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IDAHO PUBLIC
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE	)	
APPLICATION OF ROCKY	)	**CASE NO. PAC-E-10-07**
MOUNTAIN POWER FOR	)	
APPROVAL OF CHANGES TO ITS	)	**Direct Testimony of Samuel C. Hadaway**
ELECTRIC SERVICE SCHEDULES	)	
AND A PRICE INCREASE OF $27.7	)	
MILLION, OR APPROXIMATELY	)	
13.7 PERCENT	)	

ROCKY MOUNTAIN POWER

CASE NO. PAC-E-10-07

May 2010

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

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

4 **Q. On whose behalf are you testifying?**

5 A. I am testifying on behalf of Rocky Mountain Power (RMP or the Company).

6 **Q. Briefly describe your educational and professional background.**

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

1 before the New York Society of Security Analysts, the National Rate of Return
2 Analysts Forum, and various other professional and legislative groups. I have
3 served as a vice president and on the board of directors of the Financial
4 Management Association.
5 A list of my publications and testimony that I have given before various
6 regulatory bodies and in state and federal courts is contained in my resume, which
7 is included as Appendix A.
8 **Purpose and Summary of Testimony**
9 **Q. What is the purpose of your testimony?**
10 A. The purpose of my testimony is to estimate the market required rate of return on
11 equity capital (ROE) for the Company.
12 **Q. Please state your ROE recommendation and summarize the results of your**
13 **cost of equity studies.**
14 A. I estimate the cost of equity for RMP to be 10.6 percent. My discounted cash
15 flow (DCF) analysis indicates that a range of 10.3 percent to 10.8 percent is
16 appropriate. My risk premium analysis indicates an ROE range of 10.39 percent
17 to 10.59 percent. Based on these quantitative results and my further review of
18 other economic data, I recommend a point estimate of 10.6 percent. As I will
19 discuss in more detail later in this testimony, given the continuing market
20 turbulence that exists, the estimates of ROE produced by the traditional DCF and
21 risk premium models are modest. As such, my recommended 10.6 percent ROE
22 is a conservative estimate of RMP's cost of equity capital.

1 **Q. How is your analysis structured?**

2 In my DCF analysis, I apply a comparable company approach. RMP's cost of
3 equity cannot be estimated directly from its own market data because it is a
4 wholly-owned subsidiary of MidAmerican Energy Holdings Company. As such,
5 the Company does not have publicly traded common stock or other independent
6 market data that would be required to estimate its cost of equity directly. I begin
7 my comparable company review with all the electric utilities that are included in
8 the *Value Line Investors Survey* (Value Line). Value Line is a widely-followed,
9 reputable source of financial data that is often used by professional regulatory
10 economists. To improve the proxy group's comparability with the Company, I
11 restricted the group to companies with senior secured bond ratings of at least "A-"
12 by Standard & Poor's (S&P) or "A3" by Moody's Investors Service (Moody's). I
13 also required the comparable companies to derive at least 70 percent of revenues
14 from regulated utility sales, to have consistent financial records not affected by
15 recent mergers or restructuring, and to have a consistent dividend record, with no
16 dividend cuts or resumptions in the past two years, as required by the DCF model.
17 The fundamental characteristics and bond ratings of the 22 companies in my
18 comparable group are presented in Exhibit No. 10.

19 In my risk premium analysis, I relied on current and projected single-A
20 utility bond interest rates. These interest rates are consistent with the Company's
21 senior secured bond ratings of "A" from S&P and "A2" from Moody's. As I will
22 explain in more detail later in this testimony, under current market conditions the
23 DCF and risk premium models appear to provide extremely conservative

1 estimates of the Company's cost of equity capital. The data sources and the
2 details of my cost of equity studies are contained in Exhibit No. 10 through
3 Exhibit No. 14.

4 **Q. How is the remainder of your testimony organized?**

5 A. My testimony is divided into three additional sections. Following this
6 introduction, I review various methods for estimating the cost of equity. In this
7 section, I discuss comparable earnings methods, risk premium methods, and the
8 discounted cash flow model. In the following section, I review general capital
9 market costs and conditions and discuss recent developments in the electric utility
10 industry that may affect the cost of capital. In the final section, I discuss the
11 details of my cost of equity studies and summarize my ROE recommendations.

12 **Estimating the Cost of Equity Capital**

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

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

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

22 A. The cost of equity capital is the rate of return that equity investors expect given
23 the risks of an individual security. Conceptually it is no different than the cost of

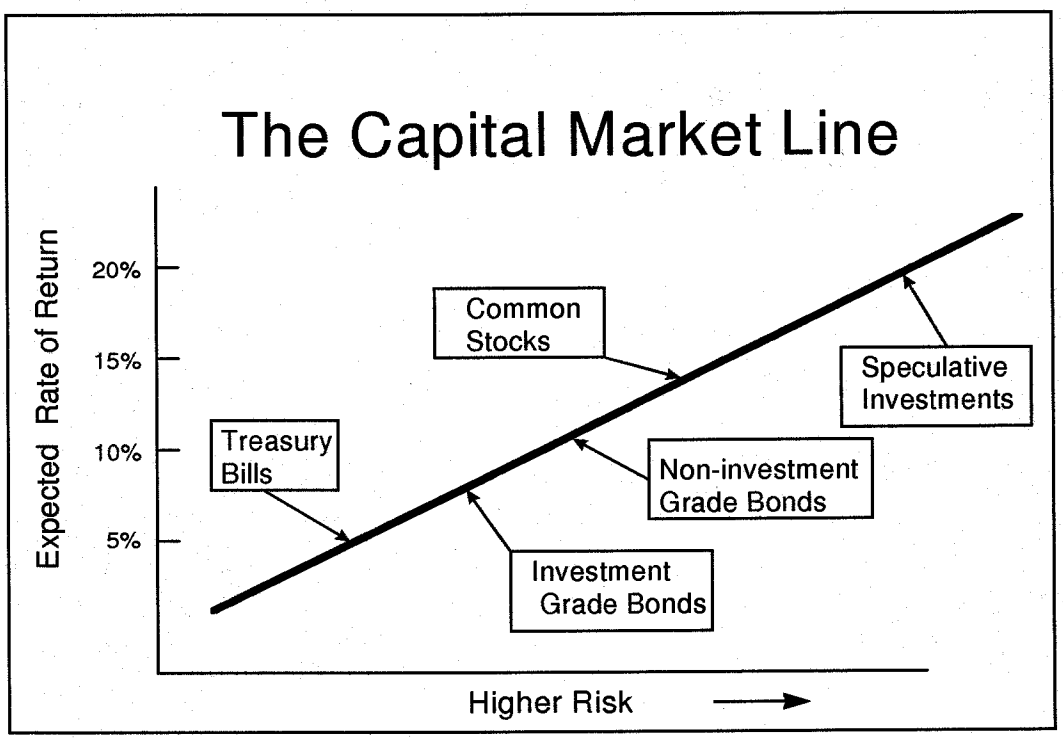
debt or the cost of preferred stock. The cost of equity is the rate of return that common stockholders expect, just as interest on bonds and dividends on preferred stock are the returns that investors in those securities expect. Equity investors expect a return on their capital commensurate with the 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.

1 Each day market prices change to reflect new investor expectations and
2 requirements. Changes in market prices, all else equal, imply changes in investor
3 required rates of return. For example, when interest rates on bonds and savings
4 accounts rise, utility stock prices usually fall. This is true, at least in part, because
5 higher interest rates on these alternative investments make utility stocks relatively
6 less attractive, which causes utility stock prices to decline in market trading. This
7 competitive market adjustment process is quick and continuous, so that market
8 prices generally reflect investor expectations and the relative attractiveness of one
9 investment versus another. In this context, to estimate the cost of equity one must
10 apply informed judgment about the relative risk of the company in question and
11 knowledge about the risk and expected rate of return characteristics of other
12 available investments as well.
13 **Q. How does the market account for risk differences among various**
14 **investments?**
15 A. Risk-return tradeoffs among capital market investments have been the subject of
16 extensive financial research. Literally dozens of textbooks and hundreds of
17 academic articles have addressed the issue. Generally, such research confirms the
18 common sense conclusion that investors will take additional risks only if they
19 expect to receive a higher rate of return. Empirical tests consistently show that
20 returns from low risk securities, such as U.S. Treasury bills, are the lowest; that
21 returns from longer-term Treasury bonds and corporate bonds are increasingly
22 higher as risks increase; and generally, returns from common stocks and other
23 more risky investments are even higher. These observations provide a sound

1 theoretical foundation for both the DCF and risk premium methods for estimating
2 the cost of equity capital. These methods attempt to capture the well founded
3 risk-return principle and explicitly measure investors' rate of return requirements.
4 **Q. Can you illustrate the capital market risk-return principle that you just**
5 **described?**
6 A. Yes. The following graph depicts the risk-return relationship that has become
7 widely known as the Capital Market Line (CML). The CML offers a graphical
8 representation of the capital market risk-return principle. The graph is not meant
9 to illustrate the actual expected rate of return for any particular investment, but
10 merely to illustrate in a general way the risk-return relationship.

Risk-Return Tradeoffs



1 As a continuum, the CML can be viewed as an available opportunity set for
2 investors. Those investors with low risk tolerance or investment objectives that
3 mandate a low risk profile should invest in assets depicted in the lower left-hand
4 portion of the graph. Investments in this area, such as Treasury bills and short-
5 maturity, high quality corporate commercial paper, offer a high degree of investor
6 certainty. In nominal terms (before considering the potential effects of inflation),
7 such assets are virtually risk-free.

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

16 Farther up the CML continuum, common stocks are exposed to even more
17 risk, depending on the nature of the underlying business and the financial strength
18 of the issuing corporation. Common stock risks include market-wide factors,
19 such as general changes in capital costs, as well as industry and company specific
20 elements that may add further to the volatility of a given company's performance.
21 As I will illustrate in my risk premium analysis, common stocks typically are
22 more volatile (have higher risk) than high quality bond investments and,
23 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.

1 **Q. What specific methods and capital market data are used to evaluate the cost**
2 **of equity?**
3 A. Techniques for estimating the cost of equity normally fall into three groups:
4 comparable earnings methods, risk premium methods, and DCF methods. The
5 first set of estimation techniques, the comparable earnings methods, has evolved
6 over time. The original comparable earnings methods were based on book
7 accounting returns. This approach developed ROE estimates by reviewing
8 accounting returns for unregulated companies thought to have risks similar to
9 those of the regulated company in question. These methods have generally been
10 rejected because they assume that the unregulated group is earning its actual cost
11 of capital, and that its equity book value is the same as its market value. In most
12 situations these assumptions are not valid, and, therefore, accounting-based
13 methods do not generally provide reliable cost of equity estimates.
14 More recent comparable earnings methods are based on historical stock
15 market returns rather than book accounting returns. While this approach has
16 some merit, it too has been criticized because there can be no assurance that
17 historical returns actually reflect current or future market requirements. Also, in
18 practical application, earned market returns tend to fluctuate widely from year to
19 year. For these reasons, a current cost of equity estimate (based on the DCF
20 model or a risk premium analysis) is usually required.
21 The second set of estimation techniques is grouped under the heading of
22 risk premium methods. These methods begin with currently observable market
23 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 assures consistency with other capital market data in the equity cost estimation process.

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:

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

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 assumptions 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:

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

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:

$$P_0 = \frac{D_0(1+g_1)}{(1+k)} + \ldots + \frac{D_0(1+g_2)^n}{(1+k)^n} + \ldots + \frac{\frac{[D_0(1+g_T)^{(T+1)}]}{(k-g_T)}}{(1+k)^T} \qquad (4)$$

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

1 (the end of the transition period) to infinity. The first two growth rates are simply
2 estimates for fluctuating growth over "n" years (typically 5 or 10 years) and g_T is
3 a constant growth rate assumed to prevail forever after year T. The difficult task
4 for analysts in the multistage approach is determining the various growth rates for
5 each period.

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

14 **Q. Please explain the risk premium methodology.**

15 A. Risk premium methods are based on the assumption that equity securities are
16 riskier than debt and, therefore, that equity investors require a higher rate of
17 return. This basic premise is well supported by legal and economic distinctions
18 between debt and equity securities, and it is widely accepted as a fundamental
19 capital market principle. For example, debt holders' claims to the earnings and
20 assets of the borrower have priority over all claims of equity investors. The
21 contractual interest on mortgage debt must be paid in full before any dividends
22 can be paid to shareholders, and secured mortgage claims must be fully satisfied
23 before any assets can be distributed to shareholders in bankruptcy. Also the

1 fixed-income nature of interest payments makes year-to-year returns from bonds
2 typically more stable than capital gains and dividend payments on stocks. All
3 these factors demonstrate the more risky position of stockholders and support the
4 equity risk premium concept.

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

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

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

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

1 The important point is to answer the following question: "What rate of
2 return should equity investors reasonably expect relative to returns that are
3 currently available from long-term bonds?" The risk premium studies and
4 analyses I discuss later address this question. My risk premium recommendation
5 is based on an intermediate position that avoids some of the problems and
6 concerns that have been expressed about both very long and very short periods of
7 analysis with the risk premium model.

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

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

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

1 **Fundamental Factors That Affect the Cost of Equity**

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

3 A. In this section, I review recent capital market conditions and industry factors that
4 should be reflected in the cost of capital estimate.

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

7 A. In Exhibit No. 11, page 1, I provide a review of annual interest rates and rates of
8 inflation in the U.S. economy over the past ten years. During that time inflation
9 and fixed income market costs declined and, generally, have been lower than rates
10 that prevailed in the previous decade. Inflation, as measured by the Consumer
11 Price Index (CPI), was zero percent in 2008 but increased to about a 3 percent
12 annual rate in 2009. Over the past decade, the CPI has averaged 2.6 percent. This
13 is lower than its long-run average of 3.5 percent to 4.0 percent.

14 During the period from mid-2004 until mid-2006, the Federal Reserve
15 System increased the short-term Federal Funds interest rate 17 times (the Federal
16 Funds rate is the rate banks charge each other to borrow reserves overnight),
17 raising it from 1 percent to 5.25 percent. In late 2007, in response to the early
18 turbulence in the sub-prime credit markets, the Federal Reserve Open Market
19 Committee began aggressively reducing the Federal Funds rate. Since September
20 2007, the rate has been lowered eleven times to its current target level of between

1 zero and one-quarter percent. While governmental policies and "flight to safety"[1]
2 issues have driven down interest rates on higher quality debt securities, the cost of
3 equity for utilities has not declined to the same extent.

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

6 A. Yes. At various times since late 2008, the capital markets in the U.S. have been
7 more turbulent than at any time since the 1930s. This period has seen frequent
8 large daily moves in the stock market[2] and conditions in the corporate debt market
9 that, in late 2008 and parts of early 2009, could best be characterized as near-
10 chaos. The S&P 500 and the Dow Jones Industrial Average have fluctuated by 50
11 percent since November 2007. In this environment, many large financial
12 institutions such as Countrywide Financial, Washington Mutual, the Federal
13 Home Loan Mortgage Association, the Federal National Mortgage Association,
14 Wachovia, Bear Sterns, and Merrill Lynch were unable to survive as independent
15 institutions. Lehman Brothers was forced to file for bankruptcy. Other surviving
16 institutions such as Citigroup, Goldman Sachs, American International Group,
17 Morgan Stanley and others have required multibillion dollar capital infusions.

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[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.

[2] On May 6, 2010, the Dow Jones Industrial Average (Dow) opened at approximately 10,860, fell to a low of 9,940 – nearly a 920 point drop or about 8.5%, most of which came in a matter of just a few minutes - and then rallied to close at approximately 10,520. On May 10, 2010, the Dow rose 405 points, or approximately 3.9% to close at 10,785; but on May 20, 2010, the Dow lost 3.6% or 379 points to close at 10,068.

1 Since October 2008, the Federal government has enacted emergency
2 legislation and taken other steps to stabilize the economy. As part of that effort
3 the government increased federal deposit insurance for banks, lent billions of
4 dollars to financial institutions, purchased hundreds of billions of dollars in
5 illiquid securities, guaranteed loans between financial institutions, and purchased
6 equity in banks. There is no question that the economic and financial
7 uncertainties generated by the credit crisis have significantly impacted the risks
8 surrounding public utility company cost of capital.

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

11 A. Yes. In Exhibit No. 11, page 2, I provide data that illustrate the volatility that has
12 occurred in the debt markets. The schedule shows that during the past two years,
13 single-A spreads for utility companies were at times more than three times
14 previously existing levels. The month-by-month interest rates paid by single-A
15 rated utilities and the U.S. Treasury since January 2008 are presented in Exhibit
16 No. 11, 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
Apr-10	5.81	4.69	1.12
3-Mo Avg	**5.84**	**4.65**	**1.19**
12-Mo Avg	**5.85**	**4.44**	**1.41**

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

1 The data in Table 1 vividly illustrate the market turmoil that has occurred. In fact,

2 increased risk aversion and continuing market volatility have resulted in ongoing

1 difficulties for many corporations. The on-going effects of the market's
2 turbulence is not easily captured in financial models for estimating the required
3 rate of return that assume equilibrium conditions. However, these continuing
4 effects and the elevated level of risk aversion should be considered in estimating
5 the cost of equity capital.

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

9 A. No. While markets have attempted to stabilize relative to the near-chaotic
10 conditions that existed in late 2008, investors remain concerned about high
11 unemployment, the large federal government deficits that are being created, and
12 the potential for further fallout from housing foreclosures and other remnants of
13 the financial crisis. Although it is difficult to measure these effects directly, the
14 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
Apr-10	5.62	6.19	0.57
3-Mo Avg	**5.65**	**6.22**	**0.57**

Source: Mergent Bond Record.

Three-month average is for February through April 2010.

1 The spreads between the highest quality Aa utility bond interest rates and Baa
2 rates remain almost twice as wide as those that existed in 2007 before the
3 financial crisis began. Like the Treasury bond yield spreads shown in Table 1, the
4 Baa – Aa spreads have narrowed since late 2008 and early 2009, but they have not
5 returned to the lower levels that existed in early 2007. The unsettling volatility in
6 the stock market documented above along with these continuing wider spreads
7 between the highest quality utility Aa bonds and minimum investment grade Baa
8 bonds are an indication of heightened investor uncertainty and risk aversion
9 caused by the continuing effects of the financial turmoil.

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

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

18 Additional economic data and projections from S&P also point to higher
19 rates. S&P's most recent *Trends & Projection*s publication for April 2010 is
20 presented in Exhibit No. 11, page 3. The S&P data reflect significant economic
21 contraction during 2009. S&P indicates that real gross domestic product (GDP)
22 declined by 2.4 percent during that year. However, GDP growth resumed in the
23 3rd Quarter of 2009, and for all of 2010, S&P expects real GDP to increase by 3.0

1 percent.

2 S&P also forecasts that long-term government and high grade corporate

3 interest rates will rise somewhat from recent levels. The summary interest rate

4 data are presented in Table 3 below:

Table 3
Standard & Poor's Interest Rate Forecast

	(a) Average Apr. 2010	(b) Average 2009	(c) Average 2010 Est.
Treasury Bills	0.2%	0.2%	0.4%
10-Yr. T-Bonds	3.9%	3.3%	4.1%
30-Yr. T-Bonds	4.7%	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*, April 2010, page 8 (Projected Rates).

5 The data in Table 3 show that long-term Treasury interest rates during 2010 are

6 projected to increase by 30 basis points from current levels. Rates on highest

7 grade Aaa corporate bonds are expected to increase by 40 basis points. Although

8 in the recently turbulent market environment it has been difficult to project

9 interest rates, investors recognize that as the economy improves, the demand for

10 loanable funds will rise. These market forces will generally lead to higher

11 interests rates, consistent with the market data and forecasts shown on Exhibit No.

12 11 Page 3 of 3. As such, the information on that exhibit offers perspective for

13 judging the cost of capital in the present case.

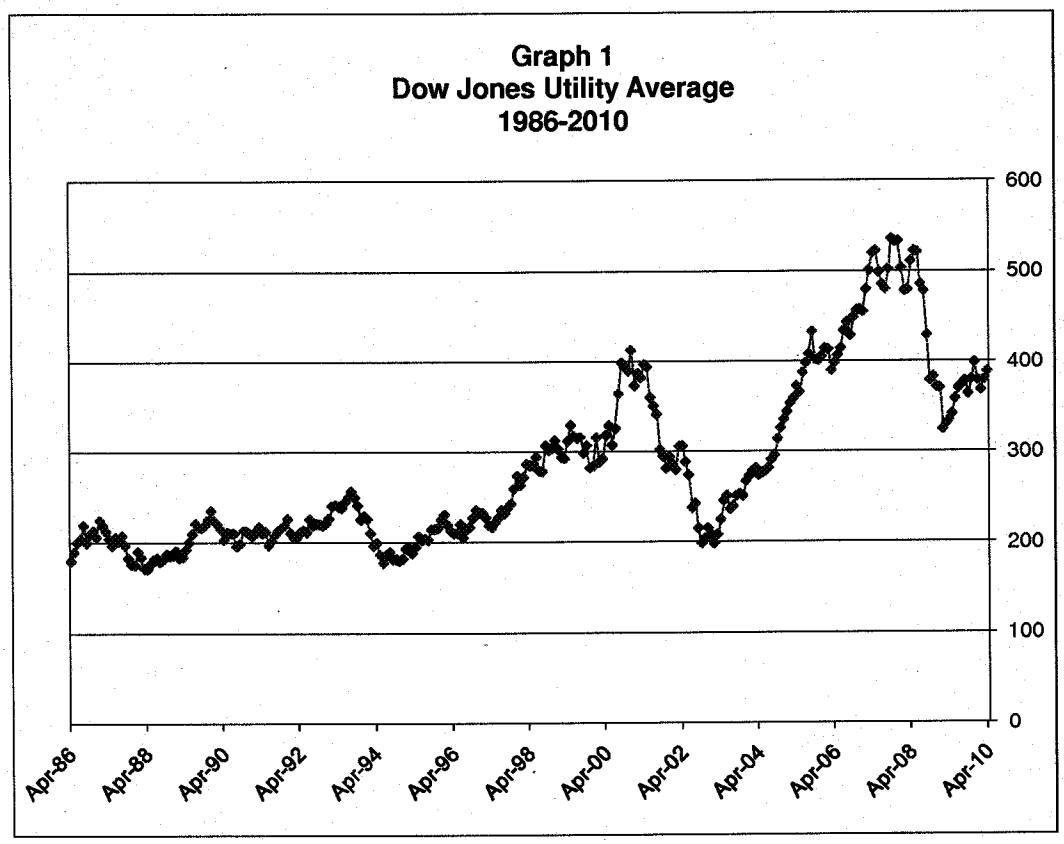
14 **Q. How have utility stocks performed during the past several years?**

15 A. Utility stock prices have fluctuated widely. After reaching a level of over 400 in

16 2000, the Dow Jones Utility Average (DJUA) dropped to about 200 by October

17 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.

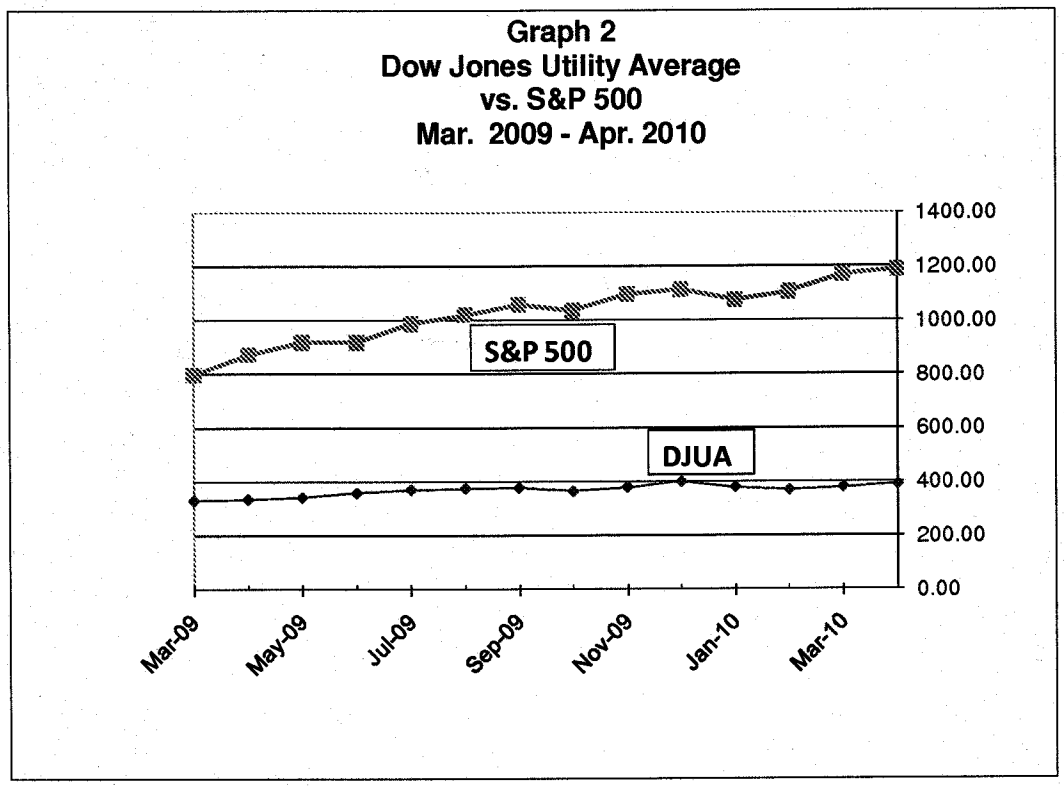


Over the last decade, utility stock prices have become much more volatile than they previously were. In this environment, investors' return expectations and requirements for providing capital to the utility industry are higher than they were relative to the longer-term traditional view of the utility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

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

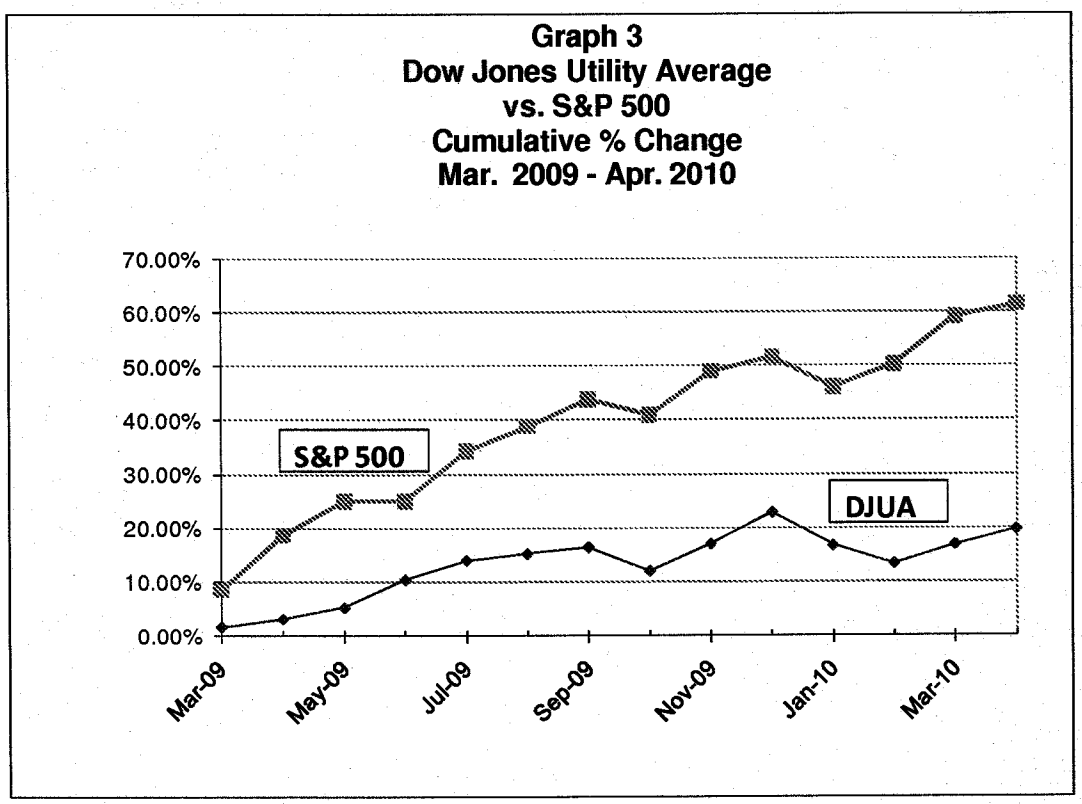
A. Utility stock prices have lagged significantly behind the overall market recovery. Graph 2 shows the monthly levels for the DJUA versus the broader market S&P

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



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.



While the S&P 500 has recovered over 60 percent (61.43%) from its March 2009 lows, utility stock prices have increased by less than one-third that amount (19.75%). 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

1 investors was the industry's continuing transition to more open market conditions
2 and competition. With the passage of the Energy Policy Act (EPACT) in 1992
3 and the Federal Energy Regulatory Commission's (FERC) Order 888 in 1996, the
4 stage was set for vastly increased competition in the electric utility industry.
5 EPACT's mandate for open access to the transmission grid and FERC's
6 implementation through Order 888 effectively opened the market for wholesale
7 electricity to competition. Previously protected utility service territory and lack of
8 transmission access in some parts of the country had limited the availability of
9 competitive bulk power prices. EPACT and Order 888 have essentially
10 eliminated such constraints for incremental power needs.
11 In addition to wholesale issues at the federal level, many states
12 implemented retail access and opened their retail markets to competition. Prior to
13 the Western energy crisis, investors' concerns had focused principally on
14 appropriate transition mechanisms and the recovery of stranded costs. More
15 recently, however, provisions for dealing with power cost adjustments have
16 become a larger concern.
17 Concern is also beginning to develop around pending climate change
18 legislation including the recent passage by the House of Representatives of H.R.
19 2454 – the American Clean Energy and Security Act of 2009, also referred to as
20 the Waxman-Markey bill, which has been followed by the introduction in the U.S.
21 Senate on May 12, 2010, of the American Power Act, also called the Kerry-
22 Lieberman bill. It appears increasingly likely that in the foreseeable future
23 climate change initiatives will require utilities to balance a diverse set of supply-

1 side and demand-side resources. In particular, utilities with significant coal-fired
2 generation would have the added risk of addressing a reduction in greenhouse gas
3 (GHGs) emissions by needing to make costly changes to existing generation fleets
4 such as retiring existing coal plants in favor of lower-emission alternatives,
5 operating higher cost supply options, purchasing domestic and/or foreign carbon
6 offsets, or purchasing more expensive low-or-zero emission power. In addition,
7 climate change legislation may require investment in a mandated percentage of
8 renewable energy options, whether or not the investment appears to be economic,
9 and would likely place added pressure on utilities to offer additional demand-side
10 alternatives, including energy efficiency programs, that will reduce customers'
11 demand for power. Moreover, electric utilities must continue to manage the
12 uncertainty of addressing sulfur dioxide, nitrogen oxides and mercury. Finally,
13 the Environmental Protection Agency has proposed rules in May 2010 regarding
14 coal combustion residue and new permit requirements for best available control
15 technology for GHGs.
16 As expected, the opening of previously protected utility markets to
17 competition, the uncertainty created by the removal of regulatory protection,
18 continuing fuel price volatility and concerns about the impact of climate change
19 legislation have raised the level of uncertainty about investment returns across the
20 entire industry.
21 **Q. Is RMP affected by these same uncertainties and increasing utility capital**
22 **costs?**
23 A. Yes. To some extent all electric utilities are being affected by the industry's

1 transition to competition and the emphasis on protecting the environment.
2 Although deregulation has not occurred in the state of Idaho, the Company's
3 power costs and other operating activities have been significantly affected by
4 transition and restructuring events around the country. In fact, the uncertainty
5 associated with the changes that are transforming the utility industry as a whole,
6 as viewed from the perspective of the investor, remain a factor in assessing any
7 utility's required ROE, including the ROE from the Company's operations in
8 Idaho.

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

11 A. As I discussed previously, equity investors respond to changing assessments of
12 risk and financial prospects by changing the price they are willing to pay for a
13 given security. When the risk perceptions increase or financial prospects decline,
14 investors refuse to pay the previously existing market price for a company's
15 securities and market supply and demand forces then establish a new lower price.
16 The lower market price typically translates into a higher cost of capital through a
17 higher dividend yield requirement as well as the potential for increased capital
18 gains if prospects improve. In addition to market losses for prior shareholders,
19 the higher cost of capital is transmitted directly to the company by the need to
20 earn a higher cost of capital on existing and new investment just to maintain the
21 stock's new lower price level and the reality that the firm must issue more shares
22 to raise any given amount of capital for future investment. The additional shares
23 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%	5.88%
Indicated Average Risk Premium	4.28%	4.25%	3.81%	4.20%	4.78%

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 4.78 percent.

Cost of Equity Capital for RMP

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.

1 **Q. How are your studies organized?**

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

7 **Q. Please describe your DCF analysis.**

8 A. My DCF analysis is based on three versions of the DCF model. In the first
9 version of the DCF model, I use the constant growth format with long-term
10 expected growth based on analysts' estimates of five-year utility earnings growth.
11 While I continue to use a longer-term growth estimation approach based on
12 growth in overall gross domestic product, I also rely on the DCF results with
13 analysts' growth rates because this is the approach that has traditionally been used
14 by many regulators. Because the analysts' growth estimates are objective,
15 verifiable forecasts provided by independent third parties, this approach can
16 minimize disputes among the parties about the appropriate inputs to and
17 application of the model.

18 In the second version of the DCF model, again a constant growth format,
19 for the estimated growth rate I use the estimated long-term GDP growth rate. In
20 the third version of the DCF model, I use a two-stage growth approach, with stage
21 one based on Value Line's three-to-five-year dividend projections and stage two
22 based on long-term projected growth in GDP. The dividend yields in all three of
23 the annual models are from Value Line's projections of dividends for the coming

1 year and stock prices are from the three-month average for the months that
2 correspond to the Value Line editions from which the underlying financial data
3 are taken.

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

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

12 Expected growth rates vary somewhat among companies, but
13 dividends for mature firms are often expected to grow in the future
14 at about the same rate as nominal gross domestic product (real
15 GDP plus inflation). On this basis, one might expect the dividend
16 of an average, or "normal," company to grow at a rate of 5 to 8
17 percent a year. (Eugene F. Brigham and Joel F. Houston,
18 *Fundamentals of Financial Management*, 11th Ed. 2007, page
19 298.)

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

23 Our estimated median growth rate is reasonable when compared to
24 the overall economy's growth rate. On average over the sample
25 period, the median growth rate over 10 years for income before
26 extraordinary items is about 10 percent for all firms... After
27 deducting the dividend yield (the median yield is 2.5 percent per
28 year), as well as inflation (which averages 4 percent per year over
29 the sample period), the growth in real income before extraordinary
30 items is roughly 3.5 percent per year. This is consistent with the
31 historical growth rate in real gross domestic product, which has
32 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. 12. 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.

1 **Q. The DCF model requires an estimate of investors' long-term growth rate**
2 **expectations. Why do you believe your forecast of GDP growth based on**
3 **long-term historical data is appropriate?**
4 A. There are at least three reasons. First, most econometric forecasts are derived
5 from the trending of historical data or the use of weighted averages. This is the
6 approach I have taken in Exhibit No. 12. The long-run historical average GDP
7 growth rate is 6.9 percent, but my estimate of long-term expected growth is only
8 6.0 percent. My forecast is lower because my forecasting method gives much
9 more weight to the more recent 10- and 20-year periods.
10 Second, some currently lower GDP growth forecasts likely understate very
11 long growth rate expectations that are required in the DCF model. Many of those
12 forecasts are currently low because they are based on the assumption of
13 permanently low inflation rates, in the range of 2 percent. As shown in my
14 Exhibit No. 12, the average long-term inflation rate has been over 3 percent in all
15 but the most recent 20 years.
16 Finally, the current economic turmoil makes it even more important to
17 consider longer-term economic data in the growth rate estimate. As discussed in
18 the previous section, current near-term forecasts for both real GDP and inflation
19 are severely depressed. To the extent that the longer-term outlooks of
20 professional economists are also depressed, their forecasts may be understated.
21 Under these circumstances, a longer-term view is even more important. For all
22 these reasons, while I am also presenting other growth rate approaches based on
23 analysts' estimates in this testimony, I believe it is appropriate also to consider

1 long-term GDP growth in estimating the DCF growth rate.

2 **Q. Please summarize the results of your DCF analyses.**

3 A. The DCF results for my comparable company group are presented in Exhibit No.
4 13. As shown in the first column of page 1 of that exhibit, the traditional constant
5 growth model indicates an ROE of 10.3 percent to 10.5 percent. In the second
6 column of page 1, I recalculate the constant growth results with the growth rate
7 based on long-term forecasted growth in GDP. With the GDP growth rate, the
8 constant growth model indicates an ROE range of 10.7 percent to 10.8 percent.
9 Finally, in the third column of page 1, I present the results from the multistage
10 DCF model. The multistage model indicates an ROE of 10.6 percent. The results
11 from the DCF model, therefore, indicate a reasonable ROE range of 10.3 percent
12 to 10.8 percent.

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

14 A. The details and results of my equity risk premium studies are shown in Exhibit
15 No. 14. These studies indicate an ROE range of 10.39 percent to 10.59 percent.
16 The Federal Reserve System's continuing "easy money" policies have provided
17 renewed liquidity in the credit markets that is reflected in these lower yields.
18 These results are slightly below the average DCF results, which continues to
19 demonstrate the equity market risk aversion that is reflected in continuing
20 volatility and relatively low stock prices for utility shares. These circumstances
21 indicate that the cost of equity capital has not declined to the same extent as the
22 yields on utility debt.

1 **Q. How are your equity risk premium studies structured?**

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

11 The inverse relationship between equity risk premiums and interest rate
12 levels is well documented in numerous, well-respected academic studies. These
13 studies typically use regression analysis or other statistical methods to predict or
14 measure the equity risk premium relationship under varying interest rate
15 conditions. On page 3 of Exhibit No. 14, I provide regression analyses of the
16 allowed annual equity risk premiums relative to interest rate levels. The negative
17 and statistically significant regression coefficients confirm the inverse relationship
18 between equity risk premiums and interest rates. This means that when interest
19 rates rise by one percentage point, the cost of equity increases, but by a smaller
20 amount. Similarly, when interest rates decline by one percentage point, the cost
21 of equity declines by less than one percentage point. I use this negative interest
22 rate change coefficient in conjunction with current interest rates to establish the
23 appropriate current equity risk premium.

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

2 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)	10.3%-10.5%
Constant Growth (GDP Growth)	10.7%-10.8%
Multistage Growth Model	10.6%
Reasonable DCF Range	10.3%-10.8%

Equity Risk Premium Analysis	Indicated Cost
Projected Utility Debt Yield + Equity Risk Premium Equity Risk Premium ROE (6.19% + 4.40%)	10.59%
Current Utility Debt + Equity Risk Premium Equity Risk Premium ROE (5.84% + 4.55%)	10.39%
RMP Estimated ROE	10.6%

3 **Q. How should these results be interpreted to determine the fair cost of equity**

4 **for the Company?**

5 A. The recent market turmoil and the continuing effects on capital market conditions

6 make it difficult to strictly interpret quantitative model estimates for the cost of

7 equity. While corporate interest rates have dropped from the levels that existed in

8 late 2008, the DCF results, based on continuing relatively low utility stock prices,

9 show that the cost of equity has not declined as much as utility bond yields.

10 Under these conditions, use of a lower DCF range or equity risk premium

11 estimates based strictly on historical risk premium relationships likely understate

12 the cost of equity. From this perspective, and with consideration of the

13 Company's on-going capital requirements, I estimate the fair and reasonable cost

14 of equity capital to be at least at the approximate mid-point of my DCF range and

15 at the upper end of my risk premium range. This leads to a point estimate of 10.6

1 percent as the market required ROE for the Company.

2 **Q. Does this conclude your testimony?**

3 A. Yes, it does.

SAMUEL C. HADAWAY

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SUMMARY OF QUALIFICATIONS

- Principal, Financial Analysis Consultants (FINANCO, Inc.).
- Ph.D. in Finance and Econometrics.
- Extensive expert witness testimony in court and before regulatory agencies.
- Management of professional research staff in academic and regulatory organizations.
- Professional presentations before executive development groups, the National Rate of Return Analysts' Forum, and the New York Society of Security Analysts.
- Financial Management Association, Vice President for Practitioner Services.

EDUCATION

The University of Texas at Austin **Ph.D., Finance and Econometrics** **January 1975**	Dissertation: *An Evaluation of the Original and Recent Variants of the Capital Asset Pricing Model.*
The University of Texas at Austin **MBA, Finance** **June 1973**	Thesis: *The Pricing of Risk on the New York Stock Exchange.*
Southern Methodist University **BA, Economics** **June 1969**	Honors program. Departmental distinction.

OTHER EXPERIENCE

University of Texas at Austin **Adjunct Associate Professor** **1985-1988, 2004-Present**	Corporate Financial Management, Investments, and Integrative Finance Cases.
Texas State University San Marcos **Associate Professor of Finance** **1983-1984, 2003-2004**	Graduate and undergraduate courses in Financial Management, Managerial Economics, and Investment Analysis.
Public Utility Commission of Texas **Chief Economist and Director of Economic Research Division** **August 1980-August 1983**	Lead financial witness. Supervised Commission staff in research and testimony on rate of return, financial condition, and economic analysis.
Assistant Professor of Finance **Texas Tech University** **July 1978-July 1980** **University of Alabama** **January 1975-June 1978**	Member of graduate faculty. Conducted Ph.D. seminars and directed doctoral dissertations in capital market theory. Served as consultant to industry, church and governmental organizations.

FINANCIAL AND ECONOMIC TESTIMONY IN REGULATORY PROCEEDINGS (Client in parenthesis)

Cost of Money Testimony:

- Washington Utilities and Transportation Commission, Docket UE-100749, May 4, 2010 (PacifiCorp).
- New Hampshire Public Utilities Commission, Docket No. DE 10-055, April 15, 2010 (Unitil Energy Systems)
- Oregon Public Utility Commission, Docket No. UE-217, March 1, 2010 (PacifiCorp).
- Texas Public Utility Commission, Docket No. 37744, December 30, 2009,(Entergy Texas, Inc.)
- Kansas Corporation Commission, Docket No. 10-KCPE-415-RTS, December 17, 2009 (Kansas City Power & Light Company).
- Texas Public Utility Commission, Docket No. 37690, December 9, 2009,(El Paso Electric Company).
- California Public Utilities Commission, Application No. 09-11-015, November 20, 2009 (PacifiCorp).
- Federal Energy Regulatory Commission, Docket No. ER10-230-000, November 6, 2009 (Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company).
- Wyoming Public Service Commission, Docket No. 20000-352-ER-09, October 2, 2009 (Rocky Mountain Power dba/PacifiCorp).
- Arkansas Public Service Commission, Docket No. 09-084-U, September 4, 2009, (Entergy-Arkansas)
- Texas Public Utility Commission, Docket No. 37364, August 28, 2009,(American Electric Power-SWEPCO)
- Utah Public Service Commission, Docket No. 09-035-23, June 23, 2009 (Rocky Mountain Power/PacifiCorp).
- New Mexico Public Regulation Commission, Case No. 09-00171-UT, May 2009, (El Paso Electric Company).
- Oregon Public Utility Commission, Docket No. UE-207, April 2, 2009 (PacifiCorp).
- Arkansas Public Service Commission, Docket No. 09-008-U, February 19, 2009 (American Electric Power-SWEPCO).
- Washington Utilities and Transportation Commission, Docket UE-090205, February 9, 2009 (PacifiCorp).
- Idaho Public Utilities Commission, Case No. PAC-E-08-07, September 19, 2008 (Rocky Mountain Power/PacifiCorp).
- Missouri Public Service Commission, Case No. ER-2009-089, September 5, 2008 (Kansas City Power & Light Company).
- Kansas Corporation Commission, Docket No. 09-KCPE-246-RTS, September 5, 2008 (Kansas City Power & Light Company).
- Missouri Public Service Commission, Case No. ER-2009-090, September 5, 2008 (Aquila, Inc. dba/KCP&L Greater Missouri Operations Company).
- Utah Public Service Commission, Docket No. 08-035-38, July 17, 2008 (Rocky Mountain Power/PacifiCorp).
- Wyoming Public Service Commission, Docket No. 20000-333-ER-08, July 2008 (Rocky Mountain Power dba/PacifiCorp).
- Texas Public Utility Commission, Docket No. 35717, June 27, 2008, (Oncor Electric Delivery Company LLC).
- Washington Utilities and Transportation Commission, Docket UG-080546, March 28, 2008 (NW Natural).
- Washington Utilities and Transportation Commission, Docket UE-080220, February 6, 2008 (PacifiCorp).
- Utah Public Service Commission, Docket No. 07-035-93, December 17, 2007 (PacifiCorp).

- Illinois Commerce Commission, Docket No. 07-0566, October 17, 2007 (Commonwealth Edison Company).
- Texas Public Utility Commission, Docket No. 34800, September 26, 2007, (Entergy Gulf States, Inc.)
- Texas Public Utility Commission, Docket No. 34040, August 28, 2007, (Oncor/TXU Electric Delivery Company)
- Massachusetts Department of Public Utilities, D.P.U. 07-71, August 17, 2007, (Fitchburg Gas and Electric Light Company d/b/a/ Unitil)
- Arizona Corporation Commission, Docket No. E-01933A-07-0402, July 2, 2007, (Tucson Electric Power Company).
- Wyoming Public Service Commission, Docket No. 20000-277-ER-07, June 29, 2007 (Rocky Mountain Power dba/PacifiCorp).
- Idaho Public Utilities Commission, Case No. PAC-E-05-1, June 8, 2007 (Rocky Mountain Power dba/PacifiCorp).
- Kansas Corporation Commission, Docket No. 07-KCPE-905-RTS, March 1, 2007 (Kansas City Power & Light Company).
- New Mexico Public Regulation Commission, Case No. 07-00077-UT, February 21, 2007, (Public Service Company of New Mexico).
- Missouri Public Service Commission, Case No. ER-2006-0291, February 1, 2007 (Kansas City Power & Light Company).
- Texas PUC Docket Nos. 33734, January 22, 2007 (Electric Transmission Texas, LLC).
- Texas PUC Docket Nos. 33309 and 33310, November 2006, (AEP Texas Central Company and AEP Texas North Company).
- Louisiana Public Service Commission, Docket No. U-23327, October 2006 and January 2005 (Southwestern Electric Power Company, American Electric Power Company)
- Missouri Public Service Commission, Case No. ER-2007-0004, July 3, 2006 (Aquila, Inc.).
- New Mexico Public Regulation Commission, Case No. 06-00258-UT, June 30, 2006 (El Paso Electric Company).
- New Mexico Public Regulation Commission, Case No. 06-00210-UT, May 30, 2006 (Public Service Company of New Mexico).
- Texas Public Utility Commission, Docket No. 32093, April 14, 2006 (CenterPoint Energy-Houston Electric, LLC).
- Utah Public Service Commission, Docket No. 06-035-21, March 7, 2006 (PacifiCorp).
- Oregon Public Utility Commission, Case No. UE-179, February 23, 2006 (PacifiCorp).
- Kansas Corporation Commission, Docket No. 06-KCPE-828-RTS, January 31, 2006 (Kansas City Power & Light Company).
- Missouri Public Service Commission, Case No. ER-2006-0314, January 27, 2006 (Kansas City Power & Light Company).
- California Public Utilities Commission, Docket No. 05-11-022, November 29, 2005 (PacifiCorp).
- Texas Public Utility Commission, Docket No. 31994, November 5, 2005 (Texas-New Mexico Power Company).
- New Hampshire Public Utilities Commission, Docket No. DE 05-178, November 4, 2005 (Unitil Energy Systems).
- Wyoming Public Service Commission, Docket No. 20000-ER-05-230, October 14, 2005 (PacifiCorp).
- Minnesota Public Utilities Commission, Docket. No. G-008/GR-05-1380, October 2005 (CenterPoint Energy Minnegasco).
- Texas Railroad Commission, Gas Utilities Division No. 9625, September 2005 (CenterPoint Energy Entex).

- Illinois Commerce Commission, Docket No. 05-0597, August 31, 2005 (Commonwealth Edison Company).
- Washington Utilities and Transportation Commission, Docket ,UE-050684/General Rate Case, May 2005 (PacifiCorp).
- Missouri Public Service Commission, Case No. ER-2005-0436, May 2005 (Aquila, Inc.).
- Idaho Public Utilities Commission, Case No. PAC-E-05-1, January 14, 2005 (PacifiCorp).
- Arkansas Public Service Commission, Docket No. 04-121-U, December 3, 2004 (CenterPoint Energy Arkla).
- Oregon Public Utility Commission, Case No. UE-170, November 12, 2004 (PacifiCorp).
- Texas Public Utility Commission, Docket No. 29206, November 8, 2004 (Texas-New Mexico Power Company).
- Texas Railroad Commission, Gas Utilities Division Nos. 9533 and 9534, October 13, 2004 (CenterPoint Energy Entex).
- Texas Public Utility Commission, Docket No. 29526, August 18 and September 2, 2004 (CenterPoint Energy Houston Electric).
- Utah Public Service Commission, Docket No. 04-2035-, August 4, 2004 (PacifiCorp).
- Oklahoma Corporation Commission, Cause No. PUD-200400187, July 2, 2004, (CenterPoint Energy Arkla).
- Minnesota Public Utilities Commission, Docket No. G-008/GR-04-901, July 2004, (CenterPoint Energy Minnegasco).
- Washington Utilities and Transportation Commission, Docket ,UE-032065/General Rate Case, December 2003 (PacifiCorp).
- Washington Utilities and Transportation Commission, Docket ,UG-031885, November 2003 (Northwest Natural Gas Company.).
- Wyoming Public Service Commission, Docket No. 20000-ER-03-198, May 2003 (PacifiCorp).
- Public Service Commission of Utah, Docket No. 03-2035-02, May 2003 (PacifiCorp).
- Public Utility Commission of Oregon, Case. UE-147, March 2003 (PacifiCorp).
- Wyoming Public Service Commission, Docket No. 20000-ER-00-162, May 2002 (PacifiCorp).
- Public Utility Commission of Oregon, UG-152, November 2002 (Northwest Natural).
- Massachusetts Department of Telecommunications and Energy, D.T.E. 02-24/24, May 2002 (Fitchburg Gas and Electric Light Company).
- New Hampshire Public Utilities Commission, Docket No. DE 01-247, January 2002 (Unitil Corporation).
- Washington Utilities and Transportation Commission, Docket UE-011569,70,UG-011571, November 2001 (Puget Sound Energy, Inc.).
- California Public Utilities Commission, Docket No. 01-03-026, September and December 2001 (PacifiCorp).
- New Mexico Public Regulation Commission, Docket No. 3643, July 2001 (Texas-New Mexico Power Company).
- Texas Natural Resources Conservation Commission, Docket No. 2001-1074/5-URC, May 2001 (AquaSource Utility, Inc.).
- Massachusetts Department of Telecommunications and Energy, Docket No. 99-118, May 2001 (Fitchburg Gas and Electric Light Company).
- Public Service Commission of Utah, Docket No. 01-035-01, January 2001 (PacifiCorp)
- Federal Energy Regulatory Commission, Docket No. ER-01-651, January 2001 (Southwestern Electric Power Company).
- Wyoming Public Service Commission, Docket No. 20000-ER-00-162, December 2000 (PacifiCorp).
- Public Utility Commission of Oregon, Case. UE-116, November 2000, (PacifiCorp)

- Public Utility Commission of Texas, Docket No. 22344, September 2000, (AEP Texas Companies, Entergy Gulf States, Inc., Reliant Energy HL&P, Texas-New Mexico Power Company, TXU Electric Company)
- Public Utility Commission of Oregon, Case UE-111, August 2000, (PacifiCorp)
- Texas Public Utility Commission, Docket Nos. 22352,3,4, March 2000 (Central Power and Light Co., Southwestern Electric Power Co., West Texas Utilities Co.).
- Texas Public Utility Commission, Docket No. 22355, March 2000 (Reliant Energy, Inc.).
- Texas Public Utility Commission, Docket No. 22349, March 2000 (Texas-New Mexico Power Co.).
- Texas Public Utility Commission, Docket No. 22350, March 2000 (TXU Electric).
- Washington Utilities and Transportation Commission, Docket UE-991831, November 1999 (PacifiCorp).
- Public Service Commission of Utah, Docket No. 99-035-10, September 1999 (PacifiCorp)
- Louisiana Public Service Commission Docket No. U-23029, August 1999 (Southwestern Electric Power Company)
- Wyoming Public Service Commission, Docket No. 2000-ER-99-145, July 1999, January 2000 (PacifiCorp, dba Pacific Power and Light Company).
- Texas PUC Docket No. 20150, March 1999 (Entergy Gulf States, Inc.)
- Federal Energy Regulatory Commission Docket No. ER-98-3177-00, May and December 1998 (Southwestern Electric Power Company).
- Public Service Commission of Utah, Docket No. 97-035-01, June 1998 (PacifiCorp, dba Utah Power and Light Company).
- Massachusetts Dept. of Telecommunications and Energy, Docket No. DTE 98-51, May 1998, (Fitchburg Gas and Electric Light Company, a subsidiary of Unitil Corp.)
- Texas PUC, Docket No. 18490, March 1998, (Texas Utilities Electric Company)
- Texas PUC Docket No. 17751, March 1998 and July 1997 (Texas-New Mexico Power Company).
- Federal Energy Regulatory Commission Docket No. RP-97, February 1998 and May 1997 (Koch Gateway Pipeline Company).
- Federal Energy Regulatory Commission Docket No. ER-97-4468-000, December 1997 (Puget Sound Power & Light).
- Oklahoma Corporation Commission, Cause No. PUD 960000214, August 1997 (Public Service Company of Oklahoma).
- Oregon Public Utility Commission Docket No. UE-94, April 1996, (PacifiCorp).
- Texas PUC Docket No. 15643, May and September 1996, (Central Power and Light and West Texas Utilities Company).
- Federal Energy Regulatory Commission Docket No. ER-96, April 1996 (Puget Sound Power & Light).
- Federal Energy Regulatory Commission Docket No. ER96, February 1996, (Central and South West Corporation).
- Washington Utilities & Transportation Commission Docket No. UE-951270, November 1995 (Puget Sound Power & Light).
- Texas PUC Docket No. 14965, November 1995, (Central Power and Light).
- Texas PUC Docket No. 13369, February 1995 (West Texas Utilities).
- Texas PUC Docket No. 12065, July and December 1994, (Houston Lighting & Power).
- Texas PUC, Docket No. 12820, July and November 1994, (Central Power and Light).
- Texas PUC Docket No. 12900, March 1994, and New Mexico PUC Case No. 2531, August 1993, (TNP Enterprises).
- Texas PUC, Docket No. 12815, March 1994, (Pedernales Electric Cooperative).
- Florida Public Service Commission, Docket No. 930987-EI, December 1993, (TECO Energy).

- Iowa Department of Commerce, Docket No. RPU-93-9, December 1993, (US West Communications).
- Texas PUC Dkt. No. 11735, May and September 1993, (Texas Utilities Electric Company)
- Oklahoma Corporation Commission, Cause No. PUD 001342, October 1992 (Public Service Company of Oklahoma).
- Texas PUC Dkt. No. 9983, November 1991, (Southwest Texas Telephone Company).
- Texas PUC Dkt. No. 9850, November 1990, Houston Lighting & Power Company).
- Texas PUC Dkt. Nos. 8480/8482, January 1989; City of Austin Dkt. No. 1, August 1988 and July 1987, (City of Austin Electric Department).
- Missouri Public Service Commission Case No. ER-90-101, July 1990 (UtiliCorp).
- Texas PUC Dkt. No. 9945, December 1990; Texas PUC Dkt. No. 9165, November 1989, (El Paso Electric Company).
- Texas PUC Dkt. No. 9427, July 1990, (Lower Colorado River Authority Association of Wholesale Customers).
- Oregon Public Utility Commission, March 1990, (Pacific Power & Light Company).
- Utah Public Service Commission, November 1989, (Utah Power & Light Company).
- Texas PUC Dkt. No. 5610, September 1988, (GTE Southwest).
- Iowa State Utilities Board, September 1988, (Northwestern Bell Telephone Company).
- Texas Water Commission, Dkt. Nos. RC-022 and RC-023, November 1986, (City of Houston Water Department).
- Pennsylvania PUC Dkt. Nos. R-842770 and R-842771, May 1985, (Bethlehem Steel).

Capital Structure Testimony:

- Federal Energy Regulatory Commission Docket No. RP-97, May 1997 (Koch Gateway Pipeline Company).
- Illinois Commerce Commission Dkt. No. 93-0252 Remand, July 1996, (Sprint).
- California PUC (Appl. No. 92-05-004) April 1993 and May 1993, (Pacific Telesis).
- Montana PSC, Dkt. No. 90.12.86, November 1991, (US West Communications).
- Massachusetts PUC Dkt. No. 86-33, June 1987, (New England Telephone Company).
- Maine PUC Dkt. No. 85-159, February 1987, (New England Telephone Company).
- New Hampshire PUC Dkt. No. 85-181, September 1986, (New England Telephone Company).
- Maine PUC Dkt. No. 83-213, March 1984, (New England Telephone Company).

Regulatory Policy and Other Regulatory Issues:

- Texas PUC Docket No.31056, September 16, 2005, (AEP Texas Central Company).
- New Hampshire PUC Docket No. DE 03-086, May 2003, (Unitil Corporation).
- Texas PUC Docket No. 26194, May 2003 (El Paso Electric Company)
- Texas PUC Docket No. 22622, June 15, 2001 (TXU Electric)
- Texas PUC Docket No. 20125, November 1999 (Entergy Gulf States, Inc.)
- Texas PUC Docket No. 21112, July 1999 and New Mexico Public Regulation Commission Case No. 3103, July 1999 (Texas-New Mexico Power Company)
- Texas PUC Docket No. 20292, May 1999 (Central Power and Light Co.)
- Texas PUC Docket No. 20150, November 1998 (Entergy Gulf States, Inc.)
- New Mexico PUC Case No. 2769, May 1997, (Texas-New Mexico Power Company).
- Texas PUC Dkt. No. 15296, September 1996, (City of College Station, Texas).
- Texas PUC Dkt. No. 14965 Competitive Issues Phase, August 1996 (Central Power and Light Company).
- Texas PUC Dkt. No. 12456, May 1994, (Texas Utilities Electric Company).
- Texas PUC, Dkt. No. 12700/12701 and Federal Energy Regulatory Commission, Docket No. EC94-000, January 1994, (El Paso Electric Company).

- Florida Public Service Commission Generic Purchased Power Proceedings, October 1993 (TECO Energy).
- Texas PUC, Docket No. 11248, December 1992 (Barbara Faskins).
- Texas PUC Dkt. No. 10894, January and June 1992, (Gulf States Utilities Company).
- State Corporation Commission of Kansas, Dkt. No. 175,456-U, August 1991, (UtiliCorp United).
- Texas PUC Dkt. No. 9561, May 1990; Texas PUC Dkt. Nos. 6668/8646, July 1989 and February 1990, (Central Power and Light Company).
- Texas PUC Dkt. No. 9300, April 1990 and June 1990, (Texas Utilities Electric Co.).
- Texas PUC Dkt. No. 10200, August 1991, (Texas-New Mexico Power Company).
- Texas PUC Dkt. No. 7289, May 1987, (West Texas Utilities Company).
- Texas PUC Dkt. No. 7195, January 1987, (North Star Steel Texas).
- New Mexico PSC Case No. 1916, April 1986, (Public Service Company of New Mexico).
- Texas PUC Dkt. No. 6525, March 1986, (North Star Steel Texas).
- Texas PUC Dkt. No. 6375, November 1985, (Valley Industrial Council).
- Texas PUC Dkt. No. 6220, April 1985, (North Star Steel Texas).
- Texas PUC Dkt. No. 5940, March 1985, (West Texas Municipal Power Agency).
- Texas PUC Dkt. No. 5820, October 1984, (North Star Steel Texas).
- Texas PUC Dkt. No. 5779, September 1984, (Texas Industrial Energy Consumers).
- Texas PUC Dkt. No. 5560, April 1984, (North Star Steel Texas).
- Arizona PSC Dkt. No. U-1345-83-155, January 1984 and May 1984 (Arizona Public Service Company Shareholders Association).

Insurance Rate Testimony:

- Texas Department of Insurance, Docket No. 2673, January 2008, (Texas Land Title Association).
- Texas Department of Insurance, Docket No. 2601, December 2006, (Texas Land Title Association).
- Texas Department of Insurance, Docket No. 2394, November 1999, (Texas Title Insurance Agents).
- Senate Interim Committee on Title Insurance of the Texas Legislature, February 6, 1998
- Texas Department of Insurance, Docket No. 2279, October 1997, (Texas Title Insurance Agents).
- Texas Department of Insurance, January 1996, (Independent Metropolitan Title Insurance Agents of Texas).
- Texas Insurance Board, January 1992, (Texas Land Title Association).
- Texas Insurance Board, December 1990, (Texas Land Title Association).
- Texas Insurance Board, November 1989, (Texas Land Title Association).
- Texas Insurance Board, December 1987, (Texas Land Title Association).

Testimony On Behalf Of Texas PUC Staff:

- Texland Electric Cooperative, Dkt. No. 3896, February 1983
- El Paso Electric Company, Dkt. No. 4620, September 1982.
- Southwestern Bell Telephone Company, Dkt. No. 4545, August 1982.
- Central Power and Light Company, Dkt. No. 4400, May 1982.
- Texas-New Mexico Power Company, Dkt. 4240, March 1982.
- Texas Power and Light Company, Dkt. No. 3780, May 1981.
- General Telephone Company of the Southwest, Dkt. No. 3690, April 1981.
- Mid-South Electric Cooperative, Dkt. No. 3656, March 1981.

- West Texas Utilities Company, Dkt. No. 3473, December 1980.
- Houston Lighting & Power Company, Dkt. No. 3320, September 1980.

ECONOMIC ANALYSIS AND TESTIMONY

Antitrust Litigation:

- Marginal Cost Analysis of Concrete Production/Predatory Pricing (Stiles)
- Analysis of Lost Business Opportunity due to denial of Waste Disposal Site Permit (Browning-Ferris Industries, Inc.).
- Analysis of Electric Power Transmission Costs in Purchased Power Dispute (City of College Station, Texas).

Contract Litigation:

- Analysis of Cogeneration Contract/Economic Viability Issues(Texas-New Mexico Power Company)
- Definition of Electric Sales/Franchise Fee Contract Dispute (Reliant Energy HL&P)
- Analysis of Purchased Power Agreement/Breach of Contract (Texas-New Mexico Power Company)
- Regulatory Commission Provisions in Franchise Fee Ordinance Dispute (Central Power & Light Company)
- Analysis of Economic Damages resulting from attempted Acquisition of Highway Construction Company (Dillingham Construction Corporation).
- Analysis of Economic Damages due to Contract Interference in Acquisition of Electric Utility Cooperative (PacifiCorp).
- Analysis of Economic Damages due to Patent Infringement of Boiler Cleaning Process (Dowell-Schlumberger/The Dow Chemical Company).

Lender Liability/Securities Litigation:

- ERISA Valuation of Retail Drug Store Chain (Sommers Drug Stores Company).
- Analysis of Lost Business Opportunities in Failed Businesses where Lenders Refused to Extend or Foreclosed Loans (FirstCity Bank Texas, McAllen State Bank, General Electric Credit Corporation).
- Usury and Punitive Damages Analysis based on Property Valuation in Failed Real Estate Venture (Tomen America, Inc.).

Personal Injury/Wrongful Death/Lost Earnings Capacity Litigation:

- Analysis of Lost Earnings Capacity and Punitive Damages due to Industrial Accident (Worsham, Forsythe and Wooldridge).
- Analysis of Lost Earnings Capacity due to Improper Termination (Lloyd Gosselink, Ryan & Fowler).
- Present Value Analysis of Lost Earnings and Future Medical Costs due to Medical Malpractice (Sierra Medical Center).

Product Warranty/Liability Litigation:

- Analysis of Lost Profits due to Equipment Failure in Cogeneration Facility (WF Energy/Travelers Insurance Company).
- Analysis of Economic Damages due to Grain Elevator Explosion (Degesch Chemical Company).
- Analysis of Economic Damages due to failure of Plastic Pipe Water Lines (Western Plastics, Inc.)

- Analysis of Rail Car Repair and Maintenance Costs in Product Warranty Dispute (Youngstown Steel Door Company).

Property Tax Litigation:

- Evaluation of Electric Utility Distribution System (Jasper-Newton Electric Cooperative).
- Evaluations of Electric Utility Generating Plants (West Texas Utilities Company).

Valuations of Closely Held Businesses in Litigation Support and Federal Estate Tax Planning.

PROFESSIONAL PRESENTATIONS

"Fundamentals of Financial Management and Reporting for Non-Financial Managers," Austin Energy, July 2000.
"Fundamentals of Finance and Accounting," the IC^2 Institute, University of Texas at Austin, December 1996 and 1997.
"Fundamentals of Financial Analysis and Project Evaluation," Central and South West Companies, April, May, and June 1997.
"Fundamentals of Financial Management and Valuation," West Texas Utilities Company, November 1995.
"Financial Modeling: Testing the Reasonableness of Regulatory Results," University of Texas Center for Legal and Regulatory Studies Conference, June 1991.
"Estimating the Cost of Equity Capital," University of Texas at Austin Utilities Conference, June 1989, June 1990.
"Regulation: The Bottom Line," Texas Society of Certified Public Accountants, Annual Utilities Conference, Austin, Texas, April 1990.
"Alternative Treatments of Large Plant Additions -- Modeling the Alternatives," University of Texas at Dallas Public Utilities Conference, July 1989.
"Industrial Customer Electrical Requirements," Edison Electric Institute Financial Conference, Scottsdale, Arizona, October 1988.
"Acquisitions and Consolidations in the Electric Power Industry," Conference on Emerging Issues of Competition in the Electric Utility Industry, University of Texas at Austin, May 1988.
"The General Fund Transfer - Is It A Tax? Is It A Dividend Payout? Is It Fair?" The Texas Public Power Association Annual Meeting, Austin, May 1984.
"Avoiding 'Rate Shock' - Preoperational Phase-In Through CWIP in Rate Base," Edison Electric Institute, Finance Committee Annual Meeting, May 1983.
"A Cost-Benefit Analysis of Alternative Bond Ratings Among Electric Utility Companies in Texas," (with B.L. Heidebrecht and J.L. Nash), Texas Senate Subcommittee on Consumer Affairs, December 1982.
"Texas PUC Rate of Return and Construction Work in Progress Methods," New York Society of Security Analysts, New York, August 1982.
"In Support of Debt Service Requirements as a Guide to Setting Rates of Return for Subsidiaries," Financial Forum, National Society of Rate of Return Analysts, Washington, D.C., May 1982.

PUBLICATIONS

"Institutional Constraints on Public Fund Performance," (with B.L. Hadaway) *Journal of Portfolio Management,* Winter 1989.
"Implications of Savings and Loan Conversions in a Deregulated World," (with B.L. Hadaway) *Journal of Bank Research*, Spring 1984.

"Regulatory Treatment of Construction Work in Progress," abstract, (with B.L. Heidebrecht and J. L. Nash), *Rate & Regulation Review*, Edison Electric Institute, December 20, 1982.

"Financial Integrity and Market-to-Book Ratios in an Efficient Market," (with W. L. Beedles), *Gas Pricing & Ratemaking*, December 7, 1982.

"An Analysis of the Performance Characteristics of Converted Savings and Loan Associations," (with B.L. Hadaway) *Journal of Financial Research*, Fall 1981.

"Inflation Protection from Multi-Asset Sector Investments: A Long-Run Examination of Correlation Relationships with Inflation Rates," (with B.L. Hadaway), *Review of Business and Economic Research*, Spring 1981.

"Converting to a Stock Company-Association Characteristics Before and After Conversion," (with B.L. Hadaway), *Federal Home Loan Bank Board Journal*, October 1980.

"A Large-Sample Comparative Test for Seasonality in Individual Common Stocks," (with D.P. Rochester), *Journal of Economics and Business*, Fall 1980.

"Diversification Possibilities in Agricultural Land Investments," *Appraisal Journal*, October 1978.

"Further Evidence on Seasonality in Common Stocks," (with D.P. Rochester), *Journal of Financial and Quantitative Analysis*, March 1978.

Case No. PAC-E-10-07
Exhibit No. 10
Witness: Samuel C. Hadaway

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Samuel C. Hadaway

Comparable Company Fundamentals

May 2010

Rocky Mountain Power
Comparable Company Fundamental Characteristics

		(1)	(2)		(3)		
					Capital Structure (2009)		
		% Regulated	Credit Rating		Common Equity	Long-Term Debt	Preferred Stock
No.	Company	Revenue	S&P	Moody's	Ratio	Ratio	Ratio
1	ALLETE	89.8%	A-	A2	57.2%	42.8%	0.0%
2	Alliant Energy Co.	90.2%	A-	A2	51.2%	44.3%	4.5%
3	Black Hills Corp	88.3%	BBB	A3	51.6%	48.4%	0.0%
4	Con. Edison	83.8%	A-	A3	50.4%	48.5%	1.0%
5	DPL Inc.	100.0%	A	Aa3	46.9%	52.1%	1.0%
6	DTE Energy Co.	81.1%	A-	A2	46.1%	53.9%	0.0%
7	Duke Energy	83.9%	BBB+	A2	57.6%	42.4%	0.0%
8	Edison Internat.	80.6%	A	A1	46.5%	49.3%	4.2%
9	Entergy Corp.	74.9%	A-	Baa3	43.1%	55.3%	1.6%
10	FPL Group, Inc.	73.5%	A	Aa2	44.3%	55.7%	0.0%
11	IDACORP	84.2%	A-	NR	49.8%	50.2%	0.0%
12	Northeast Utilities	99.0%	BBB+	A3	43.7%	54.9%	1.4%
13	NSTAR	99.5%	AA-	A1	48.2%	50.7%	1.1%
14	PG&E Corp.	100.0%	BBB+	A3	47.4%	51.4%	1.2%
15	Portland General	100.0%	A-	A3	49.7%	50.3%	0.0%
16	Progress Energy	99.9%	A-	A1	43.8%	55.8%	0.4%
17	SCANA Corp.	73.1%	A-	A3	43.2%	56.8%	0.0%
18	Sempra Energy	76.7%	A+	Aa3	54.1%	44.8%	1.1%
19	Southern Co.	84.5%	A	A2	45.7%	53.2%	1.1%
20	Vectren Corp.	76.3%	A	A2	47.5%	52.5%	0.0%
21	Wisconsin Energy	99.8%	A-	A1	47.7%	51.9%	0.4%
22	Xcel Energy Inc.	99.2%	A	A2	47.7%	51.6%	0.7%
	Average	88.1%	A/A-	A2	48.3%	50.8%	0.9%

Column Sources:

(1) Most recent company 10-Ks.

(2) AUS Utility Reports, Mar 2010.

(3) Value Line Investment Survey, Electric Utility (East), Feb 26, 2010; (Central), Mar 26, 2010; (West), May 7, 2010 and most recent company 10-Ks (where actual 2009 data not available from Value Line).

Case No. PAC-E-10-07
Exhibit No. 11
Witness: Samuel C. Hadaway

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Samuel C. Hadaway

Capital Market Costs

May 2010

Rocky Mountain Power
Historical Capital Market Costs

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Prime Rate	9.2%	6.9%	4.7%	4.1%	4.3%	6.2%	8.0%	8.1%	5.1%	3.3%
Consumer Price Index	3.4%	1.6%	2.5%	2.0%	3.3%	3.3%	2.5%	4.1%	0.0%	2.8%
Long-Term Treasuries	5.9%	5.5%	5.4%	5.0%	5.1%	4.7%	5.0%	4.8%	4.3%	4.1%
Moody's Avg Utility Debt	8.1%	7.7%	7.5%	6.6%	6.2%	5.7%	6.1%	6.1%	6.7%	6.3%
Moody's A Utility Debt	8.2%	7.8%	7.4%	6.6%	6.2%	5.7%	6.1%	6.1%	6.5%	6.0%

SOURCES:
Prime Interest Rate - Federal Reserve Bank of St. Louis website
Consumer Price Index For All Urban Consumers: All Items (Seasonally Adjusted, December to December) - Federal Reserve Bank of St. Louis website
Long-Term Treasuries - Federal Reserve Bank of St. Louis website; 30-year Treasury bonds 1999-2001 and 2007-2009; 20-year Treasury bonds 2002-2006
Moody's Average Utility Debt - Moody's (Mergent) Bond Record
Moody's A Utility Debt - Moody's (Mergent) Bond Record

Rocky Mountain Power
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-10	5.77	4.60	1.17
Feb-10	5.87	4.62	1.25
Mar-10	5.84	4.64	1.20
Apr-10	5.81	4.69	1.12
3-Mo Avg	**5.84**	**4.65**	**1.19**
12-Mo Avg	**5.85**	**4.44**	**1.41**

Sources: Mergent Bond Record (Utility Rates); www.federalreserve.gov (Treasury Rates).

Three month average is for Feb 2010 - Apr 2010.

Twelve month average is for May 2009 - Apr 2010.

Economic Indicators

Seasonally Adjusted Annual Rates — Dollar Figures in Billions

R2009	E2010	E2011	Annual % Change R2009	Annual % Change E2010	Annual % Change E2011		2009 3Q	2009 R4Q	E2010 1Q	E2010 2Q	E2010 3Q	E2010 4Q	E2011 1Q	E2011 2Q
						Gross Domestic Product								
$14,256.3	$14,845.4	$15,556.1	(1.3)	4.1	4.8	GDP (current dollars)	$14,242.1	$14,453.8	$14,581.6	$14,774.0	$14,940.0	$15,085.9	$15,276.2	$15,451.0
(1.3)	4.1	4.8	-	-	-	Annual rate of increase (%)	2.6	6.1	3.6	5.4	4.6	4.0	5.1	4.7
(2.4)	3.0	2.9	-	-	-	Annual rate of increase–real GDP (%)	2.2	5.6	2.5	3.5	2.3	2.6	2.8	2.9
1.2	1.1	1.8	-	-	-	Annual rate of increase–GDP deflator (%	0.4	0.5	1.1	1.8	2.2	1.3	2.2	1.7
						***Components of Real GDP**								
$9,235.1	$9,449.7	$9,665.5	(0.6)	2.3	2.3	Personal consumption expenditures	$9,252.6	$9,289.5	$9,364.1	$9,415.8	$9,482.8	$9,535.9	$9,574.7	$9,624.9
(0.6)	2.3	2.3	-	-	-	% change	2.8	1.6	3.3	2.2	2.9	2.3	1.6	2.1
1,101.4	1,177.0	1,256.0	(3.9)	6.9	6.7	Durable goods	1,122.7	1,123.7	1,139.1	1,167.4	1,192.2	1,209.3	1,222.7	1,237.6
2,037.0	2,088.8	2,116.5	(1.0)	2.5	1.3	Nondurable goods	2,033.3	2,053.4	2,077.7	2,083.5	2,093.7	2,100.4	2,103.3	2,110.5
6,087.8	6,183.6	6,303.3	0.1	1.6	1.9	Services	6,090.6	6,105.9	6,142.0	6,163.6	6,198.8	6,230.1	6,254.4	6,284.1
1,291.0	1,312.5	1,403.5	(17.8)	1.7	6.9	Nonresidental fixed investment	1,269.0	1,285.5	1,287.9	1,305.9	1,320.0	1,336.0	1,361.6	1,385.8
(17.8)	1.7	6.9	-	-	-	% change	(5.9)	5.3	0.7	5.7	4.4	4.9	7.9	7.3
890.7	975.9	1,097.1	(16.6)	9.6	12.4	Producers durable equipment	879.8	918.9	930.2	960.5	991.0	1,021.9	1,055.8	1,085.3
349.6	348.7	432.0	(20.8)	(0.3)	23.9	Residental fixed investment	350.5	353.5	343.2	345.4	346.7	359.4	383.9	417.0
(20.8)	(0.3)	23.9	-	-	-	% change	19.0	3.5	(11.1)	2.6	1.5	15.5	30.2	39.3
(108.3)	27.5	51.0	-	-	-	Net change in business inventories	(139.2)	(19.7)	(2.8)	31.4	38.3	42.9	48.2	49.2
2,564.6	2,584.6	2,564.8	1.8	0.8	(0.8)	Gov't purchases of goods & services	2,585.5	2,576.9	2,570.4	2,586.7	2,590.2	2,591.1	2,584.6	2,570.1
1,026.6	1,065.2	1,038.2	5.2	3.8	(2.5)	Federal	1,043.3	1,043.4	1,052.8	1,069.3	1,070.6	1,068.2	1,058.8	1,044.0
1,541.0	1,523.5	1,530.3	(0.2)	(1.1)	0.4	State & local	1,545.5	1,537.0	1,521.5	1,521.6	1,523.9	1,526.9	1,529.6	1,529.8
(355.6)	(357.2)	(348.6)	-	-	-	Net exports	(357.4)	(348.0)	(344.7)	(352.0)	(366.7)	(365.3)	(354.3)	(345.9)
1,472.4	1,650.1	1,792.5	(9.6)	12.1	8.6	Exports	1,478.8	1,556.8	1,587.7	1,633.7	1,671.3	1,707.8	1,740.8	1,776.6
1,828.0	2,007.3	2,141.1	(13.9)	9.8	6.7	Imports	1,836.2	1,904.8	1,932.3	1,985.7	2,038.0	2,073.0	2,095.1	2,122.5
						****Income & Profits**								
$12,026.1	$12,418.6	$13,007.2	(1.7)	3.3	4.7	Personal income	$12,005.2	$12,097.7	$12,188.2	$12,342.2	$12,505.8	$12,638.0	$12,785.5	$12,919.3
10,923.7	11,255.6	11,659.4	1.1	3.0	3.6	Disposable personal income	10,934.3	11,028.7	11,059.4	11,191.2	11,340.7	11,431.0	11,469.5	11,582.6
4.2	3.3	2.8	-	-	-	Savings rate (%)	3.9	3.9	3.1	3.4	3.5	3.4	2.8	2.8
1,427.7	1,701.4	1,846.3	(2.4)	19.2	8.5	Corporate profits before taxes	1,495.0	1,632.0	1,736.8	1,674.8	1,683.4	1,710.5	1,825.0	1,830.5
1,112.8	1,309.7	1,308.2	(4.9)	17.7	(0.1)	Corporate profits after taxes	1,173.9	1,270.1	1,334.5	1,288.4	1,297.3	1,318.6	1,295.3	1,296.3
51.15	63.89	71.81	243.8	24.9	12.4	‡Earnings per share (S&P 500)	12.49	51.15	59.52	61.65	63.23	63.89	66.63	68.97
						†Prices & Interest Rates								
(0.3)	2.2	2.0	-	-	-	Consumer price index	3.7	2.6	1.6	1.5	2.5	1.6	2.3	2.1
0.2	0.4	2.0	-	-	-	Treasury bills	0.2	0.1	0.1	0.2	0.4	0.8	1.3	1.8
3.3	4.1	5.1	-	-	-	10-yr notes	3.5	3.5	3.7	4.0	4.3	4.5	4.8	5.0
4.1	5.0	5.7	-	-	-	30-yr bonds	4.3	4.3	4.6	4.9	5.1	5.3	5.6	5.7
5.3	5.7	6.6	-	-	-	New issue rate–corporate bonds	5.3	5.2	5.3	5.6	5.9	6.1	6.4	6.6
						Other Key Indicators								
553.3	662.9	1,142.2	(38.6)	19.8	72.3	Housing starts (1,000 units SAAR)	586.7	558.7	595.2	604.5	681.2	770.8	930.2	1,083.3
10.3	11.7	13.6	(21.6)	13.4	15.6	Auto & truck sales (1,000,000 units)	11.5	10.8	11.0	11.6	12.0	12.4	12.7	13.2
9.3	9.6	9.2	-	-	-	Unemployment rate (%)	9.6	10.0	9.7	9.6	9.6	9.7	9.6	9.4
4.5	(4.6)	(6.0)	-	-	-	§U.S. dollar	(18.6)	(9.5)	10.7	(1.3)	(6.9)	(8.2)	(7.3)	(4.8)

Note: Annual changes are from prior year and quarterly changes are from prior quarter. Figures may not add to totals because of rounding. A–Advance data. P–Preliminary. E–Estimated. R–Revised.
*2005 Chain-weighted dollars. **Current dollars. ‡Trailing 4 quarters. †Average for period. §Quarterly % changes at quarterly rates. This forecast prepared by Standard & Poor's.

Case No. PAC-E-10-07
Exhibit No. 12
Witness: Samuel C. Hadaway

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Samuel C. Hadaway

GDP Growth Rate

May 2010

Rocky Mountain Power
GDP Growth Rate Forecast

	Nominal GDP	% Change	GDP Price Deflator	% Change	CPI	% Change
1949	265.2		14.4		23.6	
1950	313.3	18.1%	15.0	4.2%	25.0	5.8%
1951	347.9	11.0%	15.9	5.6%	26.5	6.0%
1952	371.4	6.8%	16.1	1.5%	26.7	0.9%
1953	375.9	1.2%	16.2	0.8%	26.9	0.6%
1954	389.4	3.6%	16.4	0.8%	26.8	-0.4%
1955	426.0	9.4%	16.8	2.6%	26.9	0.4%
1956	448.1	5.2%	17.3	3.3%	27.6	2.8%
1957	461.5	3.0%	17.8	2.7%	28.5	3.0%
1958	485.0	5.1%	18.3	2.5%	29.0	1.8%
1959	513.2	5.8%	18.4	0.9%	29.4	1.5%
1960	523.7	2.0%	18.7	1.4%	29.8	1.4%
1961	562.6	7.4%	18.9	1.1%	30.0	0.7%
1962	593.3	5.5%	19.1	1.3%	30.4	1.2%
1963	633.5	6.8%	19.4	1.4%	30.9	1.6%
1964	675.6	6.6%	19.7	1.5%	31.3	1.2%
1965	747.5	10.6%	20.1	2.0%	31.9	1.9%
1966	806.9	7.9%	20.8	3.5%	32.9	3.4%
1967	852.7	5.7%	21.4	3.1%	34.0	3.3%
1968	936.2	9.8%	22.4	4.6%	35.6	4.7%
1969	1004.5	7.3%	23.6	5.2%	37.7	5.9%
1970	1052.7	4.8%	24.7	5.0%	39.8	5.6%
1971	1151.4	9.4%	25.9	4.7%	41.1	3.3%
1972	1286.6	11.7%	27.1	4.5%	42.5	3.4%
1973	1431.8	11.3%	28.9	6.8%	46.3	8.9%
1974	1552.8	8.5%	32.0	10.7%	51.9	12.1%
1975	1713.9	10.4%	34.4	7.6%	55.6	7.1%
1976	1884.5	10.0%	36.3	5.4%	58.4	5.0%
1977	2110.8	12.0%	38.7	6.7%	62.3	6.7%
1978	2416.0	14.5%	41.5	7.3%	67.9	9.0%
1979	2659.4	10.1%	45.2	8.7%	76.9	13.3%
1980	2915.3	9.6%	49.6	9.7%	86.4	12.4%
1981	3194.7	9.6%	53.6	8.3%	94.1	8.9%
1982	3312.5	3.7%	56.4	5.2%	97.7	3.8%
1983	3688.1	11.3%	58.3	3.3%	101.4	3.8%
1984	4034.0	9.4%	60.4	3.6%	105.5	4.0%
1985	4318.7	7.1%	62.1	2.8%	109.5	3.8%
1986	4543.3	5.2%	63.5	2.3%	110.8	1.2%
1987	4883.1	7.5%	65.5	3.1%	115.6	4.3%
1988	5251.0	7.5%	67.9	3.7%	120.7	4.4%
1989	5581.7	6.3%	70.3	3.5%	126.3	4.6%
1990	5846.0	4.7%	73.2	4.2%	134.2	6.3%
1991	6092.5	4.2%	75.5	3.2%	138.2	3.0%
1992	6493.6	6.6%	77.1	2.2%	142.3	3.0%
1993	6813.8	4.9%	78.8	2.2%	146.3	2.8%
1994	7248.2	6.4%	80.5	2.1%	150.1	2.6%
1995	7542.5	4.1%	82.1	2.0%	153.9	2.5%
1996	8023.0	6.4%	83.6	1.8%	159.1	3.4%
1997	8505.7	6.0%	85.0	1.6%	161.8	1.7%
1998	9027.5	6.1%	85.9	1.1%	164.4	1.6%
1999	9607.7	6.4%	87.2	1.5%	168.8	2.7%
2000	10129.8	5.4%	89.4	2.5%	174.6	3.4%
2001	10373.1	2.4%	91.2	2.0%	177.4	1.6%
2002	10766.9	3.8%	92.8	1.8%	181.8	2.5%
2003	11416.5	6.0%	94.8	2.1%	185.5	2.0%
2004	12144.9	6.4%	97.9	3.2%	191.7	3.3%
2005	12915.6	6.3%	101.3	3.5%	198.1	3.3%
2006	13611.5	5.4%	104.2	2.9%	203.1	2.5%
2007	14337.9	5.3%	107.1	2.7%	211.4	4.1%
2008	14347.3	0.1%	109.2	2.0%	211.3	0.0%
2009	14453.8	0.7%	109.9	0.7%	217.2	2.8%
10-Year Average		4.2%		2.3%		2.6%
20-Year Average		4.9%		2.3%		2.8%
30-Year Average		5.8%		3.0%		3.5%
40-Year Average		6.9%		4.0%		4.5%
50-Year Average		6.9%		3.7%		4.1%
60-Year Average		6.9%		3.5%		3.8%
Average of Periods		6.0%		3.1%		3.6%

Source: St. Louis Federal Reserve Bank, www.research.stlouisfed.org

Case No. PAC-E-10-07
Exhibit No. 13
Witness: Samuel C. Hadaway

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Samuel C. Hadaway

Discounted Cash Flow Analysis

May 2010

Rocky Mountain Power
Discounted Cash Flow Analysis
Summary Of DCF Model Results

Company	Constant Growth DCF Model Analysts' Growth Rates	Constant Growth DCF Model Long-Term GDP Growth	Low Near-Term Growth Two-Stage Growth DCF Model
1 ALLETE	9.8%	11.3%	10.6%
2 Alliant Energy Co.	10.4%	10.9%	10.9%
3 Black Hills Corp	11.1%	11.0%	10.6%
4 Con. Edison	8.7%	11.4%	10.8%
5 DPL Inc.	9.9%	10.6%	10.6%
6 DTE Energy Co.	10.5%	10.9%	10.9%
7 Duke Energy	10.7%	12.0%	11.7%
8 Edison Internat.	NA	9.9%	9.7%
9 Entergy Corp.	9.0%	9.8%	9.8%
10 FPL Group, Inc.	11.1%	10.1%	10.1%
11 IDACORP	8.7%	9.5%	9.4%
12 Northeast Utilities	11.8%	10.0%	9.9%
13 NSTAR	10.5%	10.8%	10.9%
14 PG&E Corp.	11.5%	10.4%	10.7%
15 Portland General	10.3%	11.5%	11.3%
16 Progress Energy	10.5%	12.4%	11.6%
17 SCANA Corp.	9.7%	11.1%	10.7%
18 Sempra Energy	8.1%	9.3%	9.4%
19 Southern Co.	10.3%	11.5%	11.4%
20 Vectren Corp.	10.5%	11.8%	11.3%
21 Wisconsin Energy	12.2%	9.4%	10.0%
22 Xcel Energy Inc.	10.6%	10.8%	10.6%
GROUP AVERAGE	10.3%	10.7%	10.6%
GROUP MEDIAN	10.5%	10.8%	10.6%

Source: Value Line Investment Survey, Electric Utility (East), Feb 26, 2010; (Central), Mar 26, 2010; (West), May 7, 2010.
Constant growth result for Edison International at 6.4% is below the cost of debt plus 100 basis points and is eliminated.
NOTE: SEE PAGE 5 OF THIS SCHEDULE FOR FURTHER EXPLANATION OF EACH COLUMN.

Rocky Mountain Power
Constant Growth DCF Model
Analysts' Growth Rates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Analysts' Estimated Growth				
Company	Recent Price(P0)	Next Year's Div(D1)	Dividend Yield	Value Line	Zacks	Thomson	Average Growth *(Cols 4-6)*	**ROE** K=Div Yld+G *(Cols 3+7)*
1 ALLETE	33.30	1.76	5.29%	NA	3.70%	5.33%	4.52%	9.8%
2 Alliant Energy Co.	32.91	1.62	4.91%	7.00%	4.00%	5.60%	5.53%	10.4%
3 Black Hills Corp	29.40	1.46	4.97%	6.50%	6.00%	6.00%	6.17%	11.1%
4 Con. Edison	43.99	2.39	5.43%	2.50%	3.00%	4.28%	3.26%	8.7%
5 DPL Inc.	27.25	1.25	4.57%	6.50%	5.00%	4.47%	5.32%	9.9%
6 DTE Energy Co.	44.89	2.18	4.86%	7.00%	5.00%	4.90%	5.63%	10.5%
7 Duke Energy	16.45	0.98	5.96%	5.50%	4.40%	4.38%	4.76%	10.7%
8 Edison Internat.	~~33.68~~	~~1.31~~	~~3.89%~~	~~0.50%~~	~~5.00%~~	~~2.03%~~	~~2.51%~~	~~6.4%~~
9 Entergy Corp.	79.58	3.00	3.77%	5.00%	4.00%	6.68%	5.23%	9.0%
10 FPL Group, Inc.	48.44	2.00	4.13%	7.00%	7.00%	6.89%	6.96%	11.1%
11 IDACORP	34.06	1.20	3.52%	5.50%	5.00%	5.00%	5.17%	8.7%
12 Northeast Utilities	26.73	1.07	3.98%	7.00%	8.40%	7.94%	7.78%	11.8%
13 NSTAR	34.95	1.68	4.81%	5.50%	6.00%	5.72%	5.74%	10.5%
14 PG&E Corp.	42.60	1.89	4.44%	7.00%	7.70%	6.40%	7.03%	11.5%
15 Portland General	19.11	1.06	5.52%	3.00%	5.80%	5.67%	4.82%	10.3%
16 Progress Energy	39.02	2.51	6.43%	4.50%	4.00%	3.56%	4.02%	10.5%
17 SCANA Corp.	37.12	1.91	5.15%	3.50%	5.10%	5.08%	4.56%	9.7%
18 Sempra Energy	49.64	1.62	3.26%	4.00%	7.00%	3.50%	4.83%	8.1%
19 Southern Co.	32.89	1.82	5.53%	4.50%	4.90%	4.94%	4.78%	10.3%
20 Vectren Corp.	23.99	1.38	5.75%	4.50%	4.80%	5.00%	4.77%	10.5%
21 Wisconsin Energy	49.93	1.70	3.40%	8.00%	9.50%	9.00%	8.83%	12.2%
22 Xcel Energy Inc.	21.12	1.02	4.81%	5.50%	5.70%	6.16%	5.79%	10.6%
GROUP AVERAGE	36.54	1.69	4.78%	5.48%	5.52%	5.55%	5.50%	10.3%
GROUP MEDIAN			4.86%					10.5%

Source: Value Line Investment Survey, Electric Utility (East), Feb 26, 2010; (Central), Mar 26, 2010; (West), May 7, 2010.
Constant growth result for Edison International at 6.4% is below the cost of debt plus 100 basis points and is eliminated.
NOTE: SEE PAGE 5 OF THIS SCHEDULE FOR FURTHER EXPLANATION OF EACH COLUMN.

Rocky Mountain Power
Constant Growth DCF Model
Long-Term GDP Growth

	(9)	(10)	(11)	(12)	(13)
Company	Recent Price(P0)	Next Year's Div(D1)	Dividend Yield	GDP Growth	**ROE** K=Div Yld+G *(Cols 11+12)*
1 ALLETE	33.30	1.76	5.29%	6.00%	11.3%
2 Alliant Energy Co.	32.91	1.62	4.91%	6.00%	10.9%
3 Black Hills Corp	29.40	1.46	4.97%	6.00%	11.0%
4 Con. Edison	43.99	2.39	5.43%	6.00%	11.4%
5 DPL Inc.	27.25	1.25	4.57%	6.00%	10.6%
6 DTE Energy Co.	44.89	2.18	4.86%	6.00%	10.9%
7 Duke Energy	16.45	0.98	5.96%	6.00%	12.0%
8 Edison Internat.	33.68	1.31	3.89%	6.00%	9.9%
9 Entergy Corp.	79.58	3.00	3.77%	6.00%	9.8%
10 FPL Group, Inc.	48.44	2.00	4.13%	6.00%	10.1%
11 IDACORP	34.06	1.20	3.52%	6.00%	9.5%
12 Northeast Utilities	26.73	1.07	3.98%	6.00%	10.0%
13 NSTAR	34.95	1.68	4.81%	6.00%	10.8%
14 PG&E Corp.	42.60	1.89	4.44%	6.00%	10.4%
15 Portland General	19.11	1.06	5.52%	6.00%	11.5%
16 Progress Energy	39.02	2.51	6.43%	6.00%	12.4%
17 SCANA Corp.	37.12	1.91	5.15%	6.00%	11.1%
18 Sempra Energy	49.64	1.62	3.26%	6.00%	9.3%
19 Southern Co.	32.89	1.82	5.53%	6.00%	11.5%
20 Vectren Corp.	23.99	1.38	5.75%	6.00%	11.8%
21 Wisconsin Energy	49.93	1.70	3.40%	6.00%	9.4%
22 Xcel Energy Inc.	21.12	1.02	4.81%	6.00%	10.8%
GROUP AVERAGE	36.41	1.67	4.74%	6.00%	10.7%
GROUP MEDIAN			4.83%		10.8%

Source: Value Line Investment Survey, Electric Utility (East), Feb 26, 2010; (Central), Mar 26, 2010; (West), May 7, 2010.

NOTE: SEE PAGE 5 OF THIS SCHEDULE FOR FURTHER EXPLANATION OF EACH COLUMN.

Rocky Mountain Power
Low Near-Term Growth
Two-Stage Growth DCF Model

	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
				CASH FLOWS							
Company	2010/ 2011 Div	2013/ 2014 Div	Annual Change to 2013/14	Recent Price	Year 1 Div	Year 2 Div	Year 3 Div	Year 4 Div	Year 5 Div	Year 5-150 Div Growth	ROE=Internal Rate of Return *(Yrs 0-150)*
1 ALLETE	1.76	1.80	0.01	-33.30	1.76	1.77	1.79	1.80	1.91	6.00%	10.6%
2 Alliant Energy Co.	1.65	1.92	0.09	-32.91	1.65	1.74	1.83	1.92	2.04	6.00%	10.9%
3 Black Hills Corp	1.48	1.60	0.04	-29.40	1.48	1.52	1.56	1.60	1.70	6.00%	10.6%
4 Con. Edison	2.40	2.46	0.02	-43.99	2.40	2.42	2.44	2.46	2.61	6.00%	10.8%
5 DPL Inc.	1.28	1.50	0.07	-27.25	1.28	1.35	1.43	1.50	1.59	6.00%	10.6%
6 DTE Energy Co.	2.24	2.60	0.12	-44.89	2.24	2.36	2.48	2.60	2.76	6.00%	10.9%
7 Duke Energy	0.99	1.10	0.04	-16.45	0.99	1.03	1.06	1.10	1.17	6.00%	11.7%
8 Edison Internat.	1.34	1.50	0.05	-33.68	1.34	1.39	1.45	1.50	1.59	6.00%	9.7%
9 Entergy Corp.	3.00	3.60	0.20	-79.58	3.00	3.20	3.40	3.60	3.82	6.00%	9.8%
10 FPL Group, Inc.	2.00	2.40	0.13	-48.44	2.00	2.13	2.27	2.40	2.54	6.00%	10.1%
11 IDACORP	1.20	1.40	0.07	-34.06	1.20	1.27	1.33	1.40	1.48	6.00%	9.4%
12 Northeast Utilities	1.10	1.25	0.05	-26.73	1.10	1.15	1.20	1.25	1.33	6.00%	9.9%
13 NSTAR	1.73	2.05	0.11	-34.95	1.73	1.84	1.94	2.05	2.17	6.00%	10.9%
14 PG&E Corp.	1.96	2.40	0.15	-42.60	1.96	2.11	2.25	2.40	2.54	6.00%	10.7%
15 Portland General	1.07	1.20	0.04	-19.11	1.07	1.11	1.16	1.20	1.27	6.00%	11.3%
16 Progress Energy	2.52	2.58	0.02	-39.02	2.52	2.54	2.56	2.58	2.73	6.00%	11.6%
17 SCANA Corp.	1.92	2.05	0.04	-37.12	1.92	1.96	2.01	2.05	2.17	6.00%	10.7%
18 Sempra Energy	1.68	2.05	0.12	-49.64	1.68	1.80	1.93	2.05	2.17	6.00%	9.4%
19 Southern Co.	1.85	2.10	0.08	-32.89	1.85	1.93	2.02	2.10	2.23	6.00%	11.4%
20 Vectren Corp.	1.39	1.50	0.04	-23.99	1.39	1.43	1.46	1.50	1.59	6.00%	11.3%
21 Wisconsin Energy	1.80	2.40	0.20	-49.93	1.80	2.00	2.20	2.40	2.54	6.00%	10.0%
22 Xcel Energy Inc.	1.03	1.15	0.04	-21.12	1.03	1.07	1.11	1.15	1.22	6.00%	10.6%
GROUP AVERAGE											10.6%
GROUP MEDIAN											10.6%

Source: Value Line Investment Survey, Electric Utility (East), Feb 26, 2010; (Central), Mar 26, 2010; (West), May 7, 2010.

NOTE: SEE PAGE 5 OF THIS SCHEDULE FOR FURTHER EXPLANATION OF EACH COLUMN.

Rocky Mountain Power
Discounted Cash Flow Analysis
Column Descriptions

Column 1: Three-month Average Price per Share (Feb 2010-Apr 2010)

Column 2: Average of Estimated 2010-2011 Div per Share from Value Line

Column 3: Column 2 Divided by Column 1

Column 4: "Est'd '07-'09 to '13-'15" Earnings Growth Reported by Value Line

Column 5: "Next 5 Years" Company Growth Estimate as Reported by Zacks.com

Column 6: "Next 5 Years (per annum) Growth Estimate Reported by Thomson Financial Network (at Yahoo Finance)

Column 7: Average of Columns 4-6

Column 8: Column 3 Plus Column 7

Column 9: See Column 1

Column 10: See Column 2

Column 11: Column 10 Divided by Column 9

Column 12: Average of GDP Growth During the Last 10 year, 20 year, 30 year, 40 year, 50 year, and 60 year growth periods. See Exhibit No. 12

Column 13: Column 11 Plus Column 12

Column 14: Estimated 2011 Div per Share from Value Line

Column 15: Estimated 2014 Div per Share from Value Line

Column 16: (Column 15 Minus Column 14) Divided by Three

Column 17: See Column 1

Column 18: See Column 14

Column 19: Column 18 Plus Column 16

Column 20: Column 19 Plus Column 19

Column 21: Column 20 Plus Column 16

Column 22: Column 21 Increased by the Growth Rate Shown in Column 23

Column 23: See Column 12

Column 24: The Internal Rate of Return of the Cash Flows in Columns 17-22 along with the Dividends for the Years 6-150 Implied by the Growth Rates shown in Column 23

Case No. PAC-E-10-07
Exhibit No. 14
Witness: Samuel C. Hadaway

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

ROCKY MOUNTAIN POWER

Exhibit Accompanying Direct Testimony of Samuel C. Hadaway

Risk Premium Analysis

May 2010

Rocky Mountain Power

Risk Premium Analysis

(Based on Projected Interest Rates)

	MOODY'S AVERAGE PUBLIC UTILITY BOND YIELD (1)	AUTHORIZED ELECTRIC RETURNS (2)	INDICATED RISK PREMIUM
1980	13.15%	14.23%	1.08%
1981	15.62%	15.22%	-0.40%
1982	15.33%	15.78%	0.45%
1983	13.31%	15.36%	2.05%
1984	14.03%	15.32%	1.29%
1985	12.29%	15.20%	2.91%
1986	9.46%	13.93%	4.47%
1987	9.98%	12.99%	3.01%
1988	10.45%	12.79%	2.34%
1989	9.66%	12.97%	3.31%
1990	9.76%	12.70%	2.94%
1991	9.21%	12.55%	3.34%
1992	8.57%	12.09%	3.52%
1993	7.56%	11.41%	3.85%
1994	8.30%	11.34%	3.04%
1995	7.91%	11.55%	3.64%
1996	7.74%	11.39%	3.65%
1997	7.63%	11.40%	3.77%
1998	7.00%	11.66%	4.66%
1999	7.55%	10.77%	3.22%
2000	8.14%	11.43%	3.29%
2001	7.72%	11.09%	3.37%
2002	7.53%	11.16%	3.63%
2003	6.61%	10.97%	4.36%
2004	6.20%	10.75%	4.55%
2005	5.67%	10.54%	4.87%
2006	6.08%	10.36%	4.28%
2007	6.11%	10.36%	4.25%
2008	6.65%	10.46%	3.81%
2009	6.28%	10.48%	4.20%
AVERAGE	9.05%	12.28%	3.23%

INDICATED COST OF EQUITY	
PROJECTED SINGLE-A UTILITY BOND YIELD*	6.19%
MOODY'S AVG ANNUAL YIELD DURING STUDY	9.05%
INTEREST RATE DIFFERENCE	-2.86%
INTEREST RATE CHANGE COEFFICIENT	-41.13%
ADUSTMENT TO AVG RISK PREMIUM	1.18%
BASIC RISK PREMIUM	3.23%
INTEREST RATE ADJUSTMENT	1.18%
EQUITY RISK PREMIUM	4.40%
PROJECTED SINGLE-A UTILITY BOND YIELD*	6.19%
INDICATED EQUITY RETURN	**10.59%**

(1) Moody's Investors Service

(2) Regulatory Research Associates, Inc.

*Projected single-A bond yield is 119 basis points over projected long-term Treasury bond rate of 5.0% from Exhibit RMP__(SCH-2), p. 3. The single-A spread is for 3 months ended Apr 2010 from Exhibit RMP__(SCH-2), p. 2.

Rocky Mountain Power

Risk Premium Analysis

(Based on Current Interest Rates)

	MOODY'S AVERAGE PUBLIC UTILITY BOND YIELD (1)	AUTHORIZED ELECTRIC RETURNS (2)	INDICATED RISK PREMIUM
1980	13.15%	14.23%	1.08%
1981	15.62%	15.22%	-0.40%
1982	15.33%	15.78%	0.45%
1983	13.31%	15.36%	2.05%
1984	14.03%	15.32%	1.29%
1985	12.29%	15.20%	2.91%
1986	9.46%	13.93%	4.47%
1987	9.98%	12.99%	3.01%
1988	10.45%	12.79%	2.34%
1989	9.66%	12.97%	3.31%
1990	9.76%	12.70%	2.94%
1991	9.21%	12.55%	3.34%
1992	8.57%	12.09%	3.52%
1993	7.56%	11.41%	3.85%
1994	8.30%	11.34%	3.04%
1995	7.91%	11.55%	3.64%
1996	7.74%	11.39%	3.65%
1997	7.63%	11.40%	3.77%
1998	7.00%	11.66%	4.66%
1999	7.55%	10.77%	3.22%
2000	8.14%	11.43%	3.29%
2001	7.72%	11.09%	3.37%
2002	7.53%	11.16%	3.63%
2003	6.61%	10.97%	4.36%
2004	6.20%	10.75%	4.55%
2005	5.67%	10.54%	4.87%
2006	6.08%	10.36%	4.28%
2007	6.11%	10.36%	4.25%
2008	6.65%	10.46%	3.81%
2009	6.28%	10.48%	4.20%
AVERAGE	9.05%	12.28%	3.23%

INDICATED COST OF EQUITY

CURRENT SINGLE-A UTILITY BOND YIELD*	5.84%
MOODY'S AVG ANNUAL YIELD DURING STUDY	9.05%
INTEREST RATE DIFFERENCE	-3.21%
INTEREST RATE CHANGE COEFFICIENT	-41.13%
ADUSTMENT TO AVG RISK PREMIUM	1.32%
BASIC RISK PREMIUM	3.23%
INTEREST RATE ADJUSTMENT	1.32%
EQUITY RISK PREMIUM	4.55%
CURRENT SINGLE-A UTILITY BOND YIELD*	5.84%
INDICATED EQUITY RETURN	**10.39%**

(1) Moody's Investors Service

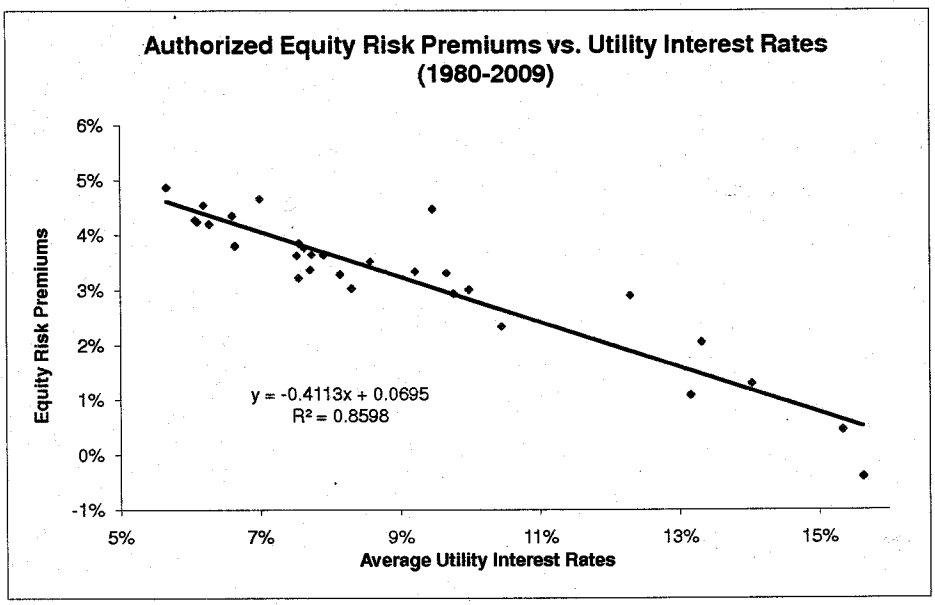
(2) Regulatory Research Associates, Inc.

*Current single-A utility bond yield is three month average of Moody's Triple-B Public Utility Bond Yield Average through Apr 2010 from Exhibit No. 11, p. 2.

Rocky Mountain Power

Risk Premium Analysis

Regression Analysis & Interest Rate Change Coefficient



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.927242552
R Square	0.85977875
Adjusted R Square	0.854770848
Standard Error	0.0047873
Observations	30

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.003934704	0.003934704	171.6844276	1.82118E-13
Residual	28	0.000641711	2.29182E-05		
Total	29	0.004576415			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.069475479	0.002972433	23.373272	6.55788E-20	0.063386727	0.075564232	0.063386727	0.075564232
X Variable 1	-0.411331263	0.031392526	-13.10284044	1.82118E-13	-0.475635937	-0.347026589	-0.475635937	-0.347026589