BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF ROCKY MOUNTAIN POWER FOR APPROVAL OF CHANGES TO ITS ELECTRIC SERVICE SCHEDULES AND A PRICE INCREASE OF $32.7 MILLION, OR APPROXIMATELY 15.0 PERCENT	)	**CASE NO. PAC-E-11-12** **Direct Testimony of Samuel C. Hadaway**

ROCKY MOUNTAIN POWER

CASE NO. PAC-E-11-12

May 2011

Introduction and Purpose of Testimony

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

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

Q. On whose behalf are you testifying?

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

Q. Briefly describe your educational and professional background.

A. A summary of my educational background and professional experience is contained in Appendices A and B.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to estimate RMP's cost of equity capital.

Q. Please define the term "cost of equity capital" ("COE").

A. COE is the rate of return that equity investors require or expect to receive from their investment in common stocks. Conceptually COE is no different than the interest rate on debt or the cost of preferred stock. Equity investors expect a return on their capital commensurate with the risks they take and consistent with returns that might be available from other similar investments.

Summary of Recommendations

Q. Have you determined the COE for utilities comparable to the Company?

A. Yes. I have applied the discounted cash flow ("DCF") model to estimate COE for utilities comparable to RMP. The results of that analysis indicate that the comparable group's COE is in the range of 10.1 percent to 10.5 percent. I also perform an equity risk premium analysis. That analysis indicates a COE in the

range of 10.25 percent to 10.45 percent. Based on these quantitative results and my further review of recent interest rate increases and projections for even higher rates during the coming year, the appropriate return on equity ("ROE") for RMP is 10.5 percent. This is a reasonable ROE for establishing the Company's rates at this time and should be authorized by the Commission.

Q. Did this Commission as well as the Washington Utilities and Transportation Commission recently conclude that lower ROEs were appropriate for RMP?

A. Yes. On February 28, 2011, in Case No. PAC-E-10-07 (the 2010 General Rate Case"), this Commission found the Company's ROE to be 9.9 percent based on the timing of the evidence in that case. On March 25, 2011, in Docket UE-100749, the Washington Commission found an ROE of 9.8 percent, again based on the timing of the evidence in that case.

Q. Have market conditions changed since the records in those cases were developed?

A. Yes. The financial data available at the time of rebuttal testimony in the prior cases was from the August to October 2010 time period, which happened to correspond to the lowest level of long-term utility interest rates in over 30 years (see Exhibit No. 14, page 2 and Exhibit No. 17, pages 1 and 2). In those cases, the Commissions, in my opinion, made their decisions based upon evidence that reflected a trough in long-term utility bond interest rates. As shown in Table 1 on page 7 of this testimony, between the availability dates of the data I used in my direct testimony in the 2010 General Rate Case (April 2010) and the data I used to prepare rebuttal testimony (October 2010), single-A utility bond yields fell 71

basis points (0.71%). Since October 2010, single-A utility bond yields have increased by 45 basis points (as of April 2011). The record in the Company's prior case, therefore, reflected a sharp drop in interest rates that has now been substantially reversed. Hence, irrespective of our differences about the appropriate ROEs in the prior cases, since those cases were presented, COE has increased and the allowed ROE in the present case should reflect this fact.

Q. How is your analysis structured?

A. In my DCF analysis, I apply a comparable company approach. RMP's cost of equity cannot be estimated directly from its own market data because the Company is a wholly-owned subsidiary of MidAmerican Energy Holdings Company. As such, RMP does not have publicly traded common stock or other independent market data that would be required to estimate its COE directly. I begin my comparable company review with all the electric utilities that are included in the *Value Line Investment Survey* (Value Line). Value Line is a widely-followed, reputable source of financial data that is often used by professional regulatory economists. To improve the group's comparability with RMP, which has a senior secured bond rating of A from Standard & Poor's (S&P) and A2 from Moody's Investors Service (Moody's), I restricted the group to companies with senior secured bond ratings of at least A- by S&P or A3 by Moody's. I also required the comparable companies to derive at least 70 percent of their revenues from regulated utility sales, to have consistent financial records not affected by recent mergers or restructuring, and to have a consistent dividend record with no dividend cuts or resumptions during the past two years. The

fundamental characteristics and bond ratings of the 16 companies in my comparable group are presented in Exhibit No. 13, page 1.

In my risk premium analysis, I present estimates from both current and projected single-A utility bond yields for all of 2011. These rates are consistent with the Company's single-A bond ratings. As I will discuss later in this testimony, however, my risk premium estimates continue to be depressed by the U.S. government's ongoing monetary policies, and they do not reflect the much higher interest rates that are expected in 2012. For these reasons, my risk premium results are a conservative estimate of the Company's required COE. The data sources and the details of my cost of equity studies are contained in Exhibit Nos. 13 through 17.

Q. How is the remainder of your testimony organized?

A. My testimony is divided into three additional sections. Following this introduction, I review general capital market costs and conditions and discuss recent developments in the electric utility industry that may affect the cost of capital. In the following section, I review various methods for estimating the cost of equity. In this section, I discuss comparable earnings methods, equity risk premium methods, and the discounted cash flow model. In the final section, I apply the DCF and risk premium models to estimate RMP's cost of equity, I discuss the details of my cost of equity studies, and I summarize my ROE recommendations.

Fundamental Factors That Affect the Cost of Equity

Q. What is the current outlook for the U.S. economy?

A. The U.S. economy is expected to continue its slow rate of recovery. While unemployment remains stubbornly high at 9 percent, manufacturing output has increased and in some areas new hiring has begun. Forecasts for 2012 indicate continuing, but slow recovery with new job creation a fundamental concern. Even with the government's continuing expansionary monetary policy, since the low levels reached in September, both Treasury bond and corporate bond interest rates have increased and are expected to increase further in 2012. Although caution remains, and utility stocks remain relatively depressed, the overall stock market has recovered significantly from its March 2009 low levels. All of these factors point to gradually improving conditions this year and into 2012.

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

A. In Exhibit No. 14, page 1, I provide a 10-year review of annual interest rates and rates of inflation in the U.S. economy. During the past 10 years, interest rates and inflation were generally lower than in the previous decade. Inflation, as measured by the Consumer Price Index ("CPI"), fluctuated between zero percent in 2008 and 4.1 percent in the energy induced period that occurred in 2007. The decade's average inflation rate (2.4 percent) was approximately 100 basis points lower than the longer-term average rate of the past 60 years (see Exhibit No. 15). Interest rates declined steadily over most of the period, with the 2010 single-A utility rate at its lowest level for more than 30 years (see Exhibit No. 17, pages 1 and 2).

Q. What has been the trend in long-term interest rates during the past three years?

A. The month-by-month interest rate data for the past three years are presented in Exhibit No. 14, page 2, and summarized below in Table 1.

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-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
May-10	5.50	4.29	1.21
Jun-10	5.46	4.13	1.33
Jul-10	5.26	3.99	1.27
Aug-10	5.01	3.80	1.21
Sep-10	5.01	3.77	1.24
Oct-10	5.10	3.87	1.23
Nov-10	5.37	4.19	1.18
Dec-10	5.56	4.42	1.14
Jan-11	5.57	4.52	1.05
Feb-11	5.68	4.65	1.03
Mar-11	5.56	4.51	1.05
Apr-11	5.55	4.50	1.05
3-Mo Avg	**5.60**	**4.55**	**1.04**
12-Mo Avg	**5.39**	**4.22**	**1.17**

Sources: Mergent Bond Record (Utility Rates); www.federalreserve.gov (Treasury rates). Three month average is for February 2011-April 2011. Twelve month average is for May 2010-April 2011.

The data in Table 1 vividly illustrate the uptrend in interest rates that has occurred since late summer 2010 and the market turmoil that has occurred over the past three years. Since their lowest levels reached in August and September 2010, both utility interest rates and yields on long-term Treasury bonds have increased by about 50 basis points. Over the past three years, interest rates have shown the widest fluctuations in recent history. The Federal Reserve's continuing efforts to hold down borrowing costs for banks (the Fed Funds rate) and lower rates on U.S. Treasury bonds have now extended to high quality corporate borrowers as well. While the effects of market turbulence may not be easily captured in financial models for estimating the rate of return, equity market turbulence and the resulting elevated level of risk aversion should be considered explicitly in estimates of the cost of equity capital.

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

A. No. While markets have stabilized considerably from the conditions that existed in late 2008, investors remain concerned about high unemployment, large federal deficits, the Mideast turmoil and skyrocketing commodity (oil, gold, and silver) and gasoline prices, and the potential for further fallout from foreclosures and other effects of the financial crisis. These factors combined with sluggish growth in gross domestic product ("GDP") during the first quarter of 2011 continue to cause a high level of market volatility and contribute to heightened investor risk aversion.

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

A. Interest rates are expected to rise substantially. In Exhibit No. 14), page 3, I provide Standard and Poor's (S&P) most recent interest rate forecast from its *Trends & Projections* publication for April 2011. Table 2 below summarizes the interest rate forecasts:

Table 2
Standard & Poor's Interest Rate Forecast

	Apr. 2011 Average	Average 2011 Est.	Average 2012 Est.
Treasury Bills	0.1%	0.3%	2.1%
10-Yr. T-Bonds	3.5%	3.9%	5.5%
30-Yr. T-Bonds	4.5%	4.9%	6.3%
Aaa Corporate Bonds	5.2%	5.5%	7.2%

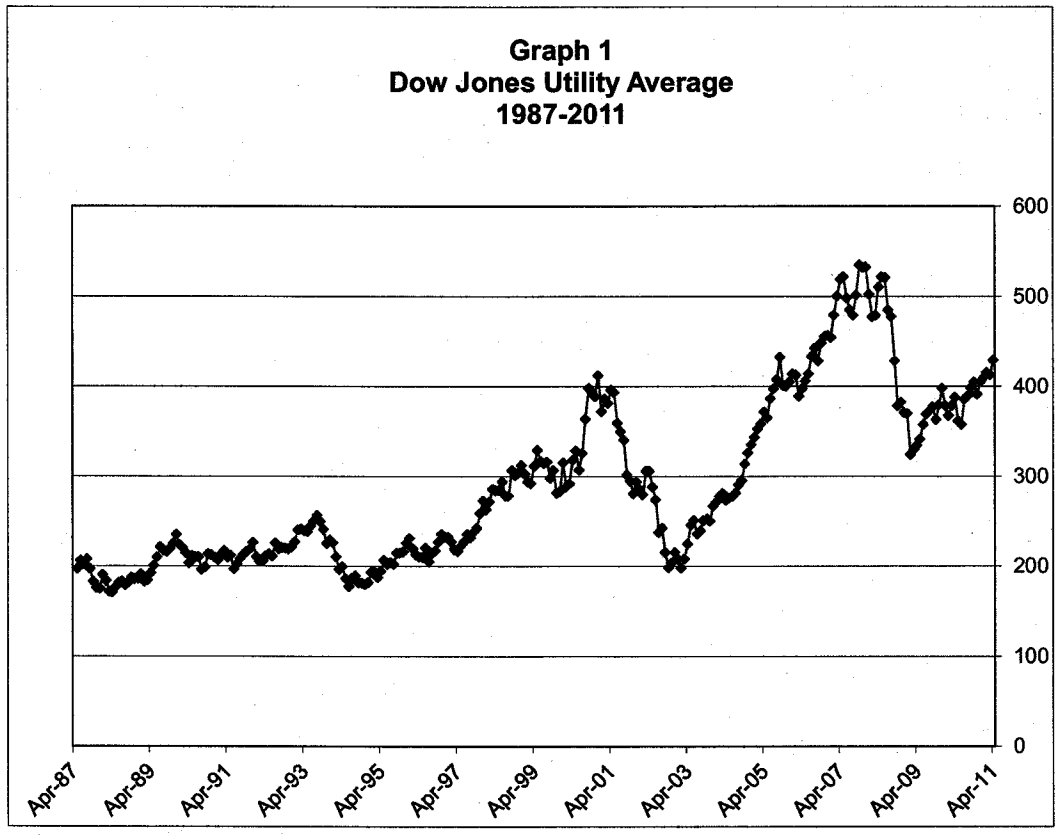
Sources: www.federalreserve.gov, (Current Rates). Standard & Poor's *Trends & Projections*, April 2011, page 8 (Projected Rates).

These data show that, during 2011, average long-term Treasury interest rates are expected to increase by 40 basis points relative to their April 2011 levels and that rates will rise substantially more during 2012. Yields on all the other bonds shown in the table are expected to increase by similar or larger amounts. The interest rate increases reported by S&P are consistent with the Federal Reserve ending its so-called Quantitative Easing 2 program (i.e., lower demand for Treasuries, all else equal, will lead to lower prices and higher yields)[1] and a sluggishly improving U.S. economy. Such expectations for large increases in fixed income yields indicate that the expected rates of return for utilities, which must compete with such investments for required capital, are increasing as well.

[1] See *The Wall Street Journal*, "Fed Takes Foot Off the Gas," April 28, 2011, page A1.

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

A. Utility stock prices have fluctuated widely. The wider fluctuations in more recent years are vividly illustrated in the following Graph 1, which depicts Dow Jones Utility Average (DJUA) prices over the past 25 years.



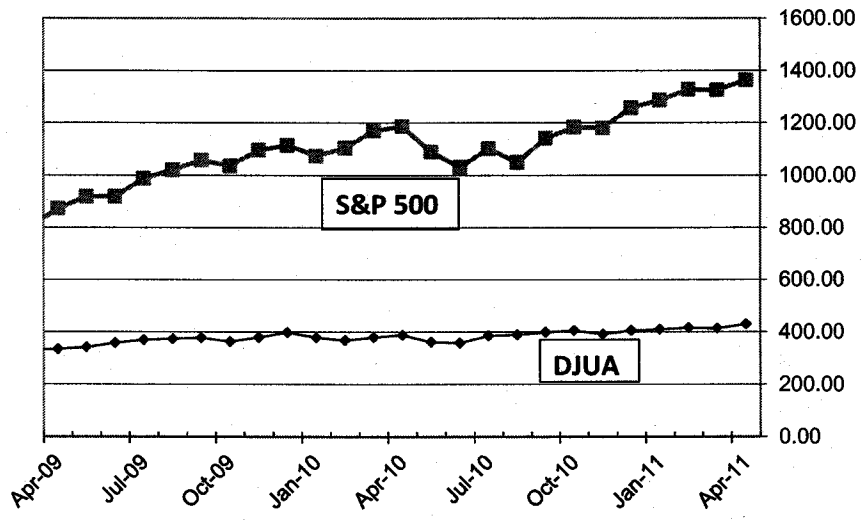
In this environment, investors' return expectations and requirements for providing capital to the utility industry remain high relative to the longer-term, traditional view of the utility industry. Increased market volatility for utility shares causes investors to require a higher rate of return.

Q. How have utility stocks performed relative to the overall market recovery since March 2009?

A. Utility stock prices have lagged far behind the overall market. Graph 2 shows the

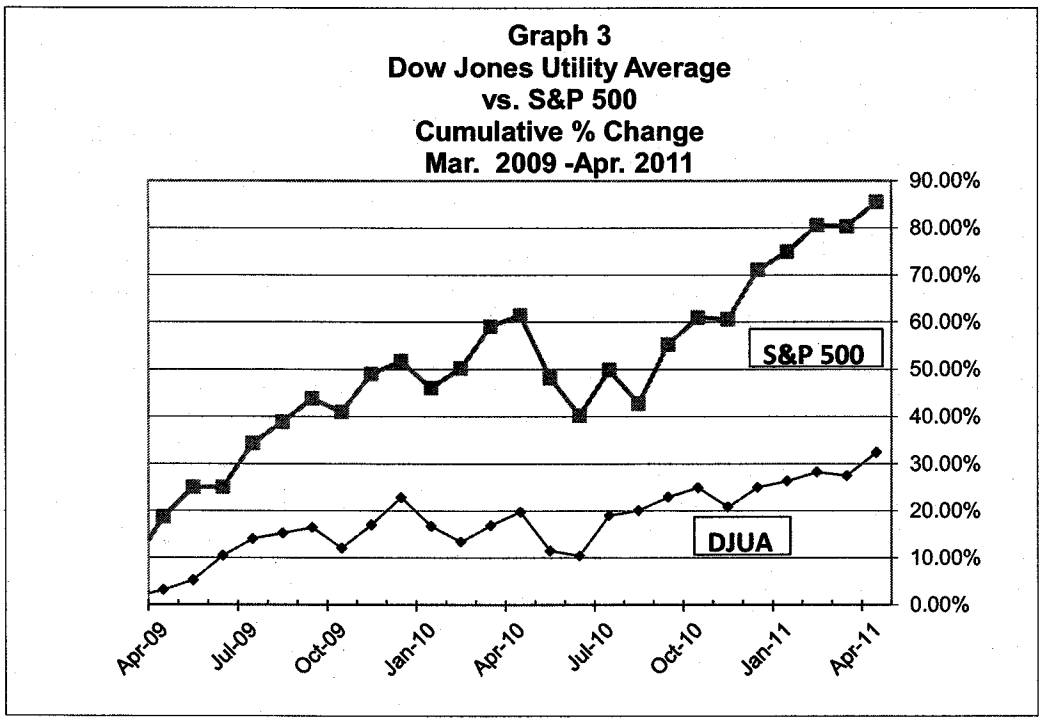
monthly levels for the DJUA versus the broader market S&P 500 Index since the market lows that occurred in February and March of 2009.

Graph 2
Dow Jones Utility Average
vs. S&P 500
Mar. 2009 - Apr. 2011



While the S&P 500 has increased significantly since March 2009, 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 as 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.



The general market, as represented by the S&P 500, has recovered over 85 percent (85.50%) from its March 2009 lows. During the same period, utility stocks, as measured by the DJUA, have increased by only about 32 percent (32.44%). While utility stock prices are normally less volatile than the general market, their roughly one-third recovery relative to the general market since March 2009 again points out 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. Value Line reflects its views in its recent review of electric utility prospects:

> **Value Line Investor Survey**
>
> Some utilities will probably report lower earnings in 2011 or 2012. Favorable weather patterns in 2010 will make for tough comparisons in 2011. This year and next, unfavorable market conditions will affect many nonregulated subsidiaries of utility holding companies.
>
> Electric utility stocks, as a group, are up just slightly in 2011, as are the broader market averages. Despite the lackluster performance, many of these equities are trading within their 2014-2016 Target Price Range. (Value Line Investor Survey, March 25, 2011, p. 901).

Standard & Poor's also provides perspective on the relatively poor stock price performance for electric utilities.

> **S&P Industry Survey**
>
> **Electric Utility Shares Underperform in 2010**
> The S&P Electric Utilities subindex was down 0.5% in 2010, compared with a 12.8% increase for the benchmark S&P 500 Composite stock index and a 14.2% increase for the broader S&P 1500 SuperComposite stock index. This followed a similar 0.5% decrease in 2009 for the S&P Electric Utilities subindex, versus gains of 23.5% and 24.3% for the S&P 500 and the S&P 1500, respectively. In addition to the ongoing weakness in both the housing and power markets, we believe the underperformance of electric utility stocks in both 2010 and in 2009 also reflected the belief that other sectors would provide better investor returns once the economy started to recover. (Standard & Poor's Electric Utility Industry Survey, February 24, 2011, p. 6).

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.

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

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

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

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

A. Yes. To some extent all electric utilities are being affected by the industry's transition to competition. Although retail deregulation has not occurred in the state of Idaho, Rocky Mountain Power's power costs and other operating

activities have been significantly affected by transition and restructuring events around the country. In fact, the uncertainty associated with the changes that are transforming the utility industry as a whole, as viewed from the perspective of the investor, remain a factor in assessing any utility's cost of common equity and required ROE, including the ROE from Rocky Mountain Power's operations in Idaho.

Q. Are there other factors that add to the Company's risk profile?

A. Yes, there are two significant factors. First, when regulators authorize ROEs that are less than 10 percent, the financial markets perceive the regulatory environment as being less credit supportive. Even in the lower interest rate environment that existed in 2010, the average allowed rate of return for other utilities around the country was well above 10 percent. The distinction of being subject to regulation in two jurisdictions that have authorized among the lowest allowed rates of return in the country is clearly a factor that increases the Company's perceived regulatory risk.

Second, the Company is unique in the amount of capital that it is expending to provide generation and transmission service to its customers in relation to its depreciation expense. This requires that it annually subject its operations and rates to review in multiple proceedings in six jurisdictions. As a consequence, the financial markets focus additional attention on the Company's regulatory risk profile. Until recent rate and ECAM orders, the Company has been able to assure the financial markets that it was operating in credit supportive regulatory environments and being permitted to recover its prudent costs on a

timely basis. Providing this assurance in the face of recent orders will be more difficult as the regulatory risk may be perceived as higher.

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

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

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

A. Over the past five years, quarterly allowed ROEs have averaged about 10.4 percent. For 2010, the average rate for integrated electric utilities was 10.38

percent and for the 1st Quarter of 2011 it was 10.18 percent.[2] Table 3 below summarizes the ROE data, including delivery, fully integrated, and special-purpose companies:

Table 3
Authorized Electric Utility Equity Returns

	2007	2008	2009	2010	2011
1st Quarter	10.27%	10.45%	10.29%	10.66%	10.35%
2nd Quarter	10.27%	10.57%	10.55%	10.08%	
3rd Quarter	10.02%	10.47%	10.46%	10.27%	
4th Quarter	10.56%	10.33%	10.54%	10.30%	
Full Year Average	10.36%	10.46%	10.48%	10.34%	10.35%
Average Utility Debt Cost	6.11%	6.65%	6.28%	5.55%	5.66%
Indicated Average Risk Premium	4.25%	3.81%	4.20%	4.79%	4.69%

Source: Regulatory Focus, Regulatory Research Associates, Inc., Major Rate Case Decisions, April 5, 2011. Utility debt costs are the "average" public utility bond yields as reported by Moody's.

Based on these data, over the past five years, the allowed equity risk premium for electric utilities has ranged between 3.81 percent and 4.79 percent. These data show clearly that the recently allowed ROEs below 10 percent set for RMP were well below the average rates of return deemed appropriate by other state regulators.

Estimating the Cost of Equity Capital

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

A. The purpose of this section is to compare the strengths and weaknesses of several of the most widely used methods for estimating the cost of equity. Estimating the cost of equity is fundamentally a matter of informed judgment. The various

[2] See Exhibit No. 13, page 2.

models provide a concrete link to actual capital market data and assist with defining the various relationships that underlie the ROE estimation process. (Please see Appendix C for further technical discussion of the DCF and risk premium models.)

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

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

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

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

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

Q. Please provide an overview of the cost of equity capital estimation process.

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

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

Each day market rates of return and prices change to reflect new investor expectations and requirements. For example, when interest rates on bonds and savings accounts rise, utility stock prices usually fall. This is true, at least in part,

because higher interest rates on these alternative investments make utility stocks relatively less attractive, which causes utility stock prices to decline in market trading. This competitive market adjustment process is quick and continuous, so that market prices generally reflect investor expectations and the relative attractiveness of one investment versus another. The data presented previously in Tables 1 and 2 and the relative market performance of utility stocks versus the general market shown in Graphs 2 and 3 illustrate this fundamental financial principle. Therefore, to estimate the cost of equity one must apply informed judgment about the relative risk of the company in question as well as knowledge about the risk and expected rate of return characteristics of other available investments.

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

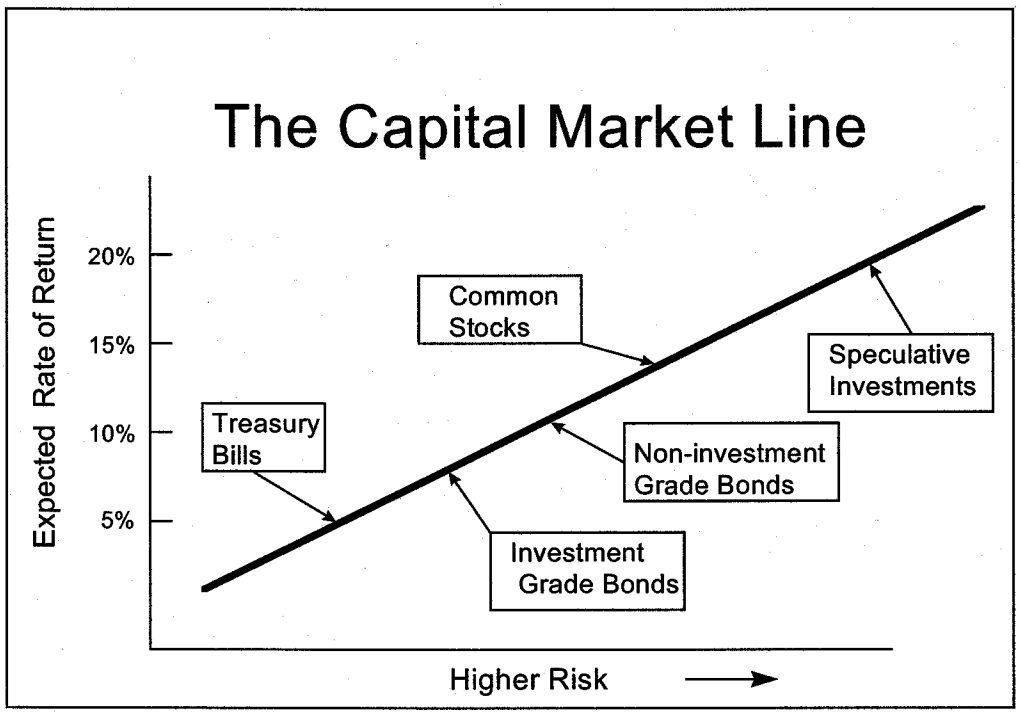
A. Risk-return tradeoffs among capital market investments have been the subject of extensive financial research. Literally dozens of textbooks and hundreds of academic articles have addressed the issue. Generally, such research confirms the common sense conclusion that investors will take additional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

the cost of equity capital. These methods attempt to capture the well founded risk-return principle and explicitly measure investors' rate of return requirements.

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

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

Risk-Return Tradeoffs



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

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

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

more speculative investments, such as stock options and commodity futures contracts, offer even higher risks (and 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. What specific methods and capital market data are used to evaluate the cost of equity?

A. Techniques for estimating the cost of equity normally fall into three groups: comparable earnings methods, risk premium methods, and DCF methods. The first set of estimation techniques, the comparable earnings methods, has evolved over time. The original comparable earnings methods were based on book accounting returns. This approach developed ROE estimates by reviewing accounting returns for unregulated companies thought to have risks similar to those of the regulated company in question. These methods have generally been rejected because they assume that the unregulated group is earning its actual cost of capital, and that its equity book value is the same as its market value. In most situations these assumptions are not valid, and, therefore, accounting-based methods do not generally provide reliable cost of equity estimates.

More recent comparable earnings methods are based on historical stock market returns rather than book accounting returns. While this approach has some merit, it too has been criticized because there can be no assurance that historical returns actually reflect current or future market requirements. Also, in practical application, earned market returns tend to fluctuate widely from year-to-year. For

these reasons, a current cost of equity estimate (based on the DCF model or a risk premium analysis) is usually required.

The second set of estimation techniques is grouped under the heading of risk premium methods. These methods begin with currently observable market returns, such as yields on government or corporate bonds, and add an increment to account for the additional equity risk. The capital asset pricing model (CAPM) and arbitrage pricing theory ("APT") model are more sophisticated risk premium approaches. The CAPM and APT methods estimate the cost of equity directly by combining the "risk-free" government bond rate with explicit risk measures to determine the risk premium required by the market. Although these methods are widely used in academic cost of capital research, their additional data requirements and their potentially questionable underlying assumptions have detracted from their use in most regulatory jurisdictions. The basic risk premium methods generally provide a useful parallel approach with the DCF model and assure 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, resulting in the 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 risk premium methods usually 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 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. However, due to ongoing market turmoil and current government monetary policy, which I will discuss later in this testimony, ROE estimates obtained from the risk premium methodology should be discounted.

Cost of Equity Capital for Rocky Mountain Power

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 RMP and to discuss the details and results of my analysis.

Q. How are your studies organized?

A. In the first part of my analysis, I apply three versions of the DCF model to a 16-company group of electric utilities based on the selection criteria discussed

previously. In the second part of my analysis, I apply equity risk premium models and review projected economic conditions and projected capital costs for the coming year.

My DCF analysis is based on three versions of the DCF model. In the first version of the DCF model, I use the constant growth format with long-term expected growth based on analysts' estimates of five-year utility earnings growth. While I continue to endorse a longer-term growth estimation approach based on growth in overall gross domestic product, I show the analyst growth rate DCF results because this is the approach that has traditionally been used by many regulators. In the second version of the DCF model, for the estimated growth rate, I use only the long-term estimated GDP growth rate. Finally, in the third version of the DCF model, I use a two-stage growth approach, with stage one growth based on Value Line's three-to-five-year dividend projections and stage two growth based on long-term projected GDP growth. The dividend yields in all three of the models are from Value Line's projections of dividends for the coming year and stock prices are from the three-month average for the months that correspond to the Value Line editions from which the underlying financial data are taken.

Q. Why do you believe the long-term GDP growth rate should be used to estimate long-term growth expectations in the DCF model?

A. Growth in nominal GDP (real GDP plus inflation) is the most general measure of economic growth in the U.S. economy. For long time periods, such as those used in the Morningstar/Ibbotson Associates rate of return data, nominal GDP growth

has averaged between five percent and eight percent per year. From this observation, Professors Brigham and Houston offer the following observation concerning the appropriate long-term growth rate in the DCF Model:

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

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

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

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

These findings support the notion that long-term growth expectations are more

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

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

A. I developed my long-term GDP growth forecast from nominal GDP data contained in the St. Louis Federal Reserve Bank data base. That data for the period 1950 through 2010 are summarized in my Exhibit No. 15. As shown at the bottom of that exhibit, the overall average for the period was 6.7 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. Based on this approach, my overall forecast for long-term GDP growth at 5.8 percent is almost 100 basis points lower than the long-term average GDP growth rate.

Q. Why do you believe your forecast of GDP growth based on long-term historical data is appropriate in the DCF model?

A. There are at least three reasons. First, most econometric forecasts are derived from the trending of historical data or the use of weighted averages. This is the approach I have taken in Exhibit No. 15. The long-run historical average GDP growth rate is 6.7 percent, but my estimate of long-term expected growth is only 5.8 percent. My forecast is lower because my forecasting method gives much more weight to the more recent 10- and 20-year periods.

Second, some currently lower GDP growth forecasts likely understate very

long growth rate expectations that are required in the DCF model. Many of those forecasts are currently low because they are based on the assumption of permanently low inflation rates, in the range of two percent. As shown in my Exhibit No. 15, the average long-term inflation rate has been over three percent in all but the most recent 10- and 20- year periods. Also, as shown in Exhibit No. 14, page 1, from December 2008 to December 2009, even with the continuing effects of the economic recession, the CPI increased by 2.8 percent. Use of long-term inflation rates of two percent or less to estimate long-term nominal growth in the DCF model is not consistent with reasonable long-term expectations for the U.S. economy or investors' long-term experience.

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

Q. Please summarize the results of your DCF analyses.

A. The DCF results for my comparable company group are presented in Exhibit No. 16. As shown in the first column of page 1 of that exhibit, the traditional constant growth model indicates a cost of common equity of 10.1 percent to 10.5 percent.

In the second column of page 1, I recalculate the constant growth results with the growth rate based on long-term forecasted growth in GDP. With the GDP growth rate, the constant growth model indicates a cost of common equity range of 10.3 percent to 10.5 percent. Finally, in the third column of page 1, I present the results from the multistage DCF model. The multistage model indicates a cost of common equity of 10.1 percent. The results from the DCF model, therefore, indicate a reasonable cost of common equity range of 10.1 percent to 10.5 percent.

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

A. The details and results of my equity risk premium studies are shown in my Exhibit No. 17. These studies indicate a cost of common equity range of 10.25 percent to 10.45 percent.

Q. How are your equity risk premium studies structured?

A. My equity risk premium studies are divided into two parts. First, I compare electric utility authorized ROEs for the period 1980-2010 to contemporaneous long-term utility interest rates. The differences between the average authorized ROEs and the average interest rate for the year is the indicated equity risk premium. I then add the indicated equity risk premium to the forecasted and current single-A utility bond interest rate to estimate the cost of common equity. Because there is a strong inverse relationship between equity risk premiums and interest rates (when interest rates are high, risk premiums are low and vice versa), further analysis is required to estimate the current equity risk premium level.

The inverse relationship between equity risk premiums and interest rate

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

Q. Can you illustrate the inverse relationship between equity risk premiums and interest rates without using the statistical analysis described above?

A. Yes. Statistical analysis is often used, especially in academic research, to substantiate certain economic and financial relationships. For the equity risk premiums, however, the issue is so basic that simple observation and averaging of the data for various time periods makes the inverse relationship clear. In Table 4 below, I have averaged the utility bond yields and equity risk premiums for each non-overlapping five-year period between 1980 and 2010 from the data in my risk premium study in Exhibit No. 17, page 1.

Table 4
Average Five-Year Interest Rates and Equity Risk Premiums (1980-2010)

Period	Average Utility Bond Interest Rate	Average Equity Risk Premium
1980-1985	13.96%	1.23%
1986-1990	9.86%	3.21%
1991-1995	8.31%	3.48%
1996-2000	7.61%	3.72%
2001-2005	6.75%	4.16%
2006-2010	6.13%	4.27%

Source: Exhibit No. 17, page 1.

These data clearly show that equity risk premiums have consistently increased as interest rates have declined. This result is a simple reflection of the fact that expected and achieved rates of return in the stock market are not entirely dependent on changes in interest rates. Because utilities must compete with other types of equity investments for capital, the COE for utilities does not change by as much as the observed changes in interest rates. Those who argue that unadjusted long-term averages of equity risk premiums can be used with current, historically low interest rates to estimate COE are mistaken. Such an approach to equity risk premium analysis will consistently understate the required equity rate of return.

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

A. Table 5 below summarizes my results:

Table 5

Summary of Cost of Equity Estimates

DCF Analysis	Indicated Cost
Constant Growth (Analysts' Growth)	10.1%-10.5%
Constant Growth (GDP Growth)	10.3%-10.5%
Multistage Growth Model	10.1%
Reasonable DCF Range	10.1%-10.5%
Equity Risk Premium Analysis	Indicated Cost
Forecast Utility Debt Yield+ Equity Risk Premium	
Equity Risk Premium ROE (5.94% + 4.51%)	10.45%
Current Utility Debt + Equity Risk Premium	
Equity Risk Premium ROE (5.60% + 4.65%)	10.25%
RMP Cost of Equity	10.50%

Q. How should these results be interpreted to determine a reasonable ROE upon which to base rates for Rocky Mountain Power?

A. The fair and reasonable ROE for RMP is 10.5 percent. This conclusion is supported by the upper end of my DCF range and by risk premium results based on projected single-A utility interest rates for 2011. While I typically recommend the middle of the DCF range, in the present case I believe a higher return should be allowed to reflect the further increases in capital costs that are expected for 2012 and the equity market turbulence and relatively poor performance for utilities that continue from the financial crisis. In this environment, setting ROE at the lower levels that can be obtained from some equity cost estimation models will understate RMP's market cost of equity capital.

Q. Does this conclude your direct testimony?

A. Yes, it does.

Appendix A

Qualifications of Samuel C. Hadaway

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

A list of my publications and testimony I have given before various regulatory bodies and in state and federal courts is contained in my resume, which is included as Appendix B.

SAMUEL C. HADAWAY

FINANCO, Inc.
Financial Analysis Consultants

3520 Executive Center Drive, Suite 124
Austin, Texas 78731
(512) 346-9317

SUMMARY OF QUALIFICATIONS

- Principal, Financial Analysis Consultants (FINANCO, Inc.).
- Ph.D. in Finance and Economics.
- 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, previously 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

- Maine Public Utilities Commission, Docket No. 2011-92, May 5, 2011 (Northern Utilities, Inc.)
- New Hampshire Public Utilities Commission, Docket No. DG 11-069, May 4, 2011(Northern Utilities, Inc.)
- Arizona Corporation Commission, Docket No. G-04204A-11-0158, April 8, 2011 (UNS Gas, Inc.)
- Utah Public Service Commission, Docket No. 10-035-124, January 24, 2011 (Rocky Mountain Power/PacifiCorp).
- Massachusetts Department of Public Utilities, D.P.U. 11.01 (Electric) and D.P.U. 11.02 (Gas), January 14, 2011, (Fitchburg Gas and Electric Light Company d/b/a/ Unitil)
- Wyoming Public Service Commission, Docket No. 20000-384-ER-10, November 22, 2010 (Rocky Mountain Power dba/PacifiCorp).
- Illinois Commerce Commission, Docket No. 10-0467, July 28, 2010 (Commonwealth Edison Company).
- Missouri Public Service Commission, Case No. ER-2010-0355, June 4, 2010 (Kansas City Power & Light Company).
- Missouri Public Service Commission, Case No. ER-2010-0356, June 4, 2010 (KCP&L Greater Missouri Operations Company).
- Idaho Public Utilities Commission, Case No. PAC-E-10-07, May 28, 2010 (Rocky Mountain Power/PacifiCorp).
- 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).
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- 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).
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- 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).
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- 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).
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- Analysis of Electric Power Transmission Costs in Purchased Power Dispute, 1995, (City of College Station, Texas).

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- Definition of Electric Sales/Franchise Fee Contract Dispute (Reliant Energy HL&P)
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Appendix C

Technical Discussion of Discounted Cash Flow And Risk Premium Models

General Stock Price DCF Model

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

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

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

Constant Growth DCF Model

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

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

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

Multi-stage DCF Models

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.

Over the past several years, events in the electric utility industry have challenged the constant growth assumption of the traditional DCF model. Since the mid-1980s, dividend growth expectations for many electric utilities have fluctuated widely. In fact, over one-third of the electric utilities in the U.S. reduced or eliminated their common dividends during 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.

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.

Terminal Price Multi-stage DCF Model

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

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

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.

Generalized Multi-stage DCF Model

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

$$P_0 = D_0(1+g_1)/(1+k) + \ldots + D_2(1+g_2)^n/(1+k)^n +$$
$$\ldots + [D_T(1+g_T)^{(T+1)}/(k-g_T)]/(1+k)^T \qquad (4)$$

where the variables are the same as in equation (1), but g_1 represents the growth rate for the first period; D_2 is the dividend at the beginning of the second period and g_2 is the growth rate for the second period; and D_T is the dividend at the beginning of the third period and g_T for the period from year T (the end of the transition period) to infinity. The difficult task for analysts in the multistage approach is determining the various growth rates for each period.

Although less convenient for exposition purposes, the multi-stage models are based on the same valid capital market assumptions as the constant growth version. This approach simply requires more explicit data inputs and more work to solve for the discount rate, k. Fortunately, the required data are available from investment and

economic forecasting services, and computer algorithms can easily produce the required solutions.

Equity Risk Premium Models

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

The risk premium approach is useful because it is founded on current market interest rates, which are directly observable. This feature assures that risk premium estimates of the cost of equity begin with a sound basis, which is tied directly to current market interest rates. However, in regulatory practice there is often considerable debate about how risk premium data should be used and interpreted. Since the basic task is to gauge investors' required returns on long-term investments, some argue that the estimated equity risk premiums should cover the longest possible time period. Others argue that market relationships between debt and equity from several decades ago are

irrelevant and that only recent debt-equity return observations should be used in estimating investor requirements. There is no consensus on this issue. Since analysts cannot observe or measure investors' expectations directly, it is not possible to know exactly how such expectations are formed or, therefore, to know exactly what time period is most appropriate in a risk premium analysis.

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

Summary of DCF and Equity Risk Premium Approaches

The DCF and equity risk premium models have become the most widely accepted in regulatory practice. The DCF model and a review of equity risk premium data generally provide a reasonable estimate of the cost of equity. While estimating the DCF growth rate is controversial, the dividend yield is straightforward, and the model's results generally comport with capital market behavior. The equity risk premium approach provides further confirmation. While its inputs and the interpretation of its results require informed judgment, under normal market conditions the risk premium approach is a useful addition to the overall analysis.

Case No. PAC-E-11-12
Exhibit No. 13
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 2011

Rocky Mountain Power
Comparable Company Fundamental Characteristics

		(1)	(2)		(3) Capital Structure (2010)		
		% Regulated	Credit Rating		Common Equity	Long-Term Debt	Preferred Stock
No.	Company	Revenue	S&P	Moody's	Ratio	Ratio	Ratio
1	ALLETE	92.1%	A-	Baa1	55.8%	44.2%	0.0%
2	Alliant Energy Co.	92.4%	A-/BBB+	A2/A3	49.5%	46.3%	4.2%
3	Black Hills Corp	85.7%	BBB+	A3	48.1%	51.9%	0.0%
4	DTE Energy Co.	77.6%	A	A2	48.7%	51.3%	0.0%
5	Edison Internat.	80.4%	BBB+	A1	44.3%	51.8%	3.9%
6	Empire District	98.6%	BBB+	A3	48.7%	51.3%	0.0%
7	Entergy Corp.	77.8%	A-/BBB+	Baa1	42.1%	56.3%	1.6%
8	IDACORP	84.0%	A-	A2	50.7%	49.3%	0.0%
9	PG&E Corp.	100.0%	BBB+	A3	49.3%	49.6%	1.1%
10	Portland General	100.0%	A-	A3	47.0%	53.0%	0.0%
11	SCANA Corp.	72.9%	A-	A3	47.1%	52.9%	0.0%
12	Sempra Energy	75.7%	A+	Aa3	49.6%	49.4%	1.0%
13	Southern Co.	84.7%	A	A2/A3	44.5%	52.5%	3.0%
14	Vectren Corp.	73.4%	A-	A2	50.1%	49.9%	0.0%
15	Wisconsin Energy	99.1%	A-	A1	49.0%	50.6%	0.4%
16	Xcel Energy Inc.	99.3%	A	A3	46.3%	53.1%	0.6%
	Average	87.1%	A-	A2/A3	48.2%	50.8%	1.0%

Column Sources:

(1) Most recent company 10-Ks.

(2) AUS Utility Reports, May 2011.

(3) Value Line Investment Survey, Electric Utility (East), Feb 25, 2011; (Central), Mar 25, 2011; (West), May 6, 2011.

Rocky Mountain Power
Exhibit No. 13 Page 1 of 2
Case No. PAC-E-11-12
Witness: Samuel C. Hadaway

Rocky Mountain Power
Authorized Electric Utility Equity Returns

Average Authorized ROE	2006	No.	2007	No.	2008	No.	2009	No.	2010	No.	2011	No.
All Electric Utilities	10.36%	26	10.36%	39	10.46%	37	10.48%	39	10.34%	59	10.35%	14
Vertically-Integrated Utilities	10.57%	15	10.56%	28	10.45%	25	10.63%	27	10.38%	42	10.18%	7
Delivery-Only Utilities	9.91%	10	9.86%	11	9.78%	7	10.15%	10	9.98%	15	9.81%	5
Power Plant Only Cases	11.90%	1	NA	0	11.44%	5	10.18%	2	12.30%	2	12.30%	2

Data Source:
Regulatory Focus , "Major Rate Case Decisions," Regulatory Research Associates, April 5, 2011; January 7, 2011; January 12, 2009; and January 30, 2007. Data for 2011 is through the 1st Quarter.

Rocky Mountain Power
Exhibit No. 13 Page 2 of 2
Case No. PAC-E-11-12
Witness: Samuel C. Hadaway

Case No. PAC-E-11-12
Exhibit No. 14
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 2011

Rocky Mountain Power
Historical Capital Market Costs

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Prime Rate	6.9%	4.7%	4.1%	4.3%	6.2%	8.0%	8.1%	5.1%	3.3%	3.3%
Consumer Price Index	1.6%	2.5%	2.0%	3.3%	3.3%	2.5%	4.1%	0.0%	2.8%	1.4%
Long-Term Treasuries	5.5%	5.4%	5.0%	5.1%	4.7%	5.0%	4.8%	4.3%	4.1%	4.3%
Moody's Avg Utility Debt	7.7%	7.5%	6.6%	6.2%	5.7%	6.1%	6.1%	6.7%	6.3%	5.6%
Moody's A Utility Debt	7.8%	7.4%	6.6%	6.2%	5.7%	6.1%	6.1%	6.5%	6.0%	5.5%

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 2001 and 2007-2010; 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
May-10	5.50	4.29	1.21
Jun-10	5.46	4.13	1.33
Jul-10	5.26	3.99	1.27
Aug-10	5.01	3.80	1.21
Sep-10	5.01	3.77	1.24
Oct-10	5.10	3.87	1.23
Nov-10	5.37	4.19	1.18
Dec-10	5.56	4.42	1.14
Jan-11	5.57	4.52	1.05
Feb-11	5.68	4.65	1.03
Mar-11	5.56	4.51	1.05
Apr-11	5.55	4.50	1.05
3-Mo Avg	**5.60**	**4.55**	**1.04**
12-Mo Avg	**5.39**	**4.22**	**1.17**

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

Three month average is for February 2011-April 2011.

Twelve month average is for May 2010-April 2011.

Economic Indicators

Seasonally Adjusted Annual Rates — Dollar Figures in Billions

R2010	E2011	E2012	Annual % Change R2010	Annual % Change E2011	Annual % Change E2012		2010 Q3	2010 RQ4	E2011 Q1	E2011 Q2	E2011 Q3	E2011 Q4	E2012 Q1	E2012 Q2
						Gross Domestic Product								
$14,660.4	$15,321.0	$15,981.1	3.8	4.5	4.3	GDP (current dollars)	$14,745.1	$14,871.4	$15,018.5	$15,218.0	$15,438.9	$15,608.6	$15,770.4	$15,887.6
3.8	4.5	4.3	-	-	-	Annual rate of increase (%)	4.6	3.5	4.0	5.4	5.9	4.5	4.2	3.0
2.9	2.9	2.6	-	-	-	Annual rate of increase–real GDP (%)	2.6	3.1	2.7	3.3	3.2	3.8	2.2	1.8
1.0	1.5	1.6	-	-	-	Annual rate of increase–GDP deflator (%)	2.1	0.4	1.2	2.1	2.6	0.7	2.0	1.2
						***Components of Real GDP**								
$9,313.6	$9,563.7	$9,777.4	1.7	2.7	2.2	Personal consumption expenditures	$9,330.6	$9,422.9	$9,456.9	$9,531.0	$9,604.8	$9,662.1	$9,709.3	$9,757.7
1.7	2.7	2.2	-	-	-	% change	2.4	4.0	1.4	3.2	3.1	2.4	2.0	2.0
1,178.3	1,285.3	1,343.4	7.7	9.1	4.5	Durable goods	1,179.3	1,237.2	1,257.4	1,272.3	1,300.5	1,311.1	1,323.5	1,339.9
2,072.6	2,124.6	2,165.3	2.7	2.5	1.9	Nondurable goods	2,076.2	2,097.4	2,100.2	2,117.8	2,133.3	2,147.3	2,155.2	2,161.5
6,064.7	6,170.8	6,292.8	0.5	1.7	2.0	Services	6,076.9	6,099.2	6,113.3	6,156.0	6,190.2	6,223.5	6,252.0	6,280.2
1,365.0	1,490.7	1,587.6	5.7	9.2	6.5	Nonresidental fixed investment	1,388.0	1,413.9	1,424.2	1,459.9	1,519.6	1,558.9	1,565.7	1,575.4
5.7	9.2	6.5	-	-	-	% change	10.0	7.7	3.0	10.4	17.4	10.7	1.8	2.5
1,056.1	1,201.0	1,316.8	15.3	13.7	9.6	Producers durable equipment	1,084.2	1,104.5	1,131.6	1,165.3	1,229.5	1,277.3	1,288.7	1,306.4
323.0	318.2	382.8	(3.3)	(1.5)	20.3	Residental fixed investment	313.8	316.3	310.9	312.3	316.6	333.1	346.1	367.5
(3.3)	(1.5)	20.3	-	-	-	% change	(28.0)	3.1	(6.7)	1.8	5.7	22.4	16.6	27.2
62.6	76.9	52.8	-	-	-	Net change in business inventories	121.4	16.2	83.8	57.8	70.1	95.9	85.8	57.8
2,568.4	2,540.0	2,490.6	1.0	(1.1)	(1.9)	Gov't purchases of goods & services	2,589.6	2,578.8	2,546.1	2,552.0	2,539.7	2,522.0	2,504.2	2,496.6
1,076.9	1,076.2	1,040.8	4.8	(0.1)	(3.3)	Federal	1,094.3	1,093.4	1,076.3	1,082.8	1,077.1	1,068.6	1,056.8	1,045.4
1,497.4	1,470.1	1,455.2	(1.4)	(1.8)	(1.0)	State & local	1,501.7	1,491.9	1,476.1	1,475.7	1,469.0	1,459.8	1,453.4	1,456.7
(422.5)	(378.3)	(303.5)	-	-	-	Net exports	(505.0)	(397.7)	(386.7)	(364.3)	(385.7)	(376.5)	(338.0)	(316.5)
1,665.5	1,832.2	2,025.2	11.7	10.0	10.5	Exports	1,679.3	1,714.3	1,761.2	1,802.2	1,857.6	1,907.7	1,957.6	2,003.2
2,088.1	2,210.5	2,328.7	12.6	5.9	5.3	Imports	2,184.3	2,112.0	2,147.9	2,166.5	2,243.2	2,284.2	2,295.6	2,319.8
						****Income & Profits**								
$12,546.7	$13,210.8	$13,699.7	3.1	5.3	3.7	Personal income	$12,595.5	$12,724.0	$12,969.3	$13,133.7	$13,303.2	$13,437.1	$13,470.2	$13,622.4
11,380.0	11,893.0	12,253.0	3.1	4.5	3.0	Disposable personal income	11,417.3	11,518.9	11,697.8	11,833.5	11,965.1	12,075.5	12,064.7	12,193.5
5.8	5.6	4.6	-	-	-	Savings rate (%)	6.0	5.5	5.8	5.6	5.5	5.4	4.4	4.6
1,801.1	1,691.1	1,692.2	36.8	(6.1)	0.1	Corporate profits before taxes	1,845.7	1,797.4	1,748.4	1,689.1	1,671.9	1,655.0	1,693.3	1,663.9
1,384.5	1,223.3	1,248.7	30.4	(11.6)	2.1	Corporate profits after taxes	1,416.3	1,369.3	1,264.7	1,223.0	1,209.1	1,196.5	1,245.9	1,229.6
77.34	97.27	99.43	50.8	25.8	2.2	‡Earnings per share (S&P 500)	72.04	77.34	84.37	89.33	94.61	97.27	98.76	98.31
						†Prices & Interest Rates								
1.6	2.9	2.1	-	-	-	Consumer price index	1.4	2.6	5.1	3.1	2.2	1.5	2.3	1.6
0.1	0.3	2.1	-	-	-	Treasury bills	0.2	0.1	0.1	0.2	0.3	0.5	1.0	1.6
3.2	3.9	5.5	-	-	-	10-yr notes	2.8	2.9	3.5	3.7	4.0	4.3	4.8	5.3
4.3	4.9	6.3	-	-	-	30-yr bonds	3.9	4.2	4.6	4.7	5.0	5.3	5.7	6.1
4.9	5.5	7.2	-	-	-	New issue rate–corporate bonds	4.6	4.9	5.1	5.3	5.6	6.0	6.5	7.0
						Other Key Indicators								
585.4	612.1	979.4	5.6	4.6	60.0	Housing starts (1,000 units SAAR)	588.3	534.3	535.1	561.2	637.8	714.5	802.4	915.4
11.5	13.2	14.3	11.0	14.2	8.8	Auto & truck sales (1,000,000 units)	11.6	12.3	13.0	12.5	13.6	13.6	13.9	14.3
9.6	8.7	8.4	-	-	-	Unemployment rate (%)	9.6	9.6	8.9	8.8	8.6	8.5	8.4	8.4
(3.0)	(6.9)	(2.2)	-	-	-	§U.S. dollar	(8.5)	(14.4)	(6.2)	(8.1)	(4.0)	(4.6)	(1.8)	(0.7)

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-11-12
Exhibit No. 15
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 2011

Rocky Mountain Power
GDP Growth Rate Forecast

	Nominal GDP	% Change	GDP Price Deflator	% Change	CPI	% Change
1950	313.3		15.0		25.0	
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	14291.3	5.0%	106.9	2.6%	211.4	4.1%
2008	14191.2	-0.7%	109.2	2.1%	211.3	0.0%
2009	14277.3	0.6%	109.7	0.4%	217.2	2.8%
2010	14861.0	4.1%	111.2	1.4%	220.2	1.4%
10-Year Average		3.9%		2.2%		2.4%
20-Year Average		4.8%		2.1%		2.5%
30-Year Average		5.6%		2.7%		3.2%
40-Year Average		6.9%		3.9%		4.4%
50-Year Average		7.0%		3.7%		4.1%
60-Year Average		6.7%		3.4%		3.7%
Average of Periods		5.8%		3.0%		3.4%

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

Case No. PAC-E-11-12
Exhibit No. 16
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 2011

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	9.4%	10.5%	10.1%
2 Alliant Energy Co.	11.2%	10.4%	10.2%
3 Black Hills Corp	11.7%	10.4%	9.9%
4 DTE Energy Co.	9.9%	10.8%	10.6%
5 Edison Internat.	7.9%	9.3%	9.0%
6 Empire District	12.4%	11.7%	11.1%
7 Entergy Corp.	~~6.4%~~	10.7%	10.3%
8 IDACORP	7.7%	9.0%	9.1%
9 PG&E Corp.	10.6%	10.2%	10.1%
10 Portland General	10.5%	10.5%	10.3%
11 SCANA Corp.	9.1%	10.7%	10.2%
12 Sempra Energy	9.4%	9.7%	9.7%
13 Southern Co.	10.5%	11.0%	10.7%
14 Vectren Corp.	10.6%	11.1%	10.6%
15 Wisconsin Energy	11.4%	9.3%	9.7%
16 Xcel Energy Inc.	9.8%	10.2%	9.9%
GROUP AVERAGE	10.1%	10.3%	10.1%
GROUP MEDIAN	10.5%	10.5%	10.1%

Sources: Value Line Investment Survey, Electric Utility (East), Feb 25, 2011; (Central), Mar 25, 2011; (West), May 6, 2011.

Analysts' growth result for Entergy at 6.4% is below the current cost of single-A debt (5.60% from Exhibit No. 14, p. 2) plus 100 basis points and is eliminated.

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

Rocky Mountain Power
Constant Growth DCF Model
Analysts' Growth Rates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Next		Analysts' Estimated Growth					
Company	Recent Price(P0)	Year's Div(D1)	Dividend Yield	Value Line	Zacks	Thomson	Reuters	Average Growth	ROE K=Div Yld+G
1 ALLETE	38.30	1.80	4.70%	4.50%	5.00%	5.00%	4.33%	4.71%	9.4%
2 Alliant Energy Co.	38.74	1.78	4.59%	7.00%	5.50%	8.23%	5.55%	6.57%	11.2%
3 Black Hills Corp	32.12	1.48	4.61%	10.50%	6.00%	6.00%	6.00%	7.13%	11.7%
4 DTE Energy Co.	48.00	2.40	5.00%	5.50%	5.00%	4.88%	4.39%	4.94%	9.9%
5 Edison Internat.	37.05	1.31	3.54%	NA	5.00%	3.45%	4.69%	4.38%	7.9%
6 Empire District	21.58	1.28	5.93%	7.00%	NA	6.00%	NA	6.50%	12.4%
7 Entergy Corp.	~~69.84~~	~~3.40~~	~~4.87%~~	~~1.00%~~	~~1.50%~~	~~NA~~	~~2.24%~~	~~1.58%~~	~~6.4%~~
8 IDACORP	37.83	1.20	3.17%	4.00%	4.70%	4.67%	4.67%	4.51%	7.7%
9 PG&E Corp.	45.03	1.98	4.40%	7.00%	5.50%	6.08%	6.06%	6.16%	10.6%
10 Portland General	23.53	1.11	4.72%	7.50%	5.20%	4.65%	5.89%	5.81%	10.5%
11 SCANA Corp.	40.24	1.98	4.92%	3.00%	4.60%	4.68%	4.47%	4.19%	9.1%
12 Sempra Energy	52.90	2.08	3.93%	3.50%	7.00%	5.63%	5.72%	5.46%	9.4%
13 Southern Co.	37.81	1.96	5.18%	5.00%	5.00%	5.51%	5.60%	5.28%	10.5%
14 Vectren Corp.	26.72	1.41	5.28%	5.50%	5.00%	5.35%	5.35%	5.30%	10.6%
15 Wisconsin Energy	29.80	1.04	3.49%	7.50%	8.00%	8.12%	7.84%	7.87%	11.4%
16 Xcel Energy Inc.	23.83	1.06	4.45%	5.00%	4.90%	5.44%	5.90%	5.31%	9.8%
GROUP AVERAGE	35.56	1.59	4.53%	5.89%	5.46%	5.58%	5.46%	5.61%	10.1%
GROUP MEDIAN			4.61%						10.5%

Sources: Value Line Investment Survey, Electric Utility (East), Feb 25, 2011; (Central), Mar 25, 2011; (West), May 6, 2011.

The result for Entergy at 6.4% is below the current cost of single-A debt (5.60% from Exhibit No. 14), p. 2) plus 100 basis points and is eliminated.

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

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

	(10)	(11)	(12)	(13)	(14)
Company	Recent Price(P0)	Next Year's Div(D1)	Dividend Yield	GDP Growth	**ROE** K=Div Yld+G
1 ALLETE	38.30	1.80	4.70%	5.80%	10.5%
2 Alliant Energy Co.	38.74	1.78	4.59%	5.80%	10.4%
3 Black Hills Corp	32.12	1.48	4.61%	5.80%	10.4%
4 DTE Energy Co.	48.00	2.40	5.00%	5.80%	10.8%
5 Edison Internat.	37.05	1.31	3.54%	5.80%	9.3%
6 Empire District	21.58	1.28	5.93%	5.80%	11.7%
7 Entergy Corp.	69.84	3.40	4.87%	5.80%	10.7%
8 IDACORP	37.83	1.20	3.17%	5.80%	9.0%
9 PG&E Corp.	45.03	1.98	4.40%	5.80%	10.2%
10 Portland General	23.53	1.11	4.72%	5.80%	10.5%
11 SCANA Corp.	40.24	1.98	4.92%	5.80%	10.7%
12 Sempra Energy	52.90	2.08	3.93%	5.80%	9.7%
13 Southern Co.	37.81	1.96	5.18%	5.80%	11.0%
14 Vectren Corp.	26.72	1.41	5.28%	5.80%	11.1%
15 Wisconsin Energy	29.80	1.04	3.49%	5.80%	9.3%
16 Xcel Energy Inc.	23.83	1.06	4.45%	5.80%	10.2%
GROUP AVERAGE	37.71	1.70	4.55%	5.80%	10.3%
GROUP MEDIAN			4.65%		10.5%

Sources: Value Line Investment Survey, Electric Utility (East), Feb 25, 2011; (Central), Mar 25, 2011; (West), May 6, 2011.

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

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

	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
			Annual	CASH FLOWS							ROE=Internal
Company	2012 Div	2015 Div	Change to 2015	Recent Price	Year 1 Div	Year 2 Div	Year 3 Div	Year 4 Div	Year 5 Div	Year 5-150 Div Growth	Rate of Return *(Yrs 0-150)*
1 ALLETE	1.80	1.95	0.05	-38.30	1.80	1.85	1.90	1.95	2.06	5.80%	10.1%
2 Alliant Energy Co.	1.78	2.00	0.07	-38.74	1.78	1.85	1.93	2.00	2.12	5.80%	10.2%
3 Black Hills Corp	1.48	1.55	0.02	-32.12	1.48	1.50	1.53	1.55	1.64	5.80%	9.9%
4 DTE Energy Co.	2.40	2.70	0.10	-48.00	2.40	2.50	2.60	2.70	2.86	5.80%	10.6%
5 Edison Internat.	1.31	1.40	0.03	-37.05	1.31	1.34	1.37	1.40	1.48	5.80%	9.0%
6 Empire District	1.28	1.35	0.02	-21.58	1.28	1.30	1.33	1.35	1.43	5.80%	11.1%
7 Entergy Corp.	3.40	3.70	0.10	-69.84	3.40	3.50	3.60	3.70	3.91	5.80%	10.3%
8 IDACORP	1.20	1.50	0.10	-37.83	1.20	1.30	1.40	1.50	1.59	5.80%	9.1%
9 PG&E Corp.	1.98	2.30	0.11	-45.03	1.98	2.09	2.19	2.30	2.43	5.80%	10.1%
10 Portland General	1.11	1.25	0.05	-23.53	1.11	1.16	1.20	1.25	1.32	5.80%	10.3%
11 SCANA Corp.	1.98	2.10	0.04	-40.24	1.98	2.02	2.06	2.10	2.22	5.80%	10.2%
12 Sempra Energy	2.08	2.45	0.12	-52.90	2.08	2.20	2.33	2.45	2.59	5.80%	9.7%
13 Southern Co.	1.96	2.20	0.08	-37.81	1.96	2.04	2.12	2.20	2.33	5.80%	10.7%
14 Vectren Corp.	1.41	1.50	0.03	-26.72	1.41	1.44	1.47	1.50	1.59	5.80%	10.6%
15 Wisconsin Energy	1.04	1.40	0.12	-29.80	1.04	1.16	1.28	1.40	1.48	5.80%	9.7%
16 Xcel Energy Inc.	1.06	1.15	0.03	-23.83	1.06	1.09	1.12	1.15	1.22	5.80%	9.9%
GROUP AVERAGE											10.1%
GROUP MEDIAN											10.1%

Sources: Value Line Investment Survey, Electric Utility (East), Feb 25, 2011; (Central), Mar 25, 2011; (West), May 6, 2011.

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

Rocky Mountain Power
Discounted Cash Flow Analysis
Column Descriptions

Column 1: Three-month Average Price per Share (Feb 2011-Apr 2011)

Column 2: 2012 Div per Share from Value Line

Column 3: Column 2 Divided by Column 1

Column 4: "Est'd '08-'10 to '14-'16" 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: Mean "LT Growth Rate (%)" Reported by Reuters.com

Column 8: Average of Columns 4-7

Column 9: Column 3 Plus Column 8

Column 10: See Column 1

Column 11: See Column 2

Column 12: Column 11 Divided by Column 10

Column 13: 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. 15

Column 14: Column 12 Plus Column 13

Column 15: Averge 2011/2012 Div per Share from Value Line

Column 16: Estimated 2015 Div per Share from Value Line

Column 17: (Column 16 Minus Column 15) Divided by Three

Column 18: See Column 1

Column 19: See Column 15

Column 20: Column 19 Plus Column 17

Column 21: Column 20 Plus Column 17

Column 22: Column 21 Plus Column 17

Column 23: Column 22 Increased by the Growth Rate Shown in Column 24

Column 24: See Column 13

Column 25: The Internal Rate of Return of the Cash Flows in Columns 18-23 along with the Dividends for the Years 6-150 Implied by the Growth Rates shown in Column 24

Case No. PAC-E-11-12
Exhibit No. 17
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 2011

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%
2010	5.55%	10.34%	4.79%
AVERAGE	8.94%	12.21%	3.28%

INDICATED COST OF EQUITY	
PROJECTED SINGLE-A UTILITY BOND YIELD*	5.94%
MOODY'S AVG ANNUAL YIELD DURING STUDY	8.94%
INTEREST RATE DIFFERENCE	-3.00%
INTEREST RATE CHANGE COEFFICIENT	-41.31%
ADUSTMENT TO AVG RISK PREMIUM	1.24%
BASIC RISK PREMIUM	3.28%
INTEREST RATE ADJUSTMENT	1.24%
EQUITY RISK PREMIUM	4.51%
PROJECTED SINGLE-A UTILITY BOND YIELD*	5.94%
INDICATED EQUITY RETURN	**10.45%**

(1) Moody's Investors Service

(2) Regulatory Focus, Regulatory Research Associates, Inc.

*Projected single-A bond yield is 104 basis points over projected long-term Treasury bond rate of 4.9% from Exhibit No. 14, p. 3. The single-A spread is for 3 months ended April 2011 from Exhibit No. 14, 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%
2010	5.55%	10.34%	4.79%
AVERAGE	8.94%	12.21%	3.28%

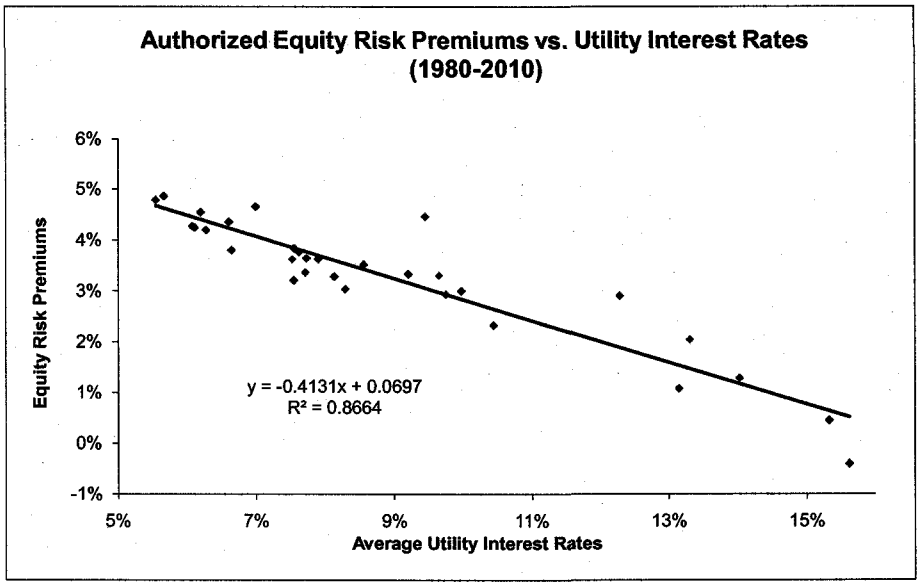
INDICATED COST OF EQUITY	
CURRENT SINGLE-A UTILITY BOND YIELD*	5.60%
MOODY'S AVG ANNUAL YIELD DURING STUDY	8.94%
INTEREST RATE DIFFERENCE	-3.34%
INTEREST RATE CHANGE COEFFICIENT	-41.31%
ADUSTMENT TO AVG RISK PREMIUM	1.38%
BASIC RISK PREMIUM	3.28%
INTEREST RATE ADJUSTMENT	1.38%
EQUITY RISK PREMIUM	4.65%
CURRENT SINGLE-A UTILITY BOND YIELD*	5.60%
INDICATED EQUITY RETURN	**10.25%**

(1) Moody's Investors Service

(2) Regulatory Focus, Regulatory Research Associates, Inc.

*Current single-A utility bond yield is three month average of Moody's Single-A Public Utility Bond Yield Average through April 2011 from Exhibit No. 14, p. 2.

Rocky Mountain Power
Risk Premium Analysis
Regression Analysis & Interest Rate Change Coefficient



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.930796942
R Square	0.866382947
Adjusted R Square	0.861775462
Standard Error	0.004709335
Observations	31

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.00417028	0.00417028	188.0381651	3.31898E-14
Residual	29	0.000643157	2.21778E-05		
Total	30	0.004813437			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.069671148	0.00282187	24.68970458	5.07645E-21	0.063899775	0.075442521	0.063899775	0.075442521
X Variable 1	-0.413068255	0.030123041	-13.71270087	3.31898E-14	-0.474676791	-0.351459719	-0.474676791	-0.351459719