positive Rating Changes In U.S. Electric Utility Sector In Second-Quarter 2010; No Downgrades," July 15, 2010 (emphasis added).

* * *

Solid Industry Fundamentals Support Stable Outlook

Throughout 2009, U.S. electric utilities performed well with continued favorable access to capital compared to most corporate issuers. Despite difficult market conditions last year, external financing activity for the U.S. regulated electric utility industry was about $49.8 billion, roughly matching 2008 activity. Many companies have proactively pre-financed issuance well in advance of their debt maturities, taking advantage of investor appetite and favorable spreads. Investor appetite for first-mortgage bonds remained healthy, and deals remained oversubscribed. Credit fundamentals indicate that most, if not all, electric utilities should continue to have ample access to capital markets and credit. Banking syndicates are also expressing willingness to renegotiate credit facilities, although at more demanding terms than in the previous years.[2/]

Moody's also acknowledges the following for the electric utility industry in its report:

Overview

The fundamental credit outlook for the U.S. investor-owned electric utility sector remains stable, thanks to a supportive regulatory framework that provides good transparency into operating cost and capital investment recovery; adequate liquidity profiles; relatively unfettered access to the capital markets; and reasonably stable financial credit metrics. The investor-owned utility business model remains well positioned within its investment-grade rating category for 2010 and at least the first half of 2011.[3/]

Similarly, Fitch states:

Overview

The U.S. Utilities, Power, and Gas (UPG) sector 2010 outlook is framed in the context of Fitch Ratings' outlook for a slow U.S. economic recovery in 2010, with stable outlooks for most of the business segments within the UPG universe except for negative 2010 credit outlook for competitive generators and retail propane distributors.

[2/] Standard & Poor's RatingsDirect on the Global Credit Portal: "Industry Economic And Ratings Outlook: Slightly Positive Outlook For U.S. Regulated Electric Utilities Supports Rating Stability," February 2, 2010 (emphasis added).

[3/] Moody's Investors Service Industry Outlook: "U.S. Electric Utilities Face Challenges Beyond Near-Term," January 2010 (emphasis added).

* * *

Resilient Performance in 2009

> Companies in the UPG sector weathered the recession and financial crisis of 2008–2009 with considerably less pain than sectors such as financial institutions, cyclical industrials, and retailers. The absence of significant defaults in the sector is in stark contrast to the upswing in defaults and bankruptcy filings across the rest of the U.S. economy, consistent with the defensive reputation of the sector.
>
> In general, companies in the UPG sector entered 2009 in reasonably sound financial condition; some drew down their bank credit facilities during the banking crisis in late 2008 and repaid the loans as the bank and financial markets stabilized during 2009.[4/]

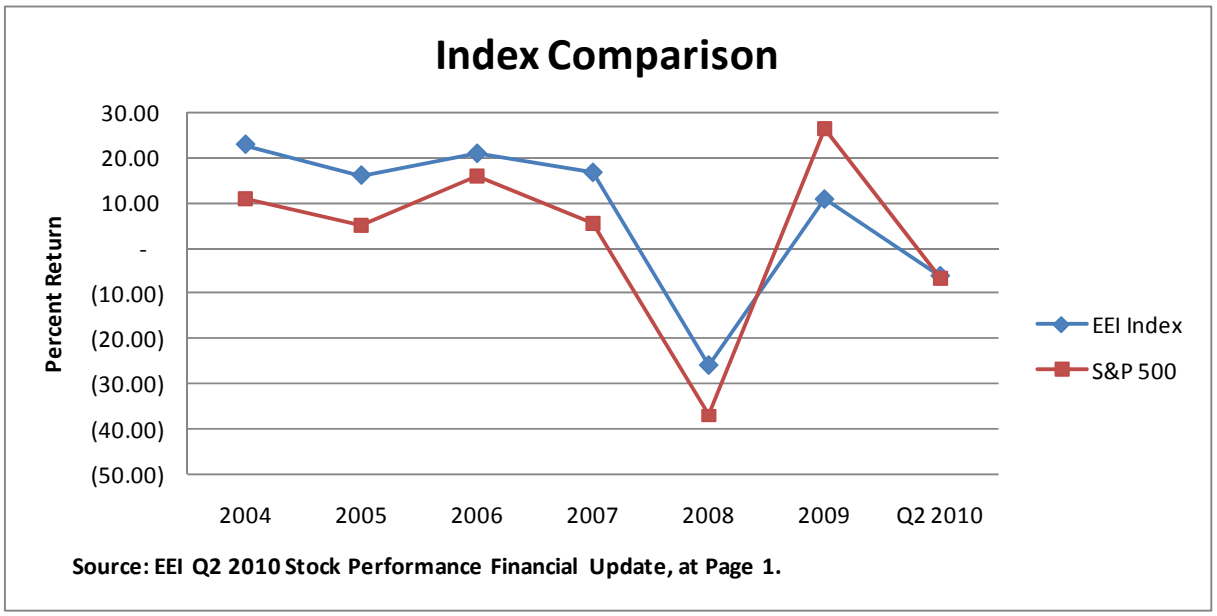
As noted by S&P, Moody's and Fitch above, the regulated electric utility industry is maintaining strong investment grade credit and is well positioned to weather the recent economic downturn. Therefore, reasonable and rational adjustments to PacifiCorp's rates would be appropriate to provide fair compensation, but not excessive compensation, in an effort to improve PacifiCorp's competitive position and support its credit quality.

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

A. As shown in Figure 1 below, the Edison Electric Institute ("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 over the last five years (2004-2008).

[4/] Fitch Ratings: "U.S. Utilities, Power and Gas 2010 Outlook," December 4, 2009.

FIGURE 1



During 2009 and the first half of 2010, the EEI Index underperformed the market, which is not unusual for stocks that are considered "safe havens" during periods of market turbulence. The EEI states the following:

> Given the explosive market rally that began in March, the EEI Index's underperformance of the major averages is not surprising. Defensive stocks typically lag early in market rebounds coming out of recessions, and the EEI Index surpassed broad market returns in each year from 2004 through 2008. Five years is a long stretch of outperformance for any industry but especially so for the traditionally staid and conservative utilities, who spent much of the middle years of the past decade rebuilding balance sheets and refocusing business strategies on basic regulated distribution and generation after the turbulence and missteps into non-core businesses that followed deregulation in the late 1990s.
>
> **Utilities a Winner for the Decade**
>
> Indeed, the industry's return to its roots in the traditional power business proved a winning strategy for long-term growth of shareholder value during the decade that just ended. From January 1, 2000 through December 31, 2009, the EEI Index returned 134%, substantially outperforming the Dow Jones Industrials 14% return, the S&P 500's –9% return, and the Nasdaq's 44% decline. The tech-heavy Nasdaq never fully retraced the ground lost after the tech bubble collapsed in

2001, and the S&P 500 was also heavily weighted with technology at the decade's start, which accounts in part for its negative showing. The financial crisis and "Great Recession" (the popular label for our current economic malaise) capped the ten-year stretch, producing severe losses in financial stocks and a new round of weakness for the Nasdaq. All in all, conservative, plodding utilities were the tortoise that outran the hare, demonstrating that sound regulation, financial stability, operational and service excellence and good investment returns can all coexist, and in fact be mutually reinforcing.

* * *

Fundamentals Remain Solid

While the changed economic landscape since mid-2008 has diminished the industry's near-term earnings prospects, industry analysts continue to believe that many companies offer potential for a return to reasonably strong earnings growth — supported by rate base growth and rate relief from cases decided in recent months — as the economy recovers from recession and enters a new expansion phase.

* * *

In fact, the industry's generally strong balance sheets and credit ratings, and its strategic focus on predictable regulatory treatment (such as pre-approval of major projects and construction work-in-progress rate treatment in several states) were key factors that enable companies to access capital throughout the credit crisis of late 2008/early 2009. The industry's positive long-term fundamental outlook and attractive dividend yields will likely continue to appeal to investors looking for stable investments in today's difficult economic environment. As the year came to an end, a number of analysts remarked on the relative undervaluation of regulated utility stocks relative to the broad market, and suggested that the underperformance in 2009 was unlikely to be sustained.[5/]

PacifiCorp Investment Risk

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF PACIFICORP AND ITS INVESTMENT CHARACTERISTICS.

A. PacifiCorp is owned by MidAmerican Energy Holdings Company ("MEHC"). PacifiCorp's current senior secured bond ratings from S&P and Moody's are "A" and

[5/] *EEI Q4 2009 Financial Update* (emphasis added).

"A2," respectively.[6/] PacifiCorp's corporate credit ratings from S&P and Moody's are "A-" and "Baa1," respectively.[7/]

Specifically, S&P states the following:

> **Rationale**
>
> The 'A-' corporate credit rating (CCR) on PacifiCorp reflects its "excellent" business risk profile, evidenced by a diverse and growing service territory, and "aggressive" financial risk profile that reflects a large capital program and the need to shore up its cash flow metrics. While the ring-fenced utility's credit metrics are more consistent on a stand-alone basis with a 'BBB' category rating, Standard & Poor's Ratings Services expects that management will achieve cash flow metrics more consistent with an 'A' category rating over the next several years. PacifiCorp is owned by MidAmerican Energy Holdings Co. (MEHC; BBB+/Stable/--).
>
> * * *
>
> **Outlook**
>
> The stable outlook on the PacifiCorp ratings incorporates our expectation that MEHC will continue to support the utility by contributing equity sufficient to ensure that our fully adjusted debt to total capitalization is managed over the next few years to an adjusted level of closer to 50% and that FFO to total debt and FFO interest coverage will be 20% or better and in the range of 4.0x-4.5x, respectively. Given that PacifiCorp's financial risk profile is weak for the current ratings, we do not expect near-term upward ratings momentum for the utility. PacifiCorp's regulatory and structural insulation shields the utility from some MEHC credit deterioration, to an extent. Specifically, our criteria provide that the PacifiCorp CCR can be no more than three notches above the MEHC consolidated credit rating. The company is comfortably within this range, so we do not see significant prospects for the utility rating to fall as a result of adverse rating changes on MEHC, which also enjoys a stable outlook.[8/]

6/ WUTC v. PacifiCorp, UTC Docket No. UE-100749, Direct Testimony of Bruce N. Williams, Exhibit No.___(BNW-1T) at 8 (May 4, 2010).

7/ PacifiCorp, FERC Form 3-Q as of June 30, 2010 at 109.9.

8/ Standard & Poor's RatingsDirect Summary: "PacifiCorp," October 30, 2009 (emphasis added).

Similarly, Moody's confirms PacifiCorp's supportive regulatory treatment:

Rating Rationale

PacifiCorp's Baa1 rating for its senior unsecured obligations is driven by the stability of its regulated cash flows, the geographically diverse and relatively constructive regulatory environments in which it operates, the diversification of its generation portfolio, financial credit metrics that are within the ranges demonstrated by U.S. integrated electric utilities rated Baa, and its position as the largest subsidiary of MEHC. The rating also considers PacifiCorp's plans for significant capital investment in generation and transmission and for environmental compliance. The stable outlook incorporates Moody's expectation that PacifiCorp will continue to receive generally supportive regulatory treatment to recover its increased costs and that capital expenditures will be financed in a manner that is consistent with its current credit profile.

* * *

Reasonably Supportive Regulatory Environment

PacifiCorp's rating recognizes that the regulated nature of its businesses and acknowledges the relative stability and predictability of cash flows associated with these operations. The rating also considers PacifiCorp's specific regulatory relationships. In 2007, approximately 72% of PacifiCorp's retail revenues were subject to regulatory oversight in Utah and Oregon which Moody's generally ranks as average among U.S. regulatory jurisdictions in terms of framework development, consistency and predictability of decisions, and expectation of timely recovery of costs and investments. In Oregon, California and Wyoming (44% of 2007 revenues) regulators have authorized adjustment mechanisms to recover changes in the costs of fuel and purchased power. Such provisions add adjustment mechanisms to recover changes in the costs of fuel and purchased power. Such provisions add predictability to utility returns and reduce implementation lag. In an attempt to minimize regulatory lag and earn its allowed ROEs, PacifiCorp is filing more frequent rate cases in all its jurisdictions.

* * *

Existence of Ring-Fencing Provisions

PacifiCorp is ring-fenced via a special purpose entity structure, which preserves its credit profile as an independent operating company, separate from its ultimate parent company. The structure includes

> typical ring-fencing provisions such as an independent director, separate books and records, restrictions on affiliate transactions (arm's length), prohibitions on collateralizing or guaranteeing affiliate debt, and restrictions on dividend distributions. PacifiCorp's dividend distributions are subject to compliance with certain financial tests, including a minimum interest coverage ratio of 2.5 times and minimum equity ratio in the range of 44-48.25%.
>
> **Financial Metrics**
>
> PacifiCorp's cash flow metrics are expected to remain fairly stable over the near-to-medium term as the company continues with its significant capital expenditure program. Moody's anticipates the company will proactively seek additional rate recovery for increased costs and investments, and that dividend policy will continue to be established in a manner that is supportive of the company's current credit profile. Over the next few years, Moody's anticipates PacifiCorp's ratio of CFO pre-W/C to Debt will remain in the range of 17-19% and that its interest coverage ratio will be in a range of 4.0-5.0 times.[9/]

Q. WHAT DO YOU RECOMMEND THE COMMISSION TAKE FROM THIS CREDIT REPORT REVIEW OF THE REGULATORY TREATMENT PACIFICORP IS RECEIVING?

A. Credit analysts consider the regulatory treatment for PacifiCorp to be constructive and supportive of PacifiCorp's excellent business risk profile and stable investment grade credit standing.

PacifiCorp's Proposed Capital Structure

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

A. PacifiCorp's 2010 forecasted capital structure, as supported by PacifiCorp witness Mr. Bruce N. Williams, is shown below in Table 1.

9/ Moody's Investors Service Credit Opinion: "PacifiCorp," October 17, 2008 (emphasis added).

TABLE 1

PacifiCorp's Proposed Capital Structure
(December 31, 2010)

Description	Percent of Total Capital
Long-Term Debt	47.6%
Preferred Stock	0.3%
Common Equity	52.1%
Total Capital Structure	100.0%

Source: Williams Direct at 3.

Q. DO YOU HAVE ANY ISSUES WITH PACIFICORP'S PROPOSED CAPITAL STRUCTURE?

A. Yes. PacifiCorp's proposed capital structure reflects a substantial increase in its common equity ratio over the last several years. Indeed, based on its Federal Energy Regulatory Commission financial statements, PacifiCorp has not paid dividends to its parent company over at least the last three years and has received over $990 million of equity infusions.[10/] As a result, PacifiCorp's common equity ratio has increased from approximately 49.4% in 2007, up to 52% by June 30, 2010.

The concern I have with PacifiCorp's capital structure, is that while it has retained all earnings in the Company, those earnings have not been completely invested in utility plant and equipment in the 2010 test year. Indeed, the Company's books and records show that the Company has a substantial investment in special deposits, temporary cash investments, and notes receivable from affiliate companies (together short-term asset investments). The five quarter average of the short-term

[10/] WUTC v. PacifiCorp, UTC Docket No. UE-100749, Direct Testimony of Bruce N. Williams, Exhibit No.___(BNW-1T) at 5 (May 4, 2010).

asset investment totals over $200 million. PacifiCorp is using its retained earnings in part to invest in these short-term assets. I recommend the common equity supporting these short-term assets investments not be included in the capital structure used to recover PacifiCorp's cost of capital for utility operations. PacifiCorp's common equity that is not used to support investments in utility plant should not be included in its utility cost of capital. As a result, PacifiCorp's ratemaking capital structure should be adjusted to remove the common equity supporting short-term cash investments and, thus, excluded from the development of an overall rate of return applied to PacifiCorp's utility plant investment.

Q. PLEASE DESCRIBE YOUR PROPOSED ADJUSTMENT TO PACIFICORP'S CAPITAL STRUCTURE.

A. I relied on PacifiCorp's most recent five quarters of data ending June 30, 2010 to develop an average capital structure ending June 30, 2010.[11/] PacifiCorp's capital structure at June 30, 2010 is 52.2%, and is very close to that projected by PacifiCorp for year-end 2010 of 52.1%.

However, I propose to remove the common equity supporting the following assets: (1) acquisition adjustment, (2) special deposits, (3) short-term investments, and (4) the difference between notes receivable from affiliate companies and notes payable to affiliate companies. This will reduce the five quarter average common equity amount by approximately $360 million, and lower the common equity ratio from 52.1% down to 49.1%.

I believe this capital structure is more reasonable for setting rates because it reflects the actual common equity capital PacifiCorp relied on to invest in utility plant.

[11/] Data for the last two quarters of 2010 were not available.

The primary difference between my capital structure and that proposed by PacifiCorp, is that the Company is proposing to reflect the cost of common equity capital that has not been used to support investments in utility plant. In contrast, my capital structure reflects the actual capital structure mix supporting its investment in utility plant. Therefore, I believe my capital structure produces a more reasonable estimate of PacifiCorp's actual cost of capital supporting its utility plant investment.

Q. PLEASE EXPLAIN WHY YOU PROPOSE TO ADJUST COMMON EQUITY TO EXCLUDE THE CAPITAL SUPPORTING ASSETS NOT INCLUDED IN RATE BASE.

A. PacifiCorp specifically removed the acquisition adjustment in establishing the Washington retail plant in-service on Exhibit____(RBD-3) at page 2.2, line 39. Acquisition adjustments reflect accounting mechanisms which records the difference between net book value, and acquisition price for specific related assets. Further, the excessive balance of short-term cash investments, represents an excessive amount of cash on the utility's balance sheets, which is largely attributable to retaining more cash flow in the utility than necessary to support utility operations. These adjustments then modify the Company's common equity balance to reflect the amount of utility investor capital actually supporting utility rate base in this case.

Q. IS IT POSSIBLE THAT PACIFICORP'S DEBT CAPITAL COULD HAVE BEEN USED TO FUND INVESTMENTS IN THESE SHORT-TERM CASH ASSETS?

A. No. PacifiCorp's long-term embedded debt cost is 5.89%, and is more expensive than the short-term interest earnings it produces on these short-term cash investments. Therefore, it is reasonable to believe that these short-term cash investments simply represent a placeholder for all the retained earnings PacifiCorp is retaining in its Company in order to build up its common equity ratio.

Q. WHAT IS YOUR PROPOSED CAPITAL STRUCTURE IN THIS PROCEEDING?

A. My proposed capital structure is shown below in Table 2.

TABLE 2

Adjusted Capital Structure
(Actual 5-Quarter average, ending June 2010)

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

Source: Exhibit No.___(MPG-3) at 1.

Q. IS YOUR PROPOSED CAPITAL STRUCTURE GENERALLY CONSISTENT WITH PACIFICORP'S TARGET CAPITAL STRUCTURE FOR UTILITY OPERATIONS?

A. Yes. In previous proceedings, Mr. Williams has stated a capital structure target for utility operations of 50%/50% debt/equity. The capital structure outlined in Table 2 approximates this targeted utility capitalization mix.

Q. WILL YOUR PROPOSED CAPITAL STRUCTURE SUPPORT PACIFICORP'S FINANCIAL INTEGRITY AND CREDIT RATING?

A. Yes. As I will discuss later in my testimony, my proposed capital structure is consistent with PacifiCorp's current credit rating and will support PacifiCorp's financial integrity.

Return on Common 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 expect, or require, in order to make an investment. 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 decisions of the U.S. Supreme Court: Bluefield Water Works & Improvement Co. v. Public Serv. Commission of West Virginia, 262 U.S. 679 (1923) and Federal Power Commission 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 THE COST OF COMMON EQUITY FOR PACIFICORP.

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; (2) a sustainable growth DCF model; (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 reflect investment risk similar to PacifiCorp.

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

A. I relied on the same proxy group used by PacifiCorp witness Dr. Hadaway to estimate PacifiCorp's return on equity.

Q. HOW DOES THIS PROXY GROUP'S INVESTMENT RISK COMPARE TO THE INVESTMENT RISK OF PACIFICORP?

A. The proxy group is shown on Exhibit No. ___(MPG-4). This proxy group has an average senior secured credit rating from S&P of "A-," which is comparable to PacifiCorp's senior secured credit rating from S&P of "A." The proxy group's senior secured credit rating from Moody's is "A2," which is identical to PacifiCorp's senior secured credit rating from Moody's. Therefore, my proxy group has comparable total investment risk to PacifiCorp.

The proxy group has an average common equity ratio of 46.9% (including short-term debt) from AUS and 48.1% (excluding short-term debt) from Value Line in 2008. This proxy group's common equity ratio is lower than my proposed common equity ratio for PacifiCorp of 49.1%. A comparable common equity ratio demonstrates that PacifiCorp's financial risks are comparable to or lower than my proxy group.

I also compared PacifiCorp's business risk to the business risk of my proxy group based on S&P's ranking methodology. PacifiCorp has a business risk profile of "Excellent," which is identical to the risk profile of my proxy group. S&P's profile score methodology is discussed later in my testimony.

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:

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

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

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

A. I relied on the average of the weekly high and low stock prices over a 13-week period ended September 10, 2010. 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 is still short enough to contain data that reasonably reflect current market expectations, but is not so short a period as to be susceptible to market price variations that may not be reflective of the security'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.

I used the most recently paid quarterly dividend, as reported in *The Value Line Investment Survey*. 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 one can use in order to estimate the expected growth in dividends. However, 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 form individual investment decisions.

Security analysts' growth estimates have been shown to be more accurate predictors of future returns than growth rates derived from historical data because they are more reliable estimates.[12/] Assuming the market generally makes rational investment decisions, analysts' growth projections are more likely the growth

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

estimates considered by the market that influence observable stock prices than are growth rates derived from only 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 the investor consensus dividend growth rate expectations. I used the average of three sources of analysts' growth rate estimates: Zacks, SNL Financial and Reuters. All consensus analysts' projections used were available on September 15, 2010, as reported online.

Each consensus growth rate projection is based on a survey of security analysts. 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. It is problematic as to whether any particular analyst's forecast is more representative of general market expectations. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations.

Q. WHAT IS THE GROWTH RATE YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A. The growth rates I used in my DCF analysis are shown in Exhibit No. ___(MPG-5). The average and median growth rates for my proxy group are 5.67% and 5.45%, respectively.

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

A. As shown in Exhibit No. ___(MPG-6), the average and median constant growth DCF returns for the proxy group are 10.45% and 10.50%, respectively.

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

A. Yes. The three- to five-year growth rate exceeds a long-term sustainable growth rate as required by the constant growth DCF model.

Q. WHY DO YOU BELIEVE THE PROXY GROUP'S THREE- TO FIVE-YEAR GROWTH RATE IS IN EXCESS OF A LONG-TERM SUSTAINABLE GROWTH?

A. The three- to five-year growth rate of the proxy group exceeds the growth rate of the overall U.S. economy. As developed below, the consensus of published economists projects that the U.S. Gross Domestic Product ("GDP") will grow at a rate of no more than 5.1% and 4.9% over the next 5 and 10 years, respectively. A company cannot grow, indefinitely, at a faster rate than the market in which it sells its products. The U.S. economy, or GDP, growth projection represents a ceiling, or high-end, sustainable growth rate for a utility over an indefinite period of time.

Q. WHY IS THE GDP GROWTH PROJECTION CONSIDERED A CEILING 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. Utility plant 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-7). Utility sales growth has lagged behind GDP growth. Hence, 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 reasonable 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).[13/]

Also, Morningstar's *Stocks, Bonds, Bills and Inflation 2009 Yearbook Valuation Edition* tracked dividends of the stock market in comparison to GDP growth over the period 1926 through the end of 2008.[14/] Based on that study, the authors found that earnings and dividends for the market have historically grown in tandem with the overall economy. It is important to note that the growth of companies included in the overall market will normally be higher than that of utility companies. These non-utility companies achieve a higher level of growth because they retain a larger percentage of their earnings and pay out a much smaller percentage of their earnings as dividends. Retaining higher percentages of total earnings fuels stronger growth for these non-utility companies. Since the market in general grows at the overall GDP growth rate, it is very conservative to assume that utility companies could

---

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

14/ *Stocks, Bonds, Bills and Inflation 2009 Yearbook Valuation Edition* (Morningstar, Inc.) at 67.

achieve this same level of sustained growth without a material reduction in their dividend payout ratios. As such, using the GDP as a maximum sustainable growth rate is a very conservative and high-end estimate for utility companies.

Q. HAVE ANALYSTS RECOGNIZED THAT SHORT-TERM GROWTH OUTLOOKS WILL SLOW OVER TIME?

A. Yes. *Value Line* recognized that dividend growth will likely slow from short-term growth patterns. *Value Line* stated as follows:

> Dividends have been increasing at a rapid pace since 2002, reflecting relatively healthy balance sheets throughout the industry. In fact, last year 61% of electric utilities raised their dividend, 33% reported no change, 2% reinstated theirs, 2% lowered them, and only 2% are not paying them at all. In any industry these statistics would be viewed as quite favorable. But, 2008 actually marked the slowing of a trend for the electric utility industry, in which the percentage of dividend increases declined. The reversal is attributable to deteriorating economic conditions, elevated capital spending, and higher debt-to-capitalization ratios. Despite this, many utilities are still sporting attractive yields.[15/]

Sustainable Growth DCF

Q. PLEASE DESCRIBE HOW YOU ESTIMATE 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 are retained and reinvested in utility plant and equipment. These reinvested earnings increase the earnings base (rate base) and will grow earnings when the reinvested earnings investment is put into service, and the Company is allowed to earn its authorized return on the 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

---

[15/] *Value Line Investment Survey*, May 29, 2009 (emphasis added).

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. As shown in Exhibit No.___(MPG-8), *Value Line* projects the proxy group to have a declining dividend payout ratio over the next three to five years. These dividend payout ratios and earnings retention ratios can then be used to develop a sustainable long-term earnings retention growth rate to 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 *Value Line's* three-to-five year projections per earnings, dividends, earned return on book equity, and projected stock issuances.

As shown in Exhibit No.___(MPG-9), page 1 of 2, the average and median sustainable growth rates for the proxy group using this internal growth rate model are 5.16% and 5.03%, respectively.

Q. WHAT IS THE CONSTANT GROWTH DCF ESTIMATE USING THIS SUSTAINABLE LONG-TERM GROWTH RATE?

A. A DCF estimate based on this sustainable growth rate is developed in Exhibit No.___(MPG-10). As shown there, a sustainable growth DCF analysis produces a group average and median DCF result of 9.92% and 9.14%, respectively.

The average result is skewed due to a significant outlier – DPL, Inc., which produces a return on equity of 19.14%. Excluding DPL, Inc., the proxy group's average DCF would be 9.48%. Therefore, I conclude that the median result of 9.14%

better represents the central tendency of my proxy group. Hence, I will rely on the median DCF result.

The sustainable growth DCF result is based on the dividend and price data used in my constant growth DCF study (using analyst growth rates) and the sustainable growth rate discussed above and developed in Exhibit No. ___(MPG-9).

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. 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 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 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. WHAT DO YOU BELIEVE IS A REASONABLE SUSTAINABLE LONG-TERM GROWTH RATE?

A. A reasonable growth rate that can be sustained in the long run should be based on consensus analysts' projections. *Blue Chip Financial Forecasts* publishes consensus GDP growth projections twice a year. Based on its latest issue, the consensus economists' published 5- to 10-year GDP growth rate outlook is 5.1% to 4.9%, respectively.[16/]

Therefore, I propose to use the consensus economists' projected 10-year GDP consensus growth rate of 4.9%, as published by *Blue Chip Financial Forecasts,* as an estimate of sustainable long-term growth. This consensus GDP growth forecast represents the most likely views of market participants because it is based on published economist projections.

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 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 consensus economists' 10-year projected nominal GDP growth rate.

16/ *Blue Chip Financial Forecasts*, June 1, 2010 at 14.

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

A. As shown in Exhibit No. ___(MPG-11), the average and median multi-stage growth DCF return on equity for the proxy group are 9.87% and 9.90%, respectively.

Q. PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

A. The results from my DCF analyses are summarized in Table 3:

TABLE 3

Summary of DCF Results

Description	Proxy Group
Constant Growth DCF Model (Analysts' Growth)	10.50%
Constant Growth DCF Model (Sustainable Growth)	9.14%
Multi-Stage Growth DCF Model	9.90%
Average DCF Return	9.85%

For reasons set forth above, I believe my constant growth DCF model based on analysts' growth is inflated because short-term analyst growth rate projections are not reasonable estimates of long-term sustainable growth. Therefore, the DCF model based on analysts' growth rate estimates should not be used on a stand-alone basis. I recommend it be averaged with my other DCF estimates to produce a reasonable DCF point estimate that can be used to derive PacifiCorp's return on equity. The constant growth DCF model based on the sustainable growth approach is based on a growth rate that is sustainable in the long term in comparison to GDP growth, but may not reflect analysts' short-term growth outlooks. The multi-stage growth DCF model return reflects the expectation of changing growth rates over time. Even though I have strong concerns about the accuracy of the constant growth DCF at this time, I included all estimates in my DCF return of approximately 9.85%.

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 on common equity, or to 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 Treasury bonds. The difference between the required return on common equity and the bond yield is the risk premium. I estimated the risk premium on an annual basis for each year over the period 1986 through June 2010. 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 method is based on the difference between regulatory commission-authorized returns on common equity and contemporary "A" rated utility bond yields. This time period was selected because over the period 1986 through June 2010, public utility stocks have consistently traded at a premium to book value. This is illustrated in Exhibit No. ___(MPG-12), where the market to book ratio since 1986 for the electric utility industry was consistently above 1.0. Over this

time 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-13), the average indicated equity risk premium over U.S. Treasury bond yields has been 5.19%. Of the 25 observations, 19 indicated risk premiums fall in the range of 4.40% to 6.08%. 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-14), the average indicated equity risk premium over contemporary Moody's utility bond yields was 3.75% over the period 1986 through June 2010. The indicated equity risk premium estimates based on this analysis primarily fall in the range of 3.03% to 4.59% over this time period.

Q. DO YOU BELIEVE THAT THIS RISK PREMIUM IS BASED ON A TIME PERIOD THAT IS TOO LONG OR TOO SHORT TO DRAW ACCURATE RESULTS 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. Therefore, relying on 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 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 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-15). On that exhibit, I show the yield spread between utility bonds and Treasury bonds over the last 30 years. As shown in this exhibit, the 2008 utility bond yield spreads over Treasury bonds for "A" rated and "Baa" rated utility bonds are 2.25% and 2.97%, respectively. The utility bond spreads over Treasury bonds for "A" and "Baa" rated utility bonds for 2009 are 1.96% and 2.98%,

respectively. These utility bond yield spreads over Treasury bond yields are much higher than the 30-year average spreads of 1.60% and 2.00%, respectively.

While the yield spreads for 2008 and 2009 reflect unusually large spreads, the market has started to improve and these spreads have started to decline. For example, the 13-week average "A" rated utility bond yield has subsided relative to the end of 2008 and 2009, down to around 5.17%. This utility bond yield when compared to the current Treasury bond yield of 3.92% as shown on Exhibit No.___(MPG-16) at 1, implies a yield spread of around 1.25% which is lower than the 30-year average spread for "A" utility bonds of 1.60%. The same is true for the "Baa" utility yields and spreads.

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 September 10, 2010 was 3.92%, as shown on Exhibit No.___(MPG-16) at 1. *Blue Chip Financial Forecasts* projects the 30-year Treasury bond yield to be 4.7%, and a 10-year Treasury bond yield to be 3.8%.[17/] Using the projected 30-year bond yield of 4.70%, and a Treasury bond risk premium of 4.40% to 6.08%, as developed above, produces an estimated common equity return in the range of 9.10% (4.70% + 4.40%) to 10.78% (4.70% + 6.08%), with a midpoint of 9.94%.

I next added my equity risk premium over utility bond yields to a current 13-week average yield on "A" rated utility bonds for the period ending September 10,

[17/] *Blue Chip Financial Forecasts*, September 1, 2010 at 2.

2010 of 5.17%.[18/] Adding the utility equity risk premium of 3.03% to 4.59%, as developed above, to an "A" rated bond yield of 5.17%, produces a cost of equity in the range of 8.20% to 9.76%, with a midpoint of 8.98%.

My risk premium analyses produce a return estimate in the range of 8.98% to 9.94%, with a midpoint estimate of 9.46%.

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:

$R_i = R_f + B_i \times (R_m - R_f)$ 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 nondiversifiable risks. Nondiversifiable risks are related to the market in general and

[18/] See Exhibit No.___(MPG-16) at 1 (Utility and Treasury Bond Yields, WUTC Docket No. UE-100749).

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 4.7%.[19/] The current 30-year bond yield is 4.4%. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 4.7% 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. Therefore, 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)

[19/] *Blue Chip Financial Forecasts*, September 1, 2010 at 2.

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.

Q. WHAT BETA DID YOU USE IN YOUR ANALYSIS?

A. As shown in Exhibit No.___(MPG-17), the proxy group average *Value Line* beta estimate is 0.69.

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 2010 Yearbook* publication estimates the historical arithmetic average real market return over the period 1926 to 2009 as 8.6%.[20/] A current consensus analysts' inflation projection, as measured by

[20/] Morningstar, Inc. *Ibbotson SBBI 2010 Classic Yearbook at 82.*

the Consumer Price Index, is 1.9%.[21/] Using these estimates, the expected market return is 10.66%.[22/] The market premium then is the difference between the 10.66% expected market return, and my 4.7% risk-free rate estimate, or 5.96%.

The historical estimate of the market risk premium was also estimated by Morningstar in *Stocks, Bonds, Bills and Inflation 2010 Yearbook*. Over the period 1926 through 2009, Morningstar's study estimated that the arithmetic average of the achieved total return on the S&P 500 was 11.80%,[23/] and the total return on long-term Treasury bonds was 5.8%.[24/] The indicated equity risk premium is 6.0% (11.80% - 5.8% = 6.00%).

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

A. Morningstar estimates a forward-looking market risk premium based on actual achieved data from the historical period of 1926 through year-end 2009. 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 the Treasury bond and is the best approximation of a truly risk-free rate. 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

---

21/ *Blue Chip Financial Forecasts*, September 1, 2010 at 2.
22/ { [(1 + 0.086) ∗ (1 + 0.019)] – 1] } ∗ 100.
23/ Morningstar, Inc. *Ibbotson SBBI 2010 Classic Yearbook* at 82.
24/ Id.

legitimate estimate of the expected premium of investing in the stock market versus that of Treasury bonds. Nevertheless, I will use Morningstar's conclusion to show the reasonableness of my market risk premium estimates.

Morningstar's analysis indicates that a market risk premium falls somewhere in the range of 5.2% to 6.7%. This 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 6.4% and 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 5.9%.[25/]

Finally, Morningstar found that the 6.7% market risk premium based on the S&P 500 was impacted 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. 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 5.2%.[26/]

Thus, based on all of Morningstar's estimates, the market risk premium falls somewhere in the range of 5.2% to 6.7%.

[25/] Morningstar observes that the S&P 500 and the NYSE Decile 1-2 are both large capitalization benchmarks. Morningstar, Inc. *Ibbotson SBBI 2010 Valuation Yearbook* at 54.

[26/] Id. at 66.

Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A. As shown in Exhibit No.___(MPG-18), based on my low-end market risk premium of 5.2%, high-end market risk premium of 6.7%, a risk-free rate of 4.7%, and a beta of 0.69, my CAPM analysis produces a return in the range of 8.28% to 9.31%, with a midpoint of 8.80%.

Return on Equity Summary

Q. BASED ON THE RESULTS OF YOUR RATE OF 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 9.5%.

TABLE 4

Return on Common Equity Summary

Description	Results
DCF	9.85%
Risk Premium	9.46%
CAPM	8.80%

My recommended return on equity range is 9.10% to 9.90%, with a midpoint of 9.5%. My low end is based on the average of my CAPM and RP return estimates and my high end is based on my DCF analysis.

Financial Integrity

Q. WILL YOUR RECOMMENDED OVERALL RATE OF RETURN 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 capital structure, and my return on equity 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. S&P updated its credit metric guidelines on November 30, 2007, and incorporated utility metric benchmarks with the general corporate rating metrics. However, the effect of integrating the utility metrics with that of general corporate bonds, resulted in a reduction to the transparency in S&P's credit metric guideline for utilities. Most recently, on May 27, 2009 S&P expanded its matrix criteria and included an additional business and financial risk category. 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 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) debt to EBITDA, (2) funds from operations ("FFO") to total debt, and (3) total debt to total capital.

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

A. I calculated each of S&P's financial ratios based on PacifiCorp's cost of service for retail operations. While S&P would normally look at total consolidated financial ratios in its credit review process, my investigation in this proceeding is to judge the reasonableness of my proposed cost of capital for rate-setting in PacifiCorp's utility operations. Hence, I am attempting to determine whether the rate of return and cash flow generation opportunity reflected in my proposed utility rates for PacifiCorp will support target investment grade bond ratings and financial integrity.

Q. DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT?

A. Yes. As shown in Exhibit No.___(MPG-19), page 3 of 3, I estimated off-balance sheet debt equivalents of $30.5 million attributed to PacifiCorp's operating leases and purchased power agreements ("PPAs").

Q. HOW DID YOU ESTIMATE PACIFICORP'S OFF-BALANCE SHEET DEBT?

A. The off-balance sheet debt is shown on Exhibit No.___(MPG-19) at 3. First, I developed a PacifiCorp allocator, which is the ratio of PacifiCorp's Washington rate base as of December 2009 divided by total Company rate base for the same period.

Second, I obtained PacifiCorp's total Company off-balance sheet debt and associated imputed interest and amortization expenses from the S&P report. Then, I applied the PacifiCorp allocator to PacifiCorp's total Company off-balance sheet debt and associated imputed interest and amortization expense.

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

A. The S&P financial metric calculations for PacifiCorp are developed on Exhibit No.___(MPG-19) at 1.

As shown on Exhibit No.___(MPG-19), page 1 of 3, column 1, based on an equity return of 9.50%, PacifiCorp will be provided an opportunity to produce a debt to EBITDA ratio of 3.1x. This is at the low end of S&P's new "Significant" guideline range of 3.0x to 4.0x.[27/] This ratio supports an investment grade credit rating.

PacifiCorp's retail operations FFO to total debt coverage at a 9.50% equity return would be 27%, which is within the new "Significant" metric guideline range of 20% to 30%. The FFO/total debt ratio will support an investment grade bond rating.

Finally, PacifiCorp's total debt ratio to total capital is 51%. This is within the new "Aggressive" guideline range of 50% to 60%. This total debt ratio will support an investment grade bond rating. PacifiCorp has a "Significant" financial risk profile.

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

This debt ratio might deteriorate its credit rating because it will move the financial risk profile from "Significant" to "Aggressive."

At my recommended return on equity and my proposed capital structure, the Company's financial credit metrics are supportive of its current "A" utility bond rating.

Q. DO YOU BELIEVE THIS CREDIT METRIC EVALUATION OF PACIFICORP AT YOUR PROPOSED RETURN ON EQUITY PROVIDES MEANINGFUL INFORMATION TO HELP THE COMMISSION DETERMINE THE APPROPRIATENESS OF YOUR RECOMMENDATION?

A. Yes. While S&P calculates these credit metrics based on total Company operations, and not the retail operations of PacifiCorp as I have performed in this study, it still provides meaningful information on the proposed rate of return for PacifiCorp in this case and how it will contribute and help support consolidated operations credit standing. Further, while credit rating agencies also consider other financial metrics and qualitative considerations, these metrics are largely driven by the cost of service items of depreciation expense and return on equity. Hence, to the extent these important aspects of cost of service impact PacifiCorp's internal cash flows, the relative impact on PacifiCorp will be measured by these credit metrics. As illustrated above, an authorized return on equity of 9.50% will support internal cash flows that will be adequate to maintain PacifiCorp's current investment grade bond rating.

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 a return on equity of 10.6%. PacifiCorp's return on equity proposal is based on the analysis and judgment of

Dr. Samuel Hadaway. Dr. Hadaway's results are summarized at page 41 of his direct testimony.

Q. DO DR. HADAWAY'S METHODOLOGIES SUPPORT HIS 11.00% RETURN ON EQUITY FOR HIS PROXY GROUP?

A. No. As discussed in detail below, reflecting current market data and properly applying his models, Dr. Hadaway's own analyses would support a return on equity in the range of 9.6% to 10.0%. These adjustments to Dr. Hadaway's return on equity estimates support my recommended return on equity of 9.5%.

Q. PLEASE DESCRIBE THE METHODOLOGY SUPPORTING DR. HADAWAY'S 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. I have summarized Dr. Hadaway's results below in Table 5 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 below in Table 5, using consensus economists' projection of GDP growth rather than Dr. Hadaway's inflated GDP growth estimates, his own DCF analyses would support a return on equity for PacifiCorp in the range of 9.9% to 10.1%, with a midpoint of 10.0%. Therefore, Dr. Hadaway's return on equity estimate with reasonable adjustments will produce a return on equity for PacifiCorp in the range of 9.6% to 10.0%.

TABLE 5

Summary of Dr. Hadaway's ROE Estimate

Description	Hadaway Results[1] (1)	Adjusted Hadaway Results[2] (2)
DCF Analysis		
Constant Growth (Analysts' Growth)	10.4% - 10.6%	10.4% - 10.6%
Constant Growth (GDP Growth)	10.8% - 10.9%	9.7% - 9.8%
Multi-Stage Growth Model	10.6% - 10.8%	9.6% - 9.8%
Reasonable DCF Range	10.4% - 10.9%	9.9% - 10.1%
Risk Premium Analysis		
Forecasted Utility Debt + Equity Risk Premium	10.60%	Reject
Current Utility Debt + Equity Risk Premium	10.38%	9.55%
Risk Premium Estimate	10.84%	9.55%
Recommended ROE	10.6%	

Sources:

[1]Hadaway Direct at 41.
[2]Exhibit No.___(MPG-20).

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

A. Dr. Hadaway's adjusted constant growth DCF analysis is shown in Exhibit No.___(MPG-20). As shown on 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. Dr. Hadaway's constant growth DCF based on analyst growth rates produces excessive return estimates for the same reasons discussed above concerning my DCF studies. That is, Dr. Hadaway's analyst growth DCF study is based on growth rate

estimates in the range of 5.55% to 5.61%. These growth rates are not sustainable in the long-run.

Second, his GDP growth rate used in his constant growth and multi-stage growth models is based on an inflated GDP growth rate of 6.0%. This GDP growth is excessive and not reflective of current market expectations.

Q. DO YOU HAVE ANY OTHER ISSUES CONCERNING DR. HADAWAY'S DCF STUDIES?

A. Yes. In addition to the concerns I have with the return estimate being inflated because of the unreasonably high growth rate estimate, and its failure to reflect a reasonable estimate of long-term sustainable growth, I believe that Dr. Hadaway's DCF return estimates are also overstated because they reflect stale data that continues to be impacted by market capital costs that no longer reflect the capital market recovery that has taken place in the last six to nine months. Hence, I do in this proceeding recommend to give some weight to the constant growth DCF analysis, but I would recommend Dr. Hadaway's constant growth DCF reflect more recent market information. Hence, I have updated Dr. Hadaway's DCF analysis using the most recent data which is a better reflection of the current economic and market environment.

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 ten years is shown below in Table 6. As shown in this table, Dr. Hadaway's GDP rate of 6.0% reflects real GDP of 3.1% and an inflation adjusted GDP of 2.9%. However, consensus economists' projections of nominal GDP include GDP inflation projections over the next five and ten years of 2.1%, and 2.2%, respectively.[28/]

As is clearly evident in the table below, 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 6

GDP Projections

Description	GDP Inflation	Real GDP	Nominal GDP
Dr. Hadaway	3.1%	2.9%	6.0%
Consensus 5-Year Projection	2.1%	2.9%	5.1%
Consensus 10-Year Projection	2.2%	2.6%	4.9%

Source: *Blue Chip Financial Forecasts*, June 1, 2010, at 14.

As such, Dr. Hadaway's 6.0% nominal GDP growth rate is not reflective of consensus market expectations and should be rejected.

[28/] *Blue Chip Financial Forecasts*, June 1, 2010 at 14.

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-20), 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' 10-year projected growth rate of the GDP as published in the *Blue Chip Financial Forecasts* on June 1, 2010. As shown in Exhibit No.___(MPG-20), using this consensus economists' projected GDP growth rate, reduces Dr. Hadaway's DCF results from 10.7% to 10.0%.

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

A. Updating the price and dividend yield information and growth rates in Dr. Hadaway's study, and modifying them for a more reasonable GDP growth rate, reduces the average DCF result produced by Dr. Hadaway's studies from 10.7% down to 10.0%. Dr. Hadaway's original estimates, and these updated and adjusted results are shown below in Table 7.

TABLE 7

Adjusted Hadaway DCF

	Range Average	
Description	**Hadaway DCF**	**Adjusted DCF**
Constant Growth (Analysts' Growth)	10.5%	10.5%
Constant Growth (GDP Growth)	10.9%	9.8%
Multi-Stage Growth Model	10.7%	9.7%
Average	10.7%	10.0%

As shown above in Table 7, using a consensus economists' GDP forecast, rather than the GDP forecast derived by Dr. Hadaway, would support a return on equity for PacifiCorp of 10.0%.

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-7). 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 2009. Based on this analysis, Dr. Hadaway estimates an average indicated equity risk premium over current utility bond yields of 3.23%.

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 3.23%, up to 4.39% and 4.55% relative to projected and current "A" bond yield of 6.21% and 5.83%, respectively. He then adds these equity risk premiums to the projected and current "A" rated utility bond yield of 6.21% and 5.83% to produce a return on equity of 10.60% and 10.38%, 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 study equity risk premium of up to 4.38% to 4.55% is unreasonable. This adjustment

reflects a simplistic inverse relationship between interest rates and utility risk premiums. 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 YIELD OF 6.21%?

A. Yes. Dr. Hadaway develops his forecasted utility yield based on the 3-month historical spread of A-rated utility bond yields and 30-year Treasury yields of 1.21% added to his projected long-term Treasury yield of 5.0%. This approach is unreasonable because Dr. Hadaway relies on projected interest rates. The accuracy of his projections is highly problematic. 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. This is clearly evident by a review of projected changes to interest rates made over the last several years, in comparison to how accurate these projections turned out to be. This analysis clearly illustrates that observable interest rates today are as accurate as are economists' consensus projections of future interest rates.

An analysis supporting this conclusion is illustrated in Exhibit No.___(MPG-21). 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 have been consistently projecting increases to interest rates. 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.

This review of the experience with projected interest rates clearly illustrates that interest rate projection accuracy is highly problematic. Indeed, current observable interest rates are just as likely a reasonable projection of 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 with 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.[29/]

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.[30/] As such, 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 and does not produce accurate or reliable risk premium estimates. His results should be rejected by the Commission.

29/ "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, No. 1, 2001 and "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.

30/ Morningstar, Inc. *Ibbotson SBBI 2010 Valuation Yearbook* at 77.

Q. CAN DR. HADAWAY'S RISK PREMIUM ANALYSES BASED ON CURRENT AND PROJECTED YIELDS BE MODIFIED TO PRODUCE MORE REASONABLE RESULTS?

A. Yes. Dr. Hadaway's study indicates that an unadjusted equity risk premium is 3.23%. Using this unadjusted equity risk premium and the current "A" rated utility yield of 5.83% will produce a return on equity of 9.06%. Using Dr. Hadaway's 2009 equity risk premium of 4.20% as shown in Exhibit No.___(SCH-7) and a current "A" rated utility yield of 5.84% will produce a return of 10.03%. Therefore, Dr. Hadaway's risk premium study adjusted to include reasonable equity risk premiums produces a return on equity in the range of 9.06% to 10.03%, with a midpoint of 9.55%.

Q. DOES THIS CONCLUDE YOUR RESPONSIVE TESTIMONY?

A. Yes, it does.