Witness CCS 5D
CCS Exhibit – 5

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

	:	Docket No. 04-035-42
In the Matter of the Application of	:	
PacifiCorp for Approval of its Proposed	:	PREFILED DIRECT TESTIMONY OF
Electric Service Schedules and Electric	:	DANIEL J. LAWTON
Service Regulations	:	FOR THE COMMITTEE OF
	:	CONSUMER SERVICES

3 DECEMBER 2004

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SECTION I – QUALIFICATIONS, BACKGROUND AND INTRODUCTION

Q. PLEASE STATE YOUR NAME.

A. My name is Daniel J. Lawton.

Q. BY WHOM ARE YOU EMPLOYED?

A. I am a principal in the firm of Diversified Utility Consultants, Inc. ("DUCI").

Q. WHAT IS YOUR BUSINESS ADDRESS?

A. My business address is 12113 Roxie Drive, Suite 110, Austin, Texas 78729.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I have been working in the utility business as an economist for the last twenty years. Consulting engagements have included electric utility load and revenue forecasting, cost of capital, revenue requirements/cost of service issues, and rate design in litigated rate proceedings, as well as developing rate studies for municipal utilities. In addition to my duties at DUCI, I also have a law practice based in Texas. My main areas of practice include administrative law representing municipalities in utility rate matters, contract matters, and consumer law. I have included a brief description of my relevant educational background and professional experience in CCS Exhibit 5.1.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN RATE PROCEEDINGS?

A. Yes. A list of cases where I have previously filed testimony is included in CCS Exhibit 5.1.

Q. ON WHOSE BEHALF ARE YOU FILING TESTIMONY IN THIS PROCEEDING?

A. DUCI has been retained by the Committee of Consumer Services (“CCS”) to review PacifiCorp’s ("PacifiCorp" or "Company") cost of capital request in this proceeding.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony in this proceeding is to address the Company's claimed overall cost of capital. I will address the Company's requested return on equity, capital structure, and cost rates for debt and preferred stock, which is presented in the testimony of its cost of capital witnesses, Dr. Samuel Hadaway and Mr. Bruce Williams.

Q. WHAT MATERIALS DID YOU REVIEW AND RELY ON FOR THIS TESTIMONY?

A. I have reviewed the Company's testimony in this case, Company responses to interrogatories, Value Line Investment Survey ("Value Line"), financial reports of the Company, and various other financial information available in the public domain. When I have relied on various sources, I have noted such sources in the testimony and included copies or summaries in my attached exhibits or workpapers.

Q. PLEASE SUMMARIZE YOUR FINDINGS AND CONCLUSIONS IN THIS CASE.

A. My testimony makes the following conclusions and recommendations:

(i) The Company's proposed 8.73% overall return on investment is overstated and should not be adopted as representative of the Company's cost of capital requirements;

(ii) The Company's requested 11.125% return on equity is an overstatement of the required return on equity for PacifiCorp;

(iii) The Company's required return on equity is in the range of 9.2% to 10.6%, a point estimate of 10.0% is reasonable for PacifiCorp; and

(iv) The Company's overall cost of capital for this case should be set at 8.195%.

SECTION II – <u>REGULATORY ISSUES AND COST OF CAPITAL</u>

Q. PLEASE EXPLAIN THE COST OF CAPITAL CONCEPT AS IT RELATES TO THE REGULATORY PROCESS.

A. The rate of return is an essential element in the process of rate regulation. The overall return to be earned on rate base investment is typically a major part of overall revenue requirements. For example, in this case the Company's claimed cost of capital of 8.733%[1] produces a revenue requirement (return and federal income taxes) of $1,163,905 for every $10 million of rate base investment. If the 11.125% requested equity return is reduced by 100 basis points, the revenue requirement is reduced to $1,090,366, a reduction of about 6.0%.

Any change in the rate of return can have a substantial impact on the requested revenue requirement. The overall return and its component parts, including equity return and contractually established interest requirements that make up the cost of capital, has a major impact on the revenue requirement, and ultimately, rates set by public utility commissions.

Q. YOU STATED SOME CAPITAL COSTS ARE SET BY CONTRACT WHILE THE COST OF EQUITY IS DETERMINED ON A DIFFERENT BASIS. PLEASE EXPLAIN.

A. The overall rate of return in the regulatory process is best explained in two parts. First is the return to senior securities, such as debt and preferred stock, which is contractually set at issuance. The reasonableness of the cost of this contractual obligation between the utility and its investors is examined by regulatory agencies as part of the utility's overall cost of service.

The second part of a Company's overall return requirement is the appropriate cost rate to assign the equity portion of capital costs. The return to equity should be established at a level that would permit the firm an opportunity to earn a fair rate of return. By fair rate of return, I mean a return to equity holders, which is sufficient to hold and attract capital, sufficient to maintain financial integrity, and a return to

[1] The 8.733% is calculated employing the capital structure in Dr. Hadaway's direct testimony at page 5, but employing the cost of debt and preferred securities recommended by Bruce Williams at page 6.

equity comparable to other investments of similar risks.

The cost of capital is defined as the annual percentage that a utility must receive to maintain its financial integrity, to pay a return to security owners and to insure the continued attraction of capital at reasonable cost and in an amount adequate to meet future needs. Mathematically, the cost of capital is the composite of the cost of several classes of capital used by the utility – debt, preferred stock, and common stock, weighted on the basis of an appropriate capital structure.

The ratemaking process requires the public utility commission to determine the utility's cost of capital (debt, preferred stock and equity costs). These calculations, when combined with the proportions of each type of capital in the capital structure, result in a percentage figure that is then multiplied by the value of assets (investment) used in the production of the utility service to ultimately arrive at a rate charged to customers. Rates should not be excessive (exceed actual costs) or burdensome to the customer and at the same time should be just and reasonable to the utility.

In summary, the objective of overall rate of return determination in the regulatory process is to compute the return such that the embedded (contractually required) cost of senior securities is recovered. In addition, a regulated utility should be provided an opportunity to generate additional earnings that are sufficient to compensate equity investors at a level that will hold existing investors, attract new investors, and maintain the financial integrity of the utility.

Q. PLEASE EXPLAIN THE COST OF EQUITY CONCEPT.

A. The cost of equity, or return on equity capital, is the return expected by investors over some prospective time period. The cost of equity one seeks to estimate in this proceeding is the return investors expect prospectively when the rate from this case will be in effect.

The cost of common equity is not set by contract, and there are no hard and fast mathematical formulae with which to measure investor expectations with regard to equity requirements and perceptions of risk. As a result, any valid cost of equity recommendation must reflect investors' expectations of the risks facing a utility.

Q. WHAT METHODOLOGY WILL YOU EMPLOY IN YOUR COST OF EQUITY CAPITAL ANALYSES?

A. I am employing the Discounted Cash Flow ("DCF") methodology for estimating the cost of equity, keeping in mind the general premise that any utility's cost of equity capital is the risk free return plus the premium required by investors for accepting the risk of investing in an equity instrument. It is my opinion that the best analytical technique for measuring a utility's cost of common equity is the DCF methodology.

Q. PLEASE DESCRIBE THE RISKS YOU REFER TO ABOVE.

A. As I stated earlier in this testimony, equity investors require compensation above and beyond the risk free return because of the increased risk factors investors face in the equity markets. The basic risks faced by investors that make up the equity risk premium include business risks, financial risks, regulatory risks, and liquidity risks.

Q. PLEASE DESCRIBE PACIFICORP.

A. PacifiCorp is owned by Scottish Power and, as such, is not a publicly traded stock. PacifiCorp is an electricity generating, transmission, and distribution company and serves customers in the states of Utah, Oregon, Wyoming, Washington, Idaho, and California.

The Company has filed for approximately a $111 million increase based on a forecasted test year ending March 31, 2006. According to PacifiCorp witness Mr. Larson, the fully forecasted test year is "…the most appropriate way to provide

timely recovery for the increased level of expenditures that are required to serve the growing Utah load."[2] The Company recognizes such regulatory treatment reduces regulatory lag and risks for PacifiCorp.

SECTION III – COST OF CAPITAL

A. Cost of Equity Capital

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. In this section of my testimony, I present my analysis used in estimating PacifiCorp's cost of equity in this case. In addition, I discuss the details of the analysis and conclusions resulting from my analysis.

Q. PLEASE DESCRIBE HOW YOU CONDUCTED YOUR DCF ANALYSIS.

A. PacifiCorp is a wholly owned subsidiary of Scottish Power and the Company's equity is owned by its parent. The Company does not have publicly traded common stock or other market data that is required to estimate the cost of equity directly. I applied the DCF method employing market data, as well as forecasted data of various financial parameters for a comparable group of 17 electric utility companies. The comparable group of 17 utility companies employed in my analysis comes from the same group of companies used by PacifiCorp's witness Dr. Hadaway in this case. Given that I am basing my analysis on the same group of comparable companies as employed by Dr. Hadaway, the equity cost calculation issue is narrowed to the methodology of estimation. I discuss in detail in Section VI the problems I have with Dr. Hadaway's specific cost of equity analyses.

Q. HAVE YOU PROVIDED A LISTING OF THE COMPANIES IN THE COMPARABLE GROUP?

[2] Mr. Larson Direct at 11.

A. Yes. Contained in CCS Exhibit 5.2 is a list of the 17 companies in the comparable group.

Q. PLEASE EXPLAIN THE DCF METHODOLOGY YOU HAVE EMPLOYED IN YOUR ANALYSIS.

A. The foundation of the DCF model is in the theory of security valuation. The price that an investor is willing to pay for a share of common stock today is determined by what income stream the investor expects to receive from the investment. The return the investor expects to receive over the investment time horizon is composed of: (i) dividend payments, and (ii) the appreciated sale value of the investment. A proper analysis adds dividends to the gain on the final sale value, and discounts these expected future earnings to a percent value.

To determine or estimate investor requirements using the DCF model, one computes a cost of capital requirement, or discount rate from the current market data and the expected dividend stream. The DCF model stated as a formula is as follows:

$$K = D/P + G$$

where:

K = required return on equity,
D = dividend rate,
P = stock price,
D/P = dividend yield, and
G = growth in dividends.

Q. PLEASE EXPLAIN HOW YOU CALCULATED THE DIVIDEND YIELD FOR THE COMPARABLE COMPANIES.

A. The dividend yield is the ratio of the dividend rate to the stock price. When calculating the dividend yield, one must be cautious and not rely on spot stock prices. One must be equally cautious not to rely on long periods of time as the data becomes unrepresentative of market conditions. The objective is to use a period of time such that the resulting dividend yield is representative of the prospective period

when rates will be in effect.

While there is no fixed period for selecting the denominator of the dividend yield (i.e., stock price), the key guideline is that the yield not be distorted due to fluctuations in stock market prices. On the other hand, dividends, the numerator of the yield calculation, are relatively stable, as opposed to the stock prices, which are subject to daily and cyclical market fluctuations. The selection of a representative time period will dampen the effect of stock market changes.

The price and dividend data used for each of the companies in the comparable group is contained in CCS Exhibit 5.3. I have utilized a 6-week period for calculating average price. In my opinion, the 6-week average price is representative of investor expectations of stock prices.

As can be seen from CCS Exhibit 5.3, the six-week average price for the comparable group is consistent with the most recent price as reported by Value Line. Further, the most recent 6-week price is consistent with the 3-month updated average price used by witness Dr. Hadaway for the 17 company comparable group.

The dividend for each of the comparable companies was calculated by annualizing the most recent quarterly dividend payment. The resulting base dividend yield range is 4.3% to 4.4% for the group, as shown in column C of CCS Exhibit 5.5.

B. <u>Growth Rates</u>

Q. PLEASE EXPLAIN HOW YOU HAVE CALCULATED THE EXPECTED GROWTH RATE IN YOUR DCF ANALYSIS FOR THE COMPANIES IN THE COMPARABLE GROUP.

A. Like dividend yields, there exists no single or simple method to calculate growth rates. The calculation of investor growth expectations is the most difficult part of the

DCF analysis. To estimate investor expectations of growth, I have examined historical growth, forecasted growth rates, and other financial data for each of the companies in the comparable group.

Q. PLEASE EXPLAIN YOUR GROWTH RATE ANALYSIS.

A. I have included in CCS Exhibit 5.4 the growth rates I have relied on in my analysis. The first set of growth rates examined is the historical growth rates in earnings per share, dividends per share, and book value per share as reported by Value Line Investment Survey ("Value Line"). The second set of growth rates is the Value Line forecasted growth rates in earnings per share, dividends per share, and book value per share for each company of the comparable group. The third set of growth rates examined is the Zacks forecasted growth rates in earnings. The fourth growth estimate considered is the forecast estimates of the retained earnings growth (b x r growth) for the 2008 period. This growth estimate is calculated by multiplying retained earnings estimates by the expected return on book equity. In other words, estimates of each company retention ratio multiplied times estimates of book equity return produce an estimate of future growth in dividends.

I have also examined First Call growth rates from Yahoo Finance. The First Call growth rates are readily available to investors at Yahoo Finance at no charge.

The growth rates described above provide a range of estimates for each of the comparable companies. The resulting range is from 2.5% to 4.9%. Relying only on earnings per share estimates, the growth rate range can be narrowed to 4.5% to 4.8% as shown in CCS Exhibit 5.4.

In my opinion, the range of growth rates of 4.5% to 4.8% shown at CCS Exhibit 5.4 provides a reasonable estimate of investor expectations of growth for each of the companies in the group. In contrast, Dr. Hadaway's constant growth DCF analysis

employed a 4.93% growth rate average.[3]

Q. PLEASE SUMMARIZE YOUR CONSTANT GROWTH DCF COST OF EQUITY ESTIMATE FOR THE COMPARABLE GROUP.

A. In my view, investors expect a rate of growth in earnings per share of between 4.50 and 4.80 percent for this group. This growth rate range is consistent with the average projected growth rates presented in CCS Exhibit 5.4. When the 4.50 to 4.80 percent growth rate is added to the base dividend yield and the yield adjustment factor is included, the constant growth DCF investor return requirement is 9.20 to 9.30 percent, as shown in CCS Exhibit 5.4.

Q. WHAT IS THE DIVIDEND YIELD ADJUSTMENT FACTOR?

A. The dividend yield adjustment factor is used to reflect the future payment of dividends in the next 12 months. When an investor buys common shares in a company, it is the future dividends that will be received, not past dividends. To account for investor expectations of future dividend payments, I have increased the dividend by one-half the growth rate to reflect this investor expectation. This adjustment represents a reasonable approximation of the expected increase in dividends during the year after the stock is purchased.

Q. HAVE YOU CALCULATED ADDITIONAL DCF ANALYSES FOR THE COMPARABLE GROUP COMPANIES?

A. Yes. I have recalculated each of Dr. Hadaway's DCF analyses to reflect more current data and corrections to errors in his analyses. These analyses are summarized in CCS Exhibit 5.6. Each of the DCF analyses were updated in CCS Exhibits 5.7, 5.8, and 5.9.

Q. PLEASE SUMMARIZE THE RESULTS OF UPDATING AND CORRECTING DR. HADAWAY'S DCF ANALYSES.

[3] Dr. Hadaway Direct at Schedule (SCH-3).

A. Updating the data and correcting methodology to be consistent with Dr. Hadaway's previous testimony indicates an average cost of equity in the 9.2% to 10.5% range, as shown on CCS Exhibit 5.6.

Q. PLEASE DESCRIBE THE UPDATED CONSTANT GROWTH DCF ANALYSIS CONTAINED IN CCS EXHIBIT 5.7.

A. This constant growth DCF analysis reflects updated data and includes a slight variation of the growth rate calculation when compared to the constant growth DCF analysis calculated in CCS Exhibit 5.5, which was discussed above. The dividend yield for this update of Dr. Hadaway's analysis is based on the most recent 3-month average price as shown in CCS Exhibit 5.3. This is the same approach Dr. Hadaway employed in his analysis. It should be noted there is no real difference between the six-week price and the three-month price (updated) employed in Dr. Hadaway's analysis for the dividend yield calculation. The dividend rate in Dr. Hadaway's constant growth DCF analysis is the 2005 expected dividend as reported by Value Line. Given that the forecasted dividend is employed, no adjustment in the dividend yield calculation is necessary for growth. The resulting dividend yield ranges from 4.5% (average) to 4.7% (median), as shown in CCS Exhibit 5.7.

The growth rate employed in Dr. Hadaway's constant growth DCF analysis is the average of the internal (b x r) growth rate, Zacks and Value Line forecasted earnings per share growth rates, and 20-year average GDP historical change.[4] The resulting average growth rate is 4.72%

Combining the dividend yield 4.5% to 4.7% range with the 4.72% growth average indicates an investor return requirement of about 9.2%. These results fall within the range of my constant growth DCF analysis discussed earlier and shown in CCS Exhibit 5.5.

[4] It should be noted that the 20-year GDP growth rate is 6.0%, not the 6.6% employed by Dr. Hadaway. The reason for this change is discussed later in my testimony.

Q. PLEASE DESCRIBE THE UPDATE OF DR. HADAWAY'S CONSTANT GROWTH DCF ANALYSIS PRESENTED IN CCS EXHIBIT 5.8.

A. This constant growth DCF analysis employs GDP Growth as the sole growth rate estimate for calculating investor expectations. Dr. Hadaway's comparable analysis is shown in his Schedule 3 at page 3 of 5.

Updating the price and dividend data and employing a 6.0% GDP growth rate in this updated analysis rather than Dr. Hadaway's proposed 6.6% GDP growth indicates investor return requirements in the 10.5% to 10.6% range as shown in CCS Exhibit 5.8.

Q. DO YOU HAVE ANY COMMENTS REGARDING DR. HADAWAY'S GDP GROWTH RATE CALCULATION?

A. Yes. First, as a long-term growth measure of the future, the GDP historical growth measure as one of the measures for future earnings growth is not unreasonable. The basic underlying assumption is that electric utility earnings growth will parallel the growth in utility earnings. So long as future growth in GDP approaches the historic GDP measure, then the GDP growth rate proxy could be a reasonable estimate. But, caution should be taken in reliance on GDP growth as the sole measure of expected growth in earnings.

I also differ with Dr. Hadaway in his change in methodology in calculating the GDP measure. In previous testimony such as the last PacifiCorp case filed in May 2003, Dr. Hadaway employed a simple 20-year historical average of GDP growth for his long-term earnings growth proxy, which would produce a 6.0% GDP growth estimate.[5] Now, in this case, Dr. Hadaway changes his methodology for calculating the historical GDP long-term growth rate. Rather than using the 20-year GDP

[5] Dr. Hadaway Direct Testimony, Docket No. 03-2035-02, May 2003, at Exhibit UP&L __ (SCH-6) and (SCH-5), page 2, Column 12, and page 4, Column 36.

average of 6.0%, Dr. Hadaway takes an average of four different GDP growth averages as follows:

10-year GDP average	5.3%
20-year GDP average	6.0%
30-year GDP average	7.6%
40-year GDP average	7.5%
Average	6.6%

In other words, Dr. Hadaway's new methodology averages the historical averages. Dr. Hadaway provides no explanation or basis for his changed methodology, the net impact of which is to increase the long-term growth estimate from 6.0% to 6.6%.

Q. DO YOU RECOMMEND THE COMMISSION ACCEPT DR. HADAWAY'S NEW METHODOLOGY FOR COMPUTING LONG-TERM GROWTH?

A. No. A 20-year period is certainly a sufficiently long time period to smooth aberrations and/or outliers to project into the future. I find no theoretical (economic or mathematical) reason to employ an average of the 10, 20, 30, and 40-year averages. It could be argued that more recent GDP growth data is more important, and the 10-year GDP average of 5.3% would be the best GDP proxy of growth. In my opinion, if GDP average change is to be used as one of the growth rate estimates, then the 20-year average of 6.0% is a reasonable compromise for consideration in this case.

Q. PLEASE DESCRIBE YOUR DCF RESULTS CONTAINED IN CCS EXHIBIT 5.9.

A. This analysis updates and corrects Dr. Hadaway's non-constant growth Two Stage DCF estimates shown in his Schedule 3 at page 4 of 5. I have updated the data and changed the long-term GDP growth rate to 6.0% for the reasons discussed earlier. The results of this analysis indicate investor return requirements of 10.1% to 10.2% based on the non-constant growth DCF model.

Q. PLEASE SUMMARIZE THE VARIOUS DCF ANALYSES YOU HAVE

DESCRIBED.

A. The following table summarizes the constant growth DCR analysis as well as the updates to Dr. Hadaway's three DCF models.

TABLE 1
SUMMARY OF COMPARABLE GROUP DCF ANALYSES

Description	Low	High
Constant Growth DCF	9.2%	9.3%
Update of Dr. Hadaway Models		
Traditional DCF Constant Growth	9.1%	9.2%
Non-Constant Growth Two Stage DCF	10.1%	10.2%
Constant Growth DCF w/ GDP Growth	10.5%	10.6%
Average of Dr. Hadaway updates	9.9%	10.0%

This range of estimates of 9.1% to 10.6% indicates a cost of equity of about 10.0%. Dr. Hadaway's updated analysis averages about 10.0%. Thus, a review of all the DCF calculations indicates a range of 9.1% to 10.6% and an average of about 10.0%

SECTION IV – RISK PREMIUM METHODOLOGY

Q. DR. HADAWAY CALCULATED A RISK PREMIUM METHOD TO ESTIMATE A RETURN ON EQUITY REQUIREMENT. DO YOU HAVE ANY COMMENTS ON HIS RISK PREMIUM ANALYSES?

A. Yes, I do. The risk premium method attempts to measure investor cost of equity requirements based on the risk differentials between debt and equity investments. Essentially, the risk premium required to induce investors to purchase equity versus less risky debt investments is measured over some historical time period. The risk premium, once measured, is added to a measure of current debt cost to arrive at a risk premium measure of equity costs.

In this case, Dr. Hadaway calculated three risk premium estimates. First, Dr. Hadaway compared authorized electric utility return on equity ("ROE") to

contemporaneous long-term interest rates on utility bonds.[6] The difference between the authorized ROE's and utility bonds for the period 1980-2003 averaged 2.95%.[7] The 2.95% risk premium was further adjusted to reflect the inverse relationship between risk premiums and interest rates.[8] Dr. Hadaway concluded that as interest rates change by one percentage point, the risk premium changes by about 0.42 percentage points.[9] Dr. Hadaway's resulting adjusted risk premium in this case is 4.11%.[10] Dr. Hadaway then adds the 4.11% adjusted risk premium to the forecast estimate of single-A rated utility debt cost of 7.0%, to arrive at an 11.1% ROE estimate.[11]

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

A. In his second risk premium analysis, Dr. Hadaway employed the risk premium measured for the period 1926-2003 as reported in the Ibbotson Associates, Stocks, Bonds, Bills and Inflation 2004 Yearbook.[12] The resulting risk premium of 4.5% was added to the forecasted single-A rated utility debt estimate of 7.0% to arrive at an 11.5% risk premium ROE estimate.[13]

Q. PLEASE DESCRIBE DR. HADAWAY'S THIRD RISK PREMIUM ESTIMATE.

A. The third risk premium estimate is based on the Harris and Marston ("H&M) study that measured risk premium based on an expectational approach (using forward looking analysts' growth forecasts) using the S&P 500 as a proxy for the market portfolio.[14] The H&M study estimated risk premiums for the period 1982-1991 and concluded a 5.13% risk premium above yields on corporate bonds.[15] Dr. Hadaway

[6] Dr. Hadaway Direct at 28.
[7] Dr. Hadaway Direct at Exhibit UP&L __ (SCH-4).
[8] Id. at 28-29.
[9] Id. at 29.
[10] Id.
[11] Id.
[12] Id.
[13] Id. at 30.
[14] Robert S. Harris and Felicia Marston, "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," Financial Management, Summer 1992, at 63.
[15] Id.

then combines a 5.13% risk premium with a forecasted A-rated utility bond rate of 7.0% to arrive at a 12.1% risk premium ROE calculation.[16]

Q. DO YOU HAVE ANY COMMENTS REGARDING DR. HADAWAY'S RISK PREMIUM ANALYSES?

A. Yes, I have a number of comments. First, Dr. Hadaway has employed a forecasted debt rate of 7.0% in his analyses. In past cases, Dr. Hadaway has employed current actual debt costs rather than forecast estimates in his risk premium analyses. In this case, use of a 7.0% forecast estimate results in overstating the risk premium results. For example, Dr. Hadaway's own analysis recognizes that current single-A rated bond rates are in the 6.50% range.[17] Further, the Company's own forecast of debt costs for March 2005 and March 2006 is 6.02 and 6.40 percent, respectively.[18] Thus, Dr. Hadaway's forecasted debt cost is about 50 basis points above current debt costs, or even the Company's own forecast of debt cost.

Q. WHAT ADDITIONAL COMMENTS DO YOU HAVE REGARDING DR. HADAWAY'S RISK PREMIUM ANALYSES?

A. A second problem is that his analysis is inconsistent. In his first risk premium method where he analyzed authorized ROE's, Dr. Hadaway adjusted the risk premium to reflect his assumed inverse relationship between risk premiums and interest rates. However, Dr. Hadaway never made such an adjustment in his remaining two risk premium studies.

Third, Dr. Hadaway has apparently ignored the results of his H&M risk premium study. But, in my opinion, this study, that measures risk premiums for the period 1982-1991, has little value when attempting to measure the current cost of equity for PacifiCorp.

[16] Dr. Hadaway Direct at 30.
[17] Id. at 19.
[18] Bruce Williams Direct at 6.

Fourth, the Ibbotson analysis covering the period 1926-2003, while reflecting historical risk premium measures, also has limited value in measuring the current cost of equity. In my opinion, a more current historical period is more representative of the current cost of equity.

Q. HAVE YOU CALCULATED A RISK PREMIUM MEASURE TO ESTIMATE THE COST OF EQUITY IN THIS CASE?

A. Yes, I have. In an effort to correct Dr. Hadaway's analysis, I have calculated a risk premium employing more recent risk premium measures combined with current debt costs.

Contained in CCS Exhibit 5.10 is a risk premium estimate employing risk premium measured over the past ten years, 1994-2003. In my opinion, these more recent risk premium measures are more relevant for today's cost of equity estimates. Combining the resulting risk premium estimate with a 6.4% current cost of single-A rated debt results in a risk premium range of 10.0% to 10.6%. The range of 10.0% to 10.6% results from the impact of adjusting the risk premium for the interest rate coefficient that Dr. Hadaway used in one study, but not the others.

The debt cost of 6.4% is based on an average of six months for single-A rated debt cost as reported by Standard & Poor's. Moreover, the 6.4% single-A rated bond rate is consistent with PacifiCorp's 2005 and 2006 estimates of 6.0% to 6.4%.

Q. PLEASE SUMMARIZE YOUR ANALYSIS OF RISK PREMIUMS.

A. Dr. Hadaway's risk premium estimates ranging from 11.1% to 12.1%[19] overstate the cost of equity. Moreover, Dr. Hadaway's analysis is not consistent, relies on outdated studies, and the forecasted debt cost of 7.0% is not consistent with PacifiCorp's current estimates. For all these reasons, Dr. Hadaway's risk premium ROE estimates should be disregarded. Instead, a risk premium estimate of 10.0%

[19] Dr. Hadaway Direct at 31.

to 10.6% is a more reasonable estimate of ROE for this case.

Q. BASED ON YOUR DCF ANALYSIS, AND UPDATING/CORRECTING DR. HADAWAY'S DCF AND RISK PREMIUM ANALYSES, WHAT IS YOUR CONCLUSION REGARDING THE COST OF EQUITY IN THIS CASE?

A. The following table summarizes the results of the various analyses discussed in my testimony.

TABLE 2
SUMMARY OF COST OF EQUITY ESTIMATES

DCF Analyses	
Constant Growth DCF	9.2%
Update of Dr. Hadaway	
DCF Traditional Growth	9.2%
DCF GDP Growth	10.5%
DCF Two-Stage Growth	10.1%
DCF Range	9.2%–10.5%
Risk Premium	10.0%–10.6%
Cost of Equity Range	9.2%–10.6%

In my opinion, a cost of equity of 10.0% is reasonable. The DCF analyses indicate a cost of equity in the 9.2% to 10.5% range, while the risk premium approach indicates about a 10.0%-10.6% equity return. A 10.0% equity return is the approximate average or midpoint of the DCF analyses and is verified by the risk premium results.

SECTION V – CAPITAL STRUCTURE

Q. WHAT CAPITAL STRUCTURE AND COST RATES ARE PACIFICORP REQUESTING IN THIS CASE?

A. PacifiCorp is requesting the following capital structure, cost rates, and overall return for establishing revenue requirements in this proceeding.

TABLE 3[20]
PACIFICORP CAPITAL STRUCTURE AND COST RATES

DESCRIPTION	RATIO	COST	WEIGHTED COST
Long-Term Debt	51.0%	6.54%	3.335%
Preferred Stock	1.2%	6.635%	0.079%
Common Equity	47.8%	11.125%[21]	5.318%
Total	100.0%	——	8.732%

It should be noted that the Company's expected earned return on equity is 10.6% at the requested $111 million annual increase.[22]

Q. WHAT IS THE SIGNIFICANCE OF CAPITAL STRUCTURE?

A. The overall cost of capital is the sum of the weighted average cost rates of various sources of capital. The quantity or portion of each type of capital, combined with the cost rate of capital, determines the overall rate of return that PacifiCorp should be allowed to earn in this proceeding. The most significant relationship in any capital structure is the debt to equity ratio.

Q. DOES THERE EXIST SOME SET RELATIONSHIP OR IDEAL MIX OF DEBT AND EQUITY CAPITAL?

A. There exists no set relationship for all firms or all industries in terms of leveraging. However, the ideal capital structure is one that minimizes the overall cost of capital to the firm, while still maintaining financial integrity so as to maintain the ability to attract capital at reasonable costs to meet future needs. Because the cost of debt is generally lower than the cost of equity, and also because the cost of debt represents a tax deductible expense, any increase in the quantity of debt capital tends to decrease the overall cost of capital relative to equity financing. One must keep in

[20] Direct testimony of Bruce Williams at 6-7.
[21] Direct testimony of Dr. Hadaway at 4.
[22] PacifiCorp response to UIEC Question 2.21.

mind that increases in the quantity of debt financing can cause the financial risk of the Company to increase. In other words, there is a cost for the savings associated with increased debt leveraging. That cost is increased financial risk to the firm.

In summary, it is not possible to determine with precision the exact proportion of debt and equity that minimizes the overall cost of capital without imposing undue financial risk upon the Company. There does exist some range of capital structure that, generally, meets the goal of minimizing the overall cost of capital while maintaining the firm's financial integrity.

Q. WHAT CRITERIA SHOULD REGULATORS EMPLOY IN DETERMINING THE APPROPRIATE CAPITAL STRUCTURE TO BE USED FOR RATEMAKING?

A. In my opinion, rate regulation should focus on two criteria to determine the appropriate capital structure. Those factors as outlined below should be economy and safety.

The advantage of debt in the capital structure is that debt costs less than equity. Moreover, interest charges are deductible for income tax purposes and act to reduce taxes. Thus, the more debt in the capital structure the lower the cost of capital will be. The question of economy is addressed by examining whether increases in the debt ratio act to increase the cost rates of both debt and equity so as to over balance the benefits of the larger proportion of debt.

In addition, there is always the overriding question of safety. In other words, financial risk is increased if the proportion of debt is increased by such a magnitude that interest obligations cannot be covered during periods of depressed earnings.

Q. DO YOU HAVE ANY COMMENTS ON THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

A. Yes. The Company has employed a forecasted capital structure for fiscal year 2006

consistent with the test year in this case. I have reviewed the testimony and calculations of Company witness Williams and conclude that PacifiCorp's proposed 2006 capital structure estimate along with debt and preferred costs is reasonable.

It must also be remembered that the Company is being afforded the opportunity to employ a forecasted test period and capital structure. A forecasted test year provides the Company benefits by reducing risks associated with regulatory lag. In other words, future events and cost changes that are reasonably expected to occur in the rate effective period are reflected in PacifiCorp's cost of service and capital structure.

Given the above, I am recommending an overall cost of capital as follows:

TABLE 4
PACIFICORP OVERALL COST OF CAPITAL
FOR THE TEST YEAR ENDED MARCH 2006

Description	Percent	Cost[23]	Weighted Cost
Long-Term Debt	51.00%	6.54%	3.335%
Preferred Stock	1.20%	6.635%	0.079%
Common Equity	47.80%	10.00%	4.780%
Total	100.00%	—	8.195%

Q. WILL YOUR RECOMMENDED RETURN PROVIDE THE COMPANY SUFFICIENT INTEREST COVERAGE TO MAINTAIN ITS FINANCIAL INTEGRITY?

A. Yes. Based on the March 2006 capitalization, my recommended 8.191% overall cost of capital provides coverage ratios of 3.24x and 2.46x for pretax and after-tax interest coverage, respectively. These coverage ratios are sufficient for the Company to maintain financial integrity.

[23] The embedded cost of debt and preferred is based on the direct testimony of PacifiCorp witness Bruce Williams at 6.

SECTION VI – ISSUES RELATED TO DR. HADAWAY'S COST OF EQUITY ESTIMATE

Q. WHAT GENERAL COMMENTS DO YOU HAVE REGARDING DR. HADAWAY'S COST OF EQUITY CAPITAL PROPOSAL IN THIS CASE?

A. I have already discussed that Dr. Hadaway has changed his methodology for calculating his DCF related GDP growth rate and debt cost for his risk premium analysis. Both of these changes in methodology increase his estimated cost of capital for PacifiCorp by about 50 basis points. Moreover, when Dr. Hadaway's cost of capital estimates are updated and corrected, the results are significantly changed, as shown in the following table:

TABLE 5
COMPARISON OF DR. HADAWAY'S EQUITY ESTIMATES TO UPDATE AND CORRECTIONS

	Description	Dr. Hadaway	Updated
	DCF Analyses		
1.	Constant Growth (Traditional growth)	9.6%	9.2%
2.	Constant Growth (GDP growth)	11.2%	10.5%
3.	Two-Stage Growth Model	10.7%	10.1%
	Risk Premium Analyses		
4.	Utility Debt and Risk Premium	11.1%	10.8%
5.	Ibbotson Risk Premium	11.5%	10.9%
6.	H&M Risk Premium	12.1%	11.5%
7.	Dr. Hadaway Conclusion[24]	11.125%	10.575%

Thus, Dr. Hadaway's analysis, when updated and corrected for methodology errors, results in a 10.575% cost of capital.

Q. HOW DID DR. HADAWAY CALCULATE HIS 11.125% RESULT?

A. While Dr. Hadaway never discloses how he reaches his 11.125% figure, the 11.125% figure can be duplicated by averaging the following Dr. Hadaway results:

[24] To reach his result, it appears that Dr. Hadaway simply averaged the results of lines 2-5 and excluded th results of his traditional growth DCF and H&M risk premium.

Constant Growth Model (GDP Growth)	11.2%
Two-Stage Growth Model	10.7%
Utility debt plus risk premium	11.1%
Ibbotson Risk Premium	11.5%
Average of Above	11.125%

Thus, to reach his result, Dr. Hadaway ostensibly discarded the traditional constant growth DCF and his H&M risk premium results.

Q. IS THIS APPROACH OF AVERAGING THE RESULTS OF THE DCF AND RISK PREMIUM ANALYSES CONSISTENT WITH DR. HADAWAY'S TESTIMONY?

A. No. At page 18 (lines 17-19) of his direct testimony, Dr. Hadaway states, "…I rely principally upon the DCF model, and I test the reasonableness of the DCF results by comparing to market-based premiums." It certainly appears that in actuality, Dr. Hadaway relied equally on the DCF and risk premium results. It does not appear the risk premiums were used as a test of reasonableness to validate his DCF results. Had Dr. Hadaway relied principally on the DCF results, then after correcting his methodology changes and updating the data, he would have been in the 10 percent range that I recommend in this case. In other words, employing Dr. Hadaway's corrected results for the Constant Growth (GDP growth) model of 10.5% and the 10.1% from his two-stage growth model results in a 10.3% cost of equity estimate.

A 10.3% cost of equity estimate is within the range of estimates of my analyses. Moreover, giving consideration to the traditional growth DCF results of 9.2% indicates a 10.0% cost of capital is quite reasonable.

Q. DOES THIS CONCLUDE YOUR PREFILED TESTIMONY?

A. Yes.