Exhibit No.___(SCH-1T)
Docket No. UE-10___
Witness: Samuel C. Hadaway

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, Complainant, vs. PACIFICORP dba Pacific Power Respondent.	)	Docket No. UE-10_____

PACIFICORP

DIRECT TESTIMONY OF SAMUEL C. HADAWAY

May 2010

Q. Please state your name, occupation, and business address.

A. My name is Samuel C. Hadaway. I am a Principal in FINANCO, Inc., Financial Analysis Consultants, 3520 Executive Center Drive, Austin, Texas 78731.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of PacifiCorp (PacifiCorp or the Company).

Q. Briefly describe your educational and professional background.

A. I have a Bachelor's degree in economics from Southern Methodist University, as well as MBA and Ph.D. degrees with concentrations in finance and economics from the University of Texas at Austin (UT Austin). I am an owner and full-time employee of FINANCO, Inc. FINANCO provides financial research concerning the cost of capital and financial condition for regulated companies as well as financial modeling and other economic studies in litigation support. In addition to my work at FINANCO, I have served as an adjunct professor in the McCombs School of Business at UT Austin and in what is now the McCoy College of Business at Texas State University. In my prior academic work, I taught economics and finance courses and I conducted research and directed graduate students in the areas of investments and capital market research. I was previously Director of the Economic Research Division at the Public Utility Commission (Texas Commission) of Texas where I supervised the Texas Commission's finance, economics, and accounting staff, and served as the Texas Commission's chief financial witness in electric and telephone rate cases. I have taught courses at various utility conferences on cost of capital, capital structure, utility financial condition, and cost allocation and rate design issues. I have made presentations

before the New York Society of Security Analysts, the National Rate of Return Analysts Forum, and various other professional and legislative groups. I have served as a vice president and on the board of directors of the Financial Management Association.

A list of my publications and testimony that I have given before various regulatory bodies and in state and federal courts is contained in my resume, which is included as Exhibit No.___(SCH-2).

Purpose and Summary of Testimony

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to estimate the market required rate of return on equity capital (ROE) for PacifiCorp.

Q. Please state your ROE recommendation and summarize the results of your cost of equity studies.

A. I estimate the cost of equity for PacifiCorp to be 10.6 percent. My discounted cash flow (DCF) analysis indicates that a range of 10.4 percent to 10.9 percent is appropriate. My risk premium analysis indicates an ROE range of 10.38 percent to 10.60 percent. Based on these quantitative results and my further review of other economic data, I recommend a point estimate of 10.6 percent.

Q. How is your analysis structured?

In my DCF analysis, I apply a comparable company approach. PacifiCorp's cost of equity cannot be estimated directly from its own market data because it is a wholly-owned subsidiary of MidAmerican Energy Holdings Company. As such, the Company does not have publicly traded common stock or other independent

market data that would be required to estimate its cost of equity directly. I begin my comparable company review with all the electric utilities that are included in the *Value Line Investors Survey* (Value Line). Value Line is a widely-followed, reputable source of financial data that is often used by professional regulatory economists. To improve the proxy group's comparability with the Company, I restricted the group to companies with senior secured bond ratings of at least "A-" by Standard & Poor's (S&P) or "A3" by Moody's Investors Service (Moody's). I also required the comparable companies to derive at least 70 percent of revenues from regulated utility sales, to have consistent financial records not affected by recent mergers or restructuring, and to have a consistent dividend record, with no dividend cuts or resumptions in the past two years, as required by the DCF model. The fundamental characteristics and bond ratings of the 22 companies in my comparable group are presented in Exhibit No.___(SCH-3).

In my risk premium analysis, I relied on current and projected single-A utility bond interest rates. These interest rates are consistent with the Company's senior secured bond ratings of "A" from S&P and "A2" from Moody's. As I will explain in more detail later in this testimony, under current market conditions the DCF and risk premium models appear to provide extremely conservative estimates of the Company's cost of equity capital. The data sources and the details of my cost of equity studies are contained in Exhibit No.___(SCH-3) through Exhibit No.___(SCH-7).

Q. How is the remainder of your testimony organized?

A. My testimony is divided into three additional sections. Following this

introduction, I review various methods for estimating the cost of equity. In this section, I discuss comparable earnings methods, risk premium methods, and the discounted cash flow model. In the following section, I review general capital market costs and conditions and discuss recent developments in the electric utility industry that may affect the cost of capital. In the final section, I discuss the details of my cost of equity studies and summarize my ROE recommendations.

Estimating the Cost of Equity Capital

Q. What is the purpose of this section of your testimony?

A. The purpose of this section is to present a general definition of the cost of equity capital and to compare the strengths and weaknesses of several of the most widely used methods for estimating the cost of equity. Estimating the cost of equity is fundamentally a matter of informed judgment. The various models provide a concrete link to actual capital market data and assist with defining the various relationships that underlie the ROE estimation process.

Q. Please define the term "cost of equity capital" and provide an overview of the cost estimation process.

A. The cost of equity capital is the rate of return that equity investors expect to receive. Conceptually it is no different than the cost of debt or the cost of preferred stock. The cost of equity is the rate of return that common stockholders expect, just as interest on bonds and dividends on preferred stock are the returns that investors in those securities expect. Equity investors expect a return on their capital commensurate with the risks they take and consistent with returns that are available from other similar investments. Unlike returns from debt and preferred

stocks, however, the equity return is not directly observable in advance and, therefore, it must be estimated or inferred from capital market data and trading activity.

An example helps to illustrate the cost of equity concept. Assume that an investor buys a share of common stock for $20 per share. If the stock's expected dividend is $1.00, the expected dividend yield is 5.0 percent ($1.00 / $20 = 5.0 percent). If the stock price is also expected to increase to $21.20 after one year, this one dollar and 20 cent expected gain adds an additional 6.0 percent to the expected total rate of return ($1.20 / $20 = 6.0 percent). Therefore, buying the stock at $20 per share, the investor expects a total return of 11.0 percent: 5.0 percent dividend yield, plus 6.0 percent price appreciation. In this example, the total expected rate of return of 11.0 percent is the appropriate measure of the cost of equity capital, because it is this rate of return that caused the investor to commit the $20 of equity capital in the first place. If the stock were riskier, or if expected returns from other investments were higher, investors would have required a higher rate of return from the stock, which would have resulted in a lower initial purchase price in market trading.

Each day market prices change to reflect new investor expectations and requirements. Changes in market prices, all else equal, imply changes in investor required rates of return. For example, when interest rates on bonds and savings accounts rise, utility stock prices usually fall. This is true, at least in part, because higher interest rates on these alternative investments make utility stocks relatively less attractive, which causes utility stock prices to decline in market trading. This

competitive market adjustment process is quick and continuous, so that market prices generally reflect investor expectations and the relative attractiveness of one investment versus another. In this context, to estimate the cost of equity one must apply informed judgment about the relative risk of the company in question and knowledge about the risk and expected rate of return characteristics of other available investments as well.

Q. How does the market account for risk differences among various investments?

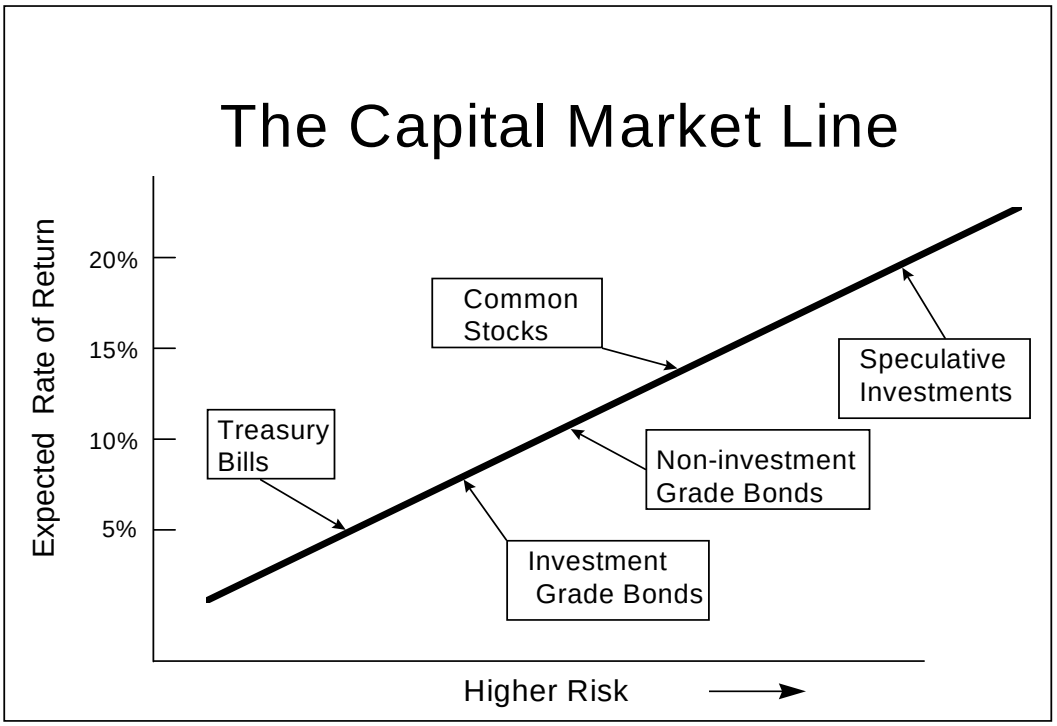
A. Risk-return tradeoffs among capital market investments have been the subject of extensive financial research. Literally dozens of textbooks and hundreds of academic articles have addressed the issue. Generally, such research confirms the common sense conclusion that investors will take additional risks only if they expect to receive a higher rate of return. Empirical tests consistently show that returns from low risk securities, such as U.S. Treasury bills, are the lowest; that returns from longer-term Treasury bonds and corporate bonds are increasingly higher as risks increase; and generally, returns from common stocks and other more risky investments are even higher. These observations provide a sound theoretical foundation for both the DCF and risk premium methods for estimating the cost of equity capital. These methods attempt to capture the well founded risk-return principle and explicitly measure investors' rate of return requirements.

Q. Can you illustrate the capital market risk-return principle that you just described?

A. Yes. The following graph depicts the risk-return relationship that has become

widely known as the Capital Market Line (CML). The CML offers a graphical representation of the capital market risk-return principle. The graph is not meant to illustrate the actual expected rate of return for any particular investment, but merely to illustrate in a general way the risk-return relationship.

Risk-Return Tradeoffs



As a continuum, the CML can be viewed as an available opportunity set for investors. Those investors with low risk tolerance or investment objectives that mandate a low risk profile should invest in assets depicted in the lower left-hand portion of the graph. Investments in this area, such as Treasury bills and short-maturity, high quality corporate commercial paper, offer a high degree of investor

certainty. In nominal terms (before considering the potential effects of inflation), such assets are virtually risk-free.

Investment risks increase as one moves up and to the right along the CML. A higher degree of uncertainty exists about the level of investment value at any point in time and about the level of income payments that may be received. Among these investments, long-term bonds and preferred stocks, which offer priority claims to assets and income payments, are relatively low risk, but they are not risk-free. The market value of long-term bonds, even those issued by the U.S. Treasury, often fluctuates widely when government policies or other factors cause interest rates to change.

Farther up the CML continuum, common stocks are exposed to even more risk, depending on the nature of the underlying business and the financial strength of the issuing corporation. Common stock risks include market-wide factors, such as general changes in capital costs, as well as industry and company specific elements that may add further to the volatility of a given company's performance. As I will illustrate in my risk premium analysis, common stocks typically are more volatile (have higher risk) than high quality bond investments and, therefore, they reside above and to the right of bonds on the CML graph. Other more speculative investments, such as stock options and commodity futures contracts, contain higher risks (but offer higher potential returns). The CML's depiction of the risk-return tradeoffs available in the capital markets provides a useful perspective for estimating investors' required rates of return.

Q. How is the fair rate of return in the regulatory process related to the estimated cost of equity capital?

A. The regulatory process is guided by fair rate of return principles established in the U.S. Supreme Court cases, *Bluefield Water Works* and *Hope Natural Gas*:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. *Bluefield Water Works & Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679, 692-693 (1923).

> From the investor or company point of view, it is important that there be enough revenue not only for operating expenses, but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. *Federal Power Commission v. Hope Natural Gas Co*., 320 U.S. 591, 603 (1944).

Based on these principles, the fair rate of return should closely parallel investor opportunity costs as discussed above. If a utility earns its market cost of equity, neither its stockholders nor its customers should be disadvantaged.

Q. What specific methods and capital market data are used to evaluate the cost of equity?

A. Techniques for estimating the cost of equity normally fall into three groups: comparable earnings methods, risk premium methods, and DCF methods. The first set of estimation techniques, the comparable earnings methods, has evolved over time. The original comparable earnings methods were based on book

accounting returns. This approach developed ROE estimates by reviewing accounting returns for unregulated companies thought to have risks similar to those of the regulated company in question. These methods have generally been rejected because they assume that the unregulated group is earning its actual cost of capital, and that its equity book value is the same as its market value. In most situations these assumptions are not valid, and, therefore, accounting-based methods do not generally provide reliable cost of equity estimates.

More recent comparable earnings methods are based on historical stock market returns rather than book accounting returns. While this approach has some merit, it too has been criticized because there can be no assurance that historical returns actually reflect current or future market requirements. Also, in practical application, earned market returns tend to fluctuate widely from year to year. For these reasons, a current cost of equity estimate (based on the DCF model or a risk premium analysis) is usually required.

The second set of estimation techniques is grouped under the heading of risk premium methods. These methods begin with currently observable market returns, such as yields on government or corporate bonds, and add an increment to account for the additional equity risk. The capital asset pricing model (CAPM) and arbitrage pricing theory (APT) model are more sophisticated risk premium approaches. The CAPM and APT methods estimate the cost of equity directly by combining the "risk-free" government bond rate with explicit risk measures to determine the risk premium required by the market. Although these methods are widely used in academic cost of capital research, their additional data

requirements and their potentially questionable underlying assumptions have detracted from their use in most regulatory jurisdictions. The basic equity risk premium methods provide a useful parallel approach with the DCF model and assure consistency with other capital market data in the equity cost estimation process.

Q. Are there any additional methods employed to estimate the investor required cost of equity?

A. Yes. The third set of estimation techniques, based on the DCF model, is the most widely used regulatory cost of equity estimation method. Like the risk premium approach, the DCF model has a sound basis in theory, and many argue that it has the additional advantage of simplicity. I will describe the DCF model in detail below, but in essence its estimate of ROE is simply the sum of the expected dividend yield and the expected long-term dividend, earnings, or price growth rate (all of which are assumed to grow at the same rate). While dividend yields are easy to obtain, estimating long-term growth is more difficult. Because the constant growth DCF model also requires very long-term growth estimates (technically to infinity), some argue that its application is too speculative to provide reliable results, leading to a preference for the multistage growth DCF analysis.

Q. Of the three estimation methods, which do you believe provides the most reliable results?

A. From my experience, a combination of DCF and basic equity risk premium methods provides the most reliable approach. While the caveat about estimating

long-term growth must be observed, the DCF model's other inputs are readily obtainable, and the model's results typically are consistent with capital market behavior. The basic risk premium methods provide a good parallel approach to the DCF model and further ensure that current market conditions are accurately reflected in the cost of equity estimate.

Q. Please explain the DCF model.

A. The DCF model is predicated on the concept that stock prices represent the present value or discounted value of all future dividends that investors expect to receive. In the most general form, the DCF model is expressed in the following formula:

$$P_0 = D_1/(1+k) + D_2/(1+k)^2 + ... + D_\infty/(1+k)^\infty \qquad (1)$$

where P_0 is today's stock price; D_1, D_2, etc. are all future dividends and k is the discount rate, or the investor's required rate of return on equity. Equation (1) is a routine present value calculation based on the assumption that the stock's price is the present value of all dividends expected to be paid in the future.

Under the additional assumption that dividends are expected to grow at a constant rate "g" and that k is strictly greater than g, equation (1) can be solved for k and rearranged into the simple form:

$$k = D_1/P_0 + g \qquad (2)$$

Equation (2) is the familiar constant growth DCF model for cost of equity estimation, where D_1/P_0 is the expected dividend yield and g is the long-term expected dividend growth rate.

Under circumstances when growth rates are expected to fluctuate or when

future growth rates are highly uncertain, the constant growth model may not give reliable results. Although the DCF model itself is still valid (equation (1) is mathematically correct), under such circumstances the simplified form of the model must be modified to capture market expectations accurately.

Recent events and current market conditions in the electric utility industry as discussed later appear to challenge the constant growth assumption of the traditional DCF model. Since the mid-1990s, dividend growth expectations for many electric utilities have fluctuated widely. In fact, over one-third of the electric utilities in the U.S. have reduced or eliminated their common dividends over this time period. Some of these companies have reestablished their dividends, producing exceptionally high growth rates. Under these circumstances, long-term growth rate estimates may be highly uncertain, and estimating a reliable "constant" growth rate for many companies is often difficult.

Q. Can the DCF model be applied when the constant growth assumption is violated?

A. Yes. When growth expectations are uncertain, the more general version of the model represented in equation (1) should be solved explicitly over a finite "transition" period while uncertainty prevails. The constant growth version of the model can then be applied after the transition period, under the assumption that more stable conditions will prevail in the future. There are two alternatives for dealing with the nonconstant growth transition period.

Under the "terminal price" nonconstant growth approach, equation (1) is written in a slightly different form:

$$P_0 = D_1/(1+k) + D_2/(1+k)^2 + ... + P_T/(1+k)^T \quad (3)$$

where the variables are the same as in equation (1) except that P_T is the estimated stock price at the end of the transition period T. Under the assumption that normal growth resumes after the transition period, the price P_T is then expected to be based on constant growth assumptions. With the terminal price approach, the estimated cost of equity, k, is just the rate of return that investors would expect to earn if they bought the stock at today's market price, held it and received dividends through the transition period (until period T), and then sold it for price P_T. In this approach, the analyst's task is to estimate the rate of return that investors expect to receive given the current level of market prices they are willing to pay.

Under the "multistage" nonconstant growth approach, equation (1) is simply expanded to incorporate two or more growth rate periods, with the assumption that a permanent constant growth rate can be estimated for some point in the future:

$$P_0 = D_0(1+g_1)/(1+k) + ... + D_0(1+g_2)^n/(1+k)^n +$$
$$... + D_0(1+g_T)^{(T+1)}/(k-g_T) \quad (4)$$

where the variables are the same as in equation (1), but g_1 represents the growth rate for the first period, g_2 for a second period, and g_T for the period from year T (the end of the transition period) to infinity. The first two growth rates are simply estimates for fluctuating growth over "n" years (typically 5 or 10 years) and g_T is a constant growth rate assumed to prevail forever after year T. The difficult task

for analysts in the multistage approach is determining the various growth rates for each period.

Although less convenient for exposition purposes, the nonconstant growth models are based on the same valid capital market assumptions as the constant growth version. The nonconstant growth approach simply requires more explicit data inputs and more work to solve for the discount rate, k. Fortunately, the required data are available from investment and economic forecasting services, and computer algorithms can easily produce the required solutions. Both constant and nonconstant growth DCF analyses are presented in a subsequent section of my testimony.

Q. Please explain the risk premium methodology.

A. Risk premium methods are based on the assumption that equity securities are riskier than debt and, therefore, that equity investors require a higher rate of return. This basic premise is well supported by legal and economic distinctions between debt and equity securities, and it is widely accepted as a fundamental capital market principle. For example, debt holders' claims to the earnings and assets of the borrower have priority over all claims of equity investors. The contractual interest on mortgage debt must be paid in full before any dividends can be paid to shareholders, and secured mortgage claims must be fully satisfied before any assets can be distributed to shareholders in bankruptcy. Also, the guaranteed, fixed-income nature of interest payments makes year-to-year returns from bonds typically more stable than capital gains and dividend payments on

stocks. All these factors demonstrate the more risky position of stockholders and support the equity risk premium concept.

Q. Are risk premium estimates of the cost of equity consistent with other current capital market costs?

A. Yes. The risk premium approach is useful because it is founded on current market interest rates, which are directly observable. This feature assures that risk premium estimates of the cost of equity begin with a sound basis, which is tied directly to current capital market costs.

Q. Is there consensus about how risk premium data should be employed?

A. No. In regulatory practice there is often considerable debate about how risk premium data should be interpreted and used. Since the analyst's basic task is to gauge investors' required returns on long-term investments, some argue that the estimated equity risk premium should be based on the longest possible time period. Others argue that market relationships between debt and equity from several decades ago are irrelevant and that only recent debt-equity observations should be given any weight in estimating investor requirements. There is no consensus on this issue. Since analysts cannot observe or measure investors' expectations directly, it is not possible to know exactly how such expectations are formed or, therefore, to know exactly what time period is most appropriate in a risk premium analysis.

The important point is to answer the following question: "What rate of return should equity investors reasonably expect relative to returns that are currently available from long-term bonds?" The risk premium studies and

analyses I discuss later address this question. My risk premium recommendation is based on an intermediate position that avoids some of the problems and concerns that have been expressed about both very long and very short periods of analysis with the risk premium model.

Q. Please summarize your discussion of cost of equity estimation techniques.

A. Estimating the cost of equity is one of the most controversial issues in utility ratemaking. Because actual investor requirements are not directly observable, several methods have been developed to assist in the estimation process. The comparable earnings method is the oldest but perhaps least reliable. Its use of accounting rates of return, or even historical market returns, may or may not reflect current investor requirements. Differences in accounting methods among companies and issues of comparability also detract from this approach.

The DCF and risk premium methods have become the most widely accepted in regulatory practice. In my professional judgment, a combination of the DCF model and a review of risk premium data provides the most reliable cost of equity estimate. While the DCF model does require judgment about future growth rates, the dividend yield is straightforward, and the model's results are generally consistent with actual capital market behavior. For these reasons, I will rely on a combination of the DCF model and a risk premium analysis in the cost of equity studies that follow.

Fundamental Factors That Affect the Cost of Equity

Q. What is the purpose of this section of your testimony?

A. In this section, I review recent capital market conditions and industry factors that

should be reflected in the cost of capital estimate.

Q. What has been the experience in the U.S. capital markets for the past several years?

A. In Exhibit No.___(SCH-4), page 1, I provide a review of annual interest rates and rates of inflation in the U.S. economy over the past ten years. During that time inflation and fixed income market costs declined and, generally, have been lower than rates that prevailed in the previous decade. Inflation, as measured by the Consumer Price Index (CPI), was zero in 2008 but increased to about a 3 percent annual rate in 2009. Over the past decade, the CPI has averaged 2.6 percent. This is lower than its long-run average of 3.5 percent to 4.0 percent.

Having reduced the target Federal Funds overnight bank interest rate to virtually zero (the Federal Funds rate is the rate banks charge each other to borrow reserves overnight), the Federal Reserve System's current monetary policy options are limited. During the period from mid-2004 until mid-2006, the Federal Reserve System increased the short-term Federal Funds interest rate 17 times, raising it from 1 percent to 5.25 percent. In late 2007, in response to the early turbulence in the sub-prime credit markets, the Federal Reserve Open Market Committee began aggressively reducing the Federal Funds rate. Since September 2007, the rate has been lowered eleven times to its current target level of between zero and one-quarter percent. While governmental policies and "flight

to safety"[1] issues have driven down interest rates on higher quality debt securities, the cost of equity for utilities has not declined to the same extent over the past year.

Q. Has the recent extreme turbulence in the capital markets increased the cost of capital for utilities?

A. Yes. At various times since late 2008, the capital markets in the U.S. have been more turbulent than at any time since the 1930s. This period has seen frequent large daily moves in the stock market and conditions in the corporate debt market that, in late 2008 and parts of early 2009, could best be characterized as near-chaos. The S&P 500 and the Dow Jones Industrial Average have fluctuated by 50 percent since November 2007. In this environment, many large financial institutions such as Countrywide Financial, Washington Mutual, the Federal Home Loan Mortgage Association, the Federal National Mortgage Association, Wachovia, Bear Sterns, and Merrill Lynch were unable to survive as independent institutions. Lehman Brothers was forced to file for bankruptcy. Other surviving institutions such as Citigroup, Goldman Sachs, American International Group, Morgan Stanley and others have required multibillion dollar capital infusions.

Since October 2008, the Federal government has enacted emergency legislation and taken other steps to stabilize the economy. As part of that effort

[1] The term "flight to safety" refers to the tendency for investors, during periods of market turbulence, to remove money from more risky investments, such as corporate bonds and stocks, and to put the money into government securities such as Treasury bills and bonds. The effect causes a reduction in the supply of funds to corporations and an increase in funds invested in government securities. The result is wider "spreads" between corporate bond and government bond interest rates and higher capital costs for corporations.

the government increased federal deposit insurance for banks, lent billions of dollars to financial institutions, purchased hundreds of billions of dollars in illiquid securities, guaranteed loans between financial institutions, and purchased equity in banks. There is no question that the economic and financial uncertainties generated by the credit crisis have significantly impacted the risks surrounding public utility company cost of capital.

Q. Can you be more specific regarding the impact of the credit crisis on the cost of capital of public utilities?

A. Yes. In Exhibit No.___(SCH-4), page 2, I provide data that illustrate the volatility that has occurred in the debt markets. The schedule shows that during the past two years, single-A spreads for utility companies were at times more than three times previously existing levels. The month-by-month interest rates paid by single-A rated utilities and the U.S. Treasury since January 2008 are presented in Exhibit No.___(SCH-4), page 2. These interest rate data are summarized in Table 1 below.

Table 1
Long-Term Interest Rate Trends

Month	Single-A Utility Rate	30-Year Treasury Rate	Single-A Utility Spread
Jan-08	6.02	4.33	1.69
Feb-08	6.21	4.52	1.69
Mar-08	6.21	4.39	1.82
Apr-08	6.29	4.44	1.85
May-08	6.28	4.60	1.68
Jun-08	6.38	4.69	1.69
Jul-08	6.40	4.57	1.83
Aug-08	6.37	4.50	1.87
Sep-08	6.49	4.27	2.22
Oct-08	7.56	4.17	3.39
Nov-08	7.60	4.00	3.60
Dec-08	6.52	2.87	3.65
Jan-09	6.39	3.13	3.26
Feb-09	6.30	3.59	2.71
Mar-09	6.42	3.64	2.78
Apr-09	6.48	3.76	2.72
May-09	6.49	4.23	2.26
Jun-09	6.20	4.52	1.68
Jul-09	5.97	4.41	1.56
Aug-09	5.71	4.37	1.34
Sep-09	5.53	4.19	1.34
Oct-09	5.55	4.19	1.36
Nov-09	5.64	4.31	1.33
Dec-09	5.79	4.49	1.30
Jan-09	5.77	4.60	1.17
Feb-10	5.87	4.62	1.25
Mar-10	5.84	4.64	1.20
3-Mo Avg	**5.83**	**4.62**	**1.21**
12-Mo Avg	**5.90**	**4.36**	**1.54**

Mergent Bond Record (Utility Rates); www.federalreserve.gov (Treasury Rates).
Three-month average is for January through March 2010.
Twelve-month average is for April 2009 through March 2010.

The data in Table 1 vividly illustrate the market turmoil that has occurred. In fact, increased risk aversion and continuing market volatility have resulted in ongoing

difficulties for many corporations. The ongoing effects of the market's turbulence is not easily captured in financial models for estimating the required rate of return. However, these continuing effects and the elevated level of risk aversion should be considered in estimating the cost of equity capital.

Q. Do the smaller spreads between single-A utility bond yields and U.S. Treasury bonds mean that the markets have completely recovered from the economic turmoil that resulted from the financial crisis?

A. No. While markets have stabilized relative to the near-chaotic conditions that existed in late 2008, investors remain concerned about high unemployment, the large federal government deficits that are being created, and the potential for further fallout from housing foreclosures and other remnants of the financial crisis. Although it is difficult to measure these effects directly, the data in Table 2 provide some perspective for the ongoing impacts.

Table 2

Utility Bond Interest Rate Spreads			
Column	1	2	3
Month	Aa Utility	Baa Utility	Baa minus Aa
Apr-07	5.83	6.24	0.41
May-07	5.86	6.23	0.37
Jun-07	6.18	6.54	0.36
Jul-07	6.11	6.49	0.38
Aug-07	6.11	6.51	0.40
Sep-07	6.10	6.45	0.35
Oct-07	6.04	6.36	0.32
Nov-07	5.87	6.27	0.40
Dec-07	6.03	6.51	0.48
Jan-08	5.87	6.35	0.48
Feb-08	6.04	6.60	0.56
Mar-08	5.99	6.68	0.69
Apr-08	5.99	6.81	0.82
May-08	6.07	6.79	0.72
Jun-08	6.19	6.93	0.74
Jul-08	6.13	6.97	0.84
Aug-08	6.09	6.98	0.89
Sep-08	6.13	7.15	1.02
Oct-08	6.95	8.58	1.63
Nov-08	6.83	8.98	2.15
Dec-08	5.92	8.11	2.19
Jan-09	6.01	7.90	1.89
Feb-09	6.11	7.74	1.63
Mar-09	6.14	8.00	1.86
Apr-09	6.19	8.03	1.84
May-09	6.23	7.76	1.53
Jun-09	6.13	7.31	1.18
Jul-09	5.63	6.87	1.24
Aug-09	5.33	6.36	1.03
Sep-09	5.15	6.12	0.97
Oct-09	5.23	6.14	0.91
Nov-09	5.33	6.18	0.85
Dec-09	5.52	6.26	0.74
Jan-10	5.55	6.16	0.61
Feb-10	5.69	6.25	0.56
Mar-10	5.64	6.22	0.58
3-Mo Avg	**5.63**	**6.21**	**0.58**

Source: Mergent Bond Record.
Three-month average is for January through March 2010.

The spreads between the highest quality Aa utility bond interest rates and Baa rates remain almost twice as wide as those that existed in 2007 before the financial crisis began. Like the Treasury bond yield spreads shown in Table 1, the Baa – Aa spreads have narrowed since late 2008 and early 2009, but they have not returned to the lower levels that existed in early 2007. These continuing wider spreads between the highest quality utility Aa bonds and minimum investment grade Baa bonds are an indication of heightened investor risk aversion caused by the continuing effects of the financial turmoil.

Q. What do forecasts for the economy and interest rates show for the coming year?

A. Expectations are beginning to move toward higher interest rates during the coming year. On February 18, 2010, the Federal Reserve (Fed) raised the Discount Rate from 0.50 percent to 0.75 percent. All members of the 12 Federal Reserve banks supported the decision. This is the first increase in any of the government administered interest rates since the Fed began its efforts to revive the economy in 2008.

Additional economic data and projections from S&P also point to higher rates. S&P's most recent *Trends & Projection*s publication for March 2010 is presented in Exhibit No.___(SCH-4), page 3. The S&P data reflect significant economic contraction during 2009. S&P indicates that real gross domestic product (GDP) declined by 2.4 percent during that year. However, GDP growth resumed in the 3rd Quarter of 2009, and for all of 2010, S&P expects real GDP to increase by 2.8 percent.

S&P also forecasts that long-term government and high grade corporate interest rates will rise somewhat from recent levels. The summary interest rate data are presented in Table 3 below:

Table 3
Standard & Poor's Interest Rate Forecast

	(a) Average Mar. 2010	(b) Average 2009	(c) Average 2010 Est.
Treasury Bills	0.2%	0.2%	0.3%
10-Yr. T-Bonds	3.7%	3.3%	4.1%
30-Yr. T-Bonds	4.6%	4.1%	5.0%
Aaa Corporate Bonds	5.3%	5.3%	5.7%

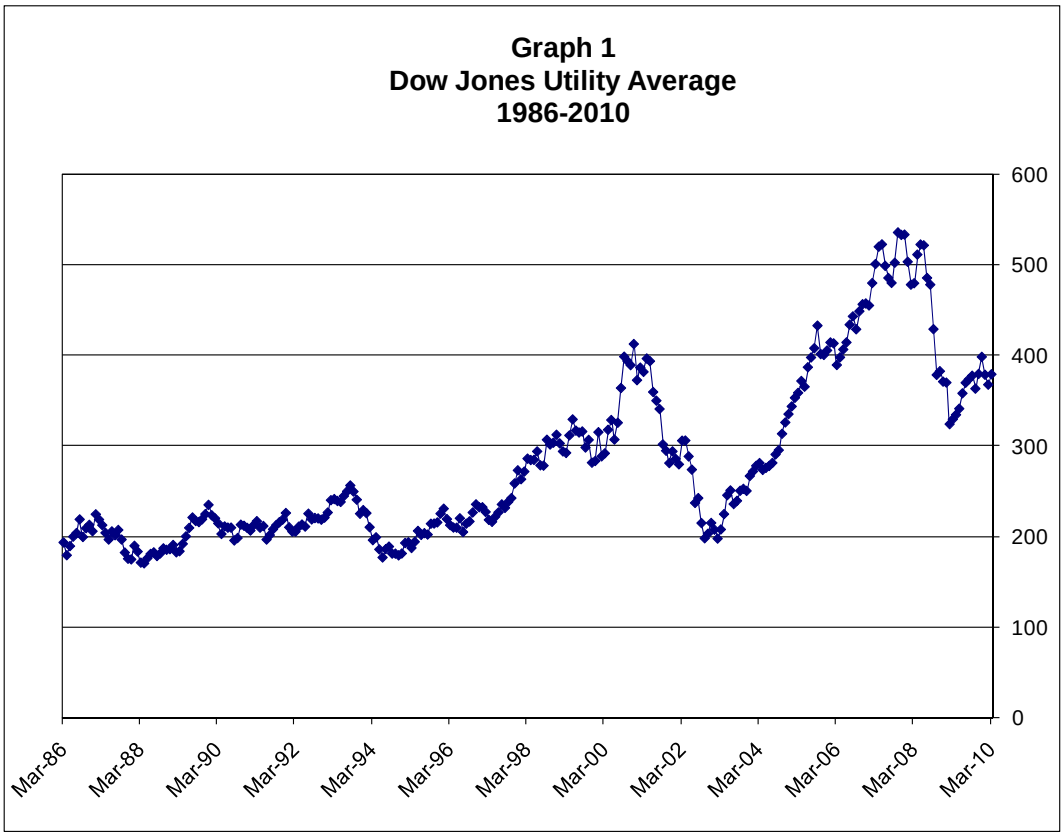
Sources: Column (a) from: www.federalreserve.gov, (Current Rates).
Columns (b) and (c) from: Standard & Poor's *Trends & Projections*, March 2010, page 8 (Projected Rates).

The data in Table 3 show that long-term Treasury interest rates during 2010 are projected to increase by 40 basis points from current levels. Rates on the highest grade Aaa corporate bonds are also expected to increase by 40 basis points. Although in the recently turbulent market environment it has been difficult to project interest rates, investors recognize that as the economy improves, the demand for loanable funds will rise. These market forces will generally lead to higher interests rates, consistent with the market data and forecasts shown on Exhibit No.___(SCH-4) Page 3 of 3. As such, the information on that exhibit offers perspective for judging the cost of capital in the present case.

Q. How have utility stocks performed during the past several years?

A. Utility stock prices have fluctuated widely. After reaching a level of over 400 in 2000, the Dow Jones Utility Average (DJUA) dropped to about 200 by October 2002. From late 2002 until 2008, the DJUA trended upward. However, utility stock prices dropped materially with the overall market decline of 2008 and early

2009. The current level for the DJUA is over 25 percent below the highest levels attained in 2007. The wider fluctuations in more recent years are vividly illustrated in Graph 1, which depicts DJUA prices over the past 25 years.



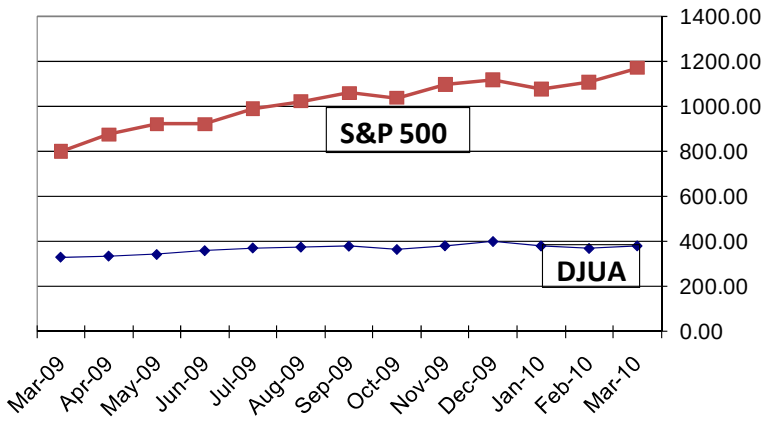
Over the last decade, utility stock prices have become much more volatile than they previously were. In this environment, investors' return expectations and requirements for providing capital to the utility industry are higher than they were relative to the longer-term traditional view of the utility industry.

Q. How have utility stocks performed relative to the overall market recovery experienced during the past year?

A. Utility stock prices have lagged significantly behind the overall market recovery. Graph 2 shows the monthly levels for the DJUA versus the broader market S&P

500 index since the market lows that occurred in February and March of 2009.

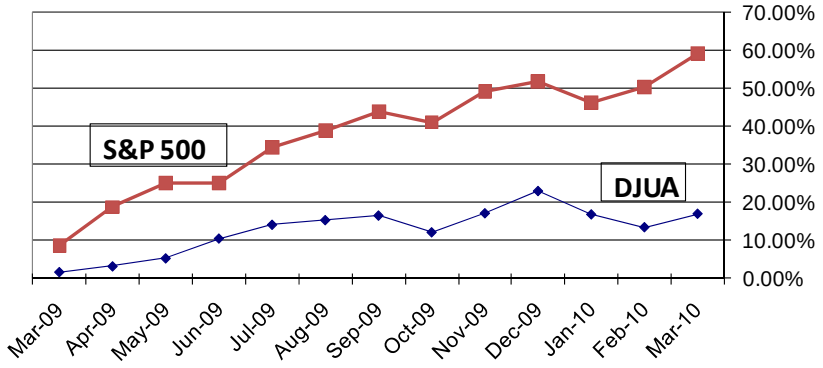
Graph 2
Dow Jones Utility Average
vs. S&P 500
Mar. 2009 - Mar. 2010



While the S&P 500 has increased significantly during the past year, utility prices have remained relatively flat. This result is a further indication that the cost of equity for utility companies has not declined to the same extent that interest rates have fallen or to the same extent that the cost of equity may have come down for the broader equity market. The relatively lower prices for utility shares indicate that the cost of capital for utilities is higher.

Graph 3 further illustrates this result by showing the cumulative percentage change in the two equity indexes since the March 2009 lows.

Graph 3
Dow Jones Utility Average
vs. S&P 500
Cumulative % Change
Mar. 2009 - Mar. 2010



While the S&P 500 has recovered about 60 percent (59.09%) from its March 2009 lows, utility stock prices have increased by less than one-third that amount (16.93%). This result again suggests the market difficulties that utilities face and the continuing relatively higher cost of equity for utility companies.

Q. What is the industry's current fundamental position?

A. The industry has seen significant volatility both in terms of fundamental operating characteristics and the effects of the economy. While many companies have refocused their businesses on more traditional utility service, the effects of deregulation of the wholesale power markets and continuing fuel price uncertainties remain prominent. The economic crisis has also reduced sales volumes and increased the difficulty of planning for future load requirements. S&P reflects this volatility in its most recent Electric Utility Industry Survey:

Standard & Poor's Industry Surveys

> The S&P Electric Utilities subindex was down 0.5% in 2009, compared with a 23.5% increase for the benchmark S&P 500 Composite stock index and a 24.3% increase for the broader S&P 1500 SuperComposite. This followed a strong decline of 28.1% in 2008 for the S&P Electric Utilities subindex, versus declines of 38.5% and 38.2% for the S&P 500 and the S&P 1500, respectively. We believe the underperformance of electric utility stocks in 2009 reflected both the downturn in the economy and the weakness in power markets, as well as the impact on earnings from abnormally mild summer weather.
>
> We expect the performance of both the electric utility sector and the individual companies within the sector to remain relatively volatile over the next several years. However, assuming that the housing, financial, and credit markets begin to stabilize, we believe the stocks will be less volatile in 2010 than they were in 2008 and 2009, or during the first few years of this decade…. *** The performance of the sector, however, will remain sensitive to the macroeconomic environment and market forces surrounding it. (Standard & Poor's Industry Surveys, Electric Utilities February 25, 2010, page 6).

Value Line also comments on the industry's relatively poor stock price performance:

Value Line Investment Survey

> The Value Line Utility Average underperformed the Value Line Geometric Average by a wide margin in 2009. Things haven't changed so far in 2010. The broad-based Value Line Geometric Average is up 8%, while the Value Line Utility Average is where it was at the start of the year. (*Value Line Investment Survey*, Electric Utility (Central) Industry, March 26, 2010, page 901.)

Credit market gyrations and the volatility of utility shares demonstrate the increased uncertainties that utility investors face. These uncertainties translate into a higher cost of capital for utilities than has been experienced in recent years.

Q. Do utilities continue to face the operating and financial risks that existed prior to the recent financial crisis?

A. Yes. Prior to the recent financial crisis, the greatest consideration for utility

investors was the industry's continuing transition to more open market conditions and competition. With the passage of the Energy Policy Act (EPACT) in 1992 and the Federal Energy Regulatory Commission's (FERC) Order 888 in 1996, the stage was set for vastly increased competition in the electric utility industry. EPACT's mandate for open access to the transmission grid and FERC's implementation through Order 888 effectively opened the market for wholesale electricity to competition. Previously protected utility service territory and lack of transmission access in some parts of the country had limited the availability of competitive bulk power prices. EPACT and Order 888 have essentially eliminated such constraints for incremental power needs.

In addition to wholesale issues at the federal level, many states implemented retail access and opened their retail markets to competition. Prior to the Western energy crisis, investors' concerns had focused principally on appropriate transition mechanisms and the recovery of stranded costs. More recently, however, provisions for dealing with power cost adjustments have become a larger concern.

Concern is also beginning to develop around pending climate change legislation including the recent passage by the House of Representatives of H.R. 2454 – the American Clean Energy and Security Act of 2009, also referred to as the Waxman-Markey bill. It appears increasingly likely that in the foreseeable future climate change initiatives will require utilities to balance a diverse set of supply-side and demand-side resources. In particular, utilities with significant coal-fired generation would have the added risk of addressing a reduction in

greenhouse gas emissions by needing to make costly changes to existing generation fleets such as retiring existing coal plants in favor of lower-emission alternatives, operating higher cost supply options, purchasing domestic and/or foreign carbon offsets, or purchasing more expensive low-or-zero emission power. In addition, climate change legislation may require investment in a mandated percentage of renewable energy options, whether or not the investment appears to be economic, and would likely place added pressure on utilities to offer additional demand-side alternatives, including energy efficiency programs, that will reduce customers' demand for power.

As expected, the opening of previously protected utility markets to competition, the uncertainty created by the removal of regulatory protection, continuing fuel price volatility and concerns about the impact of climate change legislation have raised the level of uncertainty about investment returns across the entire industry.

Q. Is PacifiCorp affected by these same uncertainties and increasing utility capital costs?

A. Yes. To some extent all electric utilities are being affected by the industry's transition to competition. Although deregulation has not occurred in the state of Washington, the Company's power costs and other operating activities have been significantly affected by transition and restructuring events around the country. In fact, the uncertainty associated with the changes that are transforming the utility industry as a whole, as viewed from the perspective of the investor, remain a

factor in assessing any utility's required ROE, including the ROE from the Company's operations in Washington.

Q. How do capital market concerns and financial risk perceptions affect the cost of equity capital?

A. As I discussed previously, equity investors respond to changing assessments of risk and financial prospects by changing the price they are willing to pay for a given security. When the risk perceptions increase or financial prospects decline, investors refuse to pay the previously existing market price for a company's securities and market supply and demand forces then establish a new lower price. The lower market price typically translates into a higher cost of capital through a higher dividend yield requirement as well as the potential for increased capital gains if prospects improve. In addition to market losses for prior shareholders, the higher cost of capital is transmitted directly to the company by the need to earn a higher cost of capital on existing and new investment just to maintain the stock's new lower price level and the reality that the firm must issue more shares to raise any given amount of capital for future investment. The additional shares also impose additional future dividend requirements and may reduce future earnings per share growth prospects if the proceeds of the share issuance are unable to earn their expected rate of return.

Q. How have regulatory commissions responded to these changing market and industry conditions?

A. Over the past five years, average allowed equity returns have fluctuated in a relatively narrow range. Table 4 provides a quarter-by-quarter summary of the results:

Table 4
Authorized Electric Utility Equity Returns

	2006	2007	2008	2009	2010
1st Quarter	10.38%	10.27%	10.45%	10.29%	10.66%
2nd Quarter	10.68%	10.27%	10.57%	10.55%	
3rd Quarter	10.06%	10.02%	10.47%	10.46%	
4th Quarter	10.39%	10.56%	10.33%	10.54%	
Full Year Average	10.36%	10.36%	10.46%	10.48%	10.66%
Average Utility Debt Cost	6.08%	6.11%	6.65%	6.28%	5.89%
Indicated Average Risk Premium	4.28%	4.25%	3.81%	4.20%	4.77%

Source: *Regulatory Focus*, Regulatory Research Associates, Inc., Major Rate Case Decisions, April 1, 2010. Utility debt costs are the "average" public utility bond yields as reported by Moody's.

Since 2006, equity risk premiums (the difference between allowed equity returns and utility interest rates) have ranged from 3.81 percent to 4.77 percent.

Q. Please explain why you believe the CAPM is unduly affected by these recent capital market conditions.

A. The CAPM requires three principal inputs:

1) the risk-free interest rate (R_f);

2) the expected market risk premium for stocks relative to the risk-free rate $E(R_m) - R_f$; and

3) a measure of market-related, or nondiversifiable, risk (β or beta).

The CAPM estimate of ROE is then calculated as:

$$ROE = R_f + \beta[E(R_m) - R_f]$$

The market data discussed above show that, under present market conditions, potentially all three of the CAPM's principal inputs tend to understate ROE. The risk-free rate, R_f, is understated because, due to governmental credit market policies and investors' increased risk aversion, the U.S. Treasury rates

used for R_f are artificially low. The second input, the expected market risk premium [$E(R_m) - R_f$] may also be understated as indicated by the continuing widened spreads between Baa and Aa utility yields. Finally, utility beta coefficients have declined because, as shown in Graphs 2 and 3 above, utility stocks have far underperformed relative to the broader market index during the recent stock market recovery. All these factors indicate that CAPM estimates of ROE for utilities are currently understated. For this reason, in the present case, I rely on the DCF and other risk premium models to estimate of ROE.

Cost of Equity Capital for PacifiCorp

Q. What is the purpose of this section of your testimony?

A. The purpose of this section is to present my quantitative studies of the cost of equity capital for the Company and to discuss the details and results of my analysis.

Q. How are your studies organized?

A. In the first part of my analysis, I apply three versions of the DCF model to a 22-company group of electric utilities based on the selection criteria discussed previously. In the second part of my analysis, I present my risk premium analysis and review projected economic conditions and projected capital costs for the coming year.

Q. Please describe your DCF analysis.

A. My DCF analysis is based on three versions of the DCF model. In the first version of the DCF model, I use the constant growth format with long-term expected growth based on analysts' estimates of five-year utility earnings growth.

While I continue to use a longer-term growth estimation approach based on growth in overall gross domestic product, I also rely on the DCF results with analysts' growth rates because this is the approach that has traditionally been used by many regulators. Because the analysts' growth estimates are objective, verifiable forecasts provided by independent third parties, this approach can minimize disputes among the parties about the appropriate inputs to and application of the model.

In the second version of the DCF model, for the estimated growth rate, I use the estimated long-term GDP growth rate. In the third version of the DCF model, I use a two-stage growth approach, with stage one based on Value Line's three-to-five-year dividend projections and stage two based on long-term projected growth in GDP. The dividend yields in all three of the annual models are from Value Line's projections of dividends for the coming year and stock prices are from the three-month average for the months that correspond to the Value Line editions from which the underlying financial data are taken.

Q. Why do you use the long-term GDP growth rate to estimate long-term growth expectations in the DCF model?

A. Growth in nominal GDP (real GDP plus inflation) is the most general measure of economic growth in the U.S. economy. For long time periods, such as those used in the Morningstar/Ibbotson Associates rate of return data, GDP growth has averaged between 5 percent and 8 percent per year. From this observation, Professors Brigham and Houston offer the following observation concerning the appropriate long-term growth rate in the DCF Model:

> 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). On this basis, one might expect the dividend of an average, or "normal", company to grow at a rate of 5 to 8 percent a year. (Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management*, 11th Ed. 2007, page 298.)

Other academic research on corporate growth rates offers similar conclusions about GDP growth as well as concerns about the long-term adequacy of analysts' forecasts:

> Our estimated median growth rate is reasonable when compared to the overall economy's growth rate. On average over the sample period, the median growth rate over 10 years for income before extraordinary items is about 10 percent for all firms. ... After deducting the dividend yield (the median yield is 2.5 percent per year), as well as inflation (which averages 4 percent per year over the sample period), the growth in real income before extraordinary items is roughly 3.5 percent per year. This is consistent with the historical growth rate in real gross domestic product, which has averaged about 3.4 percent per year over the period 1950-1998. (Louis K. C. Chan, Jason Karceski, and Josef Lakonishok, "The Level and Persistence of Growth Rates", The Journal of Finance, April 2003, p. 649.)

> IBES long-term growth estimates are associated with realized growth in the immediate short-term future. Over long horizons, however, there is little forecastability in earnings, and analysts' estimates tend to be overly optimistic. … On the whole, the absence of predictability in growth fits in with the economic intuition that competitive pressures ultimately work to correct excessively high or excessively low profitability growth. (Ibid, page 683.)

These findings support the notion that long-term growth expectations are more closely predicted by broader measures of economic growth than by near-term analysts' estimates. Especially for the very long-term growth rate requirements of the DCF model, the growth in nominal GDP should be considered an important input.

Q. How did you estimate the expected long-run GDP growth rate?

A. I developed my long-term GDP growth forecast from nominal GDP data contained in the St. Louis Federal Reserve Bank data base. That data for the period 1949 through 2009 are summarized in my Exhibit No.___(SCH-5). As shown at the bottom of that exhibit, the overall average for the period was 6.9 percent. The data also show, however, that in the more recent years since 1980, lower inflation has resulted in lower overall GDP growth. For this reason I gave more weight to the more recent years in my GDP forecast. This approach is consistent with the concept that more recent data should have a greater effect on expectations. Based on this approach, my overall forecast for long-term GDP growth is 90 basis points lower than the long-term average, at a level of 6.0 percent.

Q. In Docket UE-050684, the Commission found that a lower GDP forecast based on current economic data was preferred. Why do you believe your forecast based on longer-term data is appropriate?

A. There are at least three reasons. First, in Docket UE-050684, I obviously did not make it clear that my GDP grow rate was intended to be a forecast of investors' long-term expectations. Trending historical data and the use of weighted averages of that data are simply the mechanical foundations of most econometric forecasts. This can be seen in my current Exhibit No.___(SCH-5). The long-run historical average GDP growth rate is 6.9 percent, whereas my estimate of expected future growth is only 6.0 percent. My forecast is lower because in my forecast I give much more weight to the more recent 10- and 20-year periods.

Second, many current GDP growth forecasts are significantly influenced by historically low inflation rates and the recent recession. As shown in my Exhibit No.___(SCH-5), the average long-term inflation rate has been over 3 percent in all but the most recent 10- and 20-year periods. The nominal GDP growth rate forecasts, which the Commission preferred in Docket UE-050684, were based on inflation projections of only approximately 2 percent.

Finally, the current economic turmoil makes it even more important to consider longer-term economic data. As discussed in the previous section, recent near-term forecasts for both real GDP and inflation have been severely depressed. To the extent that the longer-term forecasts of professional economists are also depressed by recent inflation and real GDP levels, their projections will also be low. Under these circumstances, a longer term balance is even more important. For all these reasons, while I am presenting other growth rate approaches in this testimony, I believe it is appropriate also to consider long-term GDP growth in estimating the DCF growth rate.

Q. Please summarize the results of your DCF analyses.

A. The DCF results for my comparable company group are presented in Exhibit No.___(SCH-6). As shown in the first column of page 1 of that exhibit, the traditional constant growth model indicates an ROE of 10.4 percent to 10.6 percent. In the second column of page 1, I recalculate the constant growth results with the growth rate based on long-term forecasted growth in GDP. With the GDP growth rate, the constant growth model indicates an ROE range of 10.8 percent to 10.9 percent. Finally, in the third column of page 1, I present the

results from the multistage DCF model. The multistage model indicates an ROE range of 10.6 percent to 10.8 percent. The results from the DCF model, therefore, indicate a reasonable ROE range of 10.4 percent to 10.9 percent.

Q. What are the results of your equity risk premium studies?

A. The details and results of my equity risk premium studies are shown in Exhibit No.___(SCH-7). These studies indicate an ROE range of 10.38 percent to 10.60 percent. The Federal Reserve System's continuing "easy money" policies have provided renewed liquidity in the credit markets that is reflected in these lower yields. These results are slightly below the average DCF results, which continues to demonstrate the equity market risk aversion that is reflected in continuing volatility and relatively low stock prices for utility shares. These circumstances indicate that the cost of equity capital has not declined to the same extent as the yields on utility debt.

Q. How are your equity risk premium studies structured?

A. My equity risk premium studies are divided into two parts. First, I compare electric utility authorized ROEs for the period 1980-2009 to contemporaneous long-term utility interest rates. The differences between the average authorized ROEs and the average interest rate for the year is the indicated equity risk premium. I then add the indicated equity risk premium to the forecasted and current single-A utility bond interest rate to estimate ROE. Because there is a strong inverse relationship between equity risk premiums and interest rates (when interest rates are high, risk premiums are low and vice versa), further analysis is required to estimate the current equity risk premium level.

The inverse relationship between equity risk premiums and interest rate levels is well documented in numerous, well-respected academic studies. These studies typically use regression analysis or other statistical methods to predict or measure the equity risk premium relationship under varying interest rate conditions. On page 3 of Exhibit No.___(SCH-7), I provide regression analyses of the allowed annual equity risk premiums relative to interest rate levels. The negative and statistically significant regression coefficients confirm the inverse relationship between equity risk premiums and interest rates. This means that when interest rates rise by one percentage point, the cost of equity increases, but by a smaller amount. Similarly, when interest rates decline by one percentage point, the cost of equity declines by less than one percentage point. I use this negative interest rate change coefficient in conjunction with current interest rates to establish the appropriate current equity risk premium.

Q. Please summarize the results of your cost of equity analysis.

A. My results are summarized in Table 5 below:

Table 5

Summary of Cost of Equity Estimates

DCF Analysis	Indicated Cost
Constant Growth (Analysts' Growth)	10.4%-10.6%
Constant Growth (GDP Growth)	10.8%-10.9%
Multistage Growth Model	10.6%-10.8%
Reasonable DCF Range	10.4%-10.9%

Equity Risk Premium Analysis	Indicated Cost
Projected Utility Debt Yield + Equity Risk Premium Equity Risk Premium ROE (6.21% + 4.39%)	10.60%
Current Utility Debt + Equity Risk Premium Equity Risk Premium ROE (5.83% + 4.55%)	10.38%
PacifiCorp Estimated ROE	10.6%

Q. How should these results be interpreted to determine the fair cost of equity for the PacifiCorp?

A. The recent market turmoil and the continuing effects on capital market conditions make it difficult to strictly interpret quantitative model estimates for the cost of equity. While corporate interest rates have dropped from the levels that existed in late 2008, the DCF results, based on continuing relatively low utility stock prices, show that the cost of equity has not declined as much as utility bond yields. Under these conditions, use of a lower DCF range or equity risk premium estimates based strictly on historical risk premium relationships likely understate the cost of equity. From this perspective, and with consideration of the Company's on-going capital requirements, I estimate the fair and reasonable cost of equity capital to be at least at the approximate mid-point of my DCF range and at the upper end of my risk premium range. This leads to a point estimate of 10.6 percent as the market required ROE for the Company.

Q. Does this conclude your testimony?

A. Yes, it does.