Introduction and Purpose of Testimony

Q. Are you the same Samuel C. Hadaway that previously provided direct testimony in this proceeding on behalf of Rocky Mountain Power ("the Company" or "RMP")?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to the cost of common equity ("COE") analyses and return on equity ("ROE") recommendations offered by Utah Division of Public Utilities ("Division") witness Mr. Charles E. Peterson, Utah Office of Consumer Services ("OCS") witness Mr. Daniel J. Lawton, and Federal Executive Agencies ("FEA") witness Mr. Michael P. Gorman. I will also respond to the comments of Wal-Mart witness Mr. Steve W. Chriss concerning the risk effect of the Company's energy balancing account ("EBA"). Additionally, I will respond to the other witness's comments on the methodology I used in my direct testimony to estimate RMP's COE, and I will update my analysis for current market costs and conditions.

Review of ROE Recommendations

Q. What are the parties' ROE recommendations?

A. The parties offer the following ROE recommendations:

RMP	10.2%
Division	9.3%
OCS	9.4%
FEA	9.25%

Mr. Chriss, on behalf of Wal-Mart, does not offer a specific ROE recommendation, but states that the Commission should consider the risk

reducing effect of the EBA and reduce the allowed ROE accordingly. As I will explain in my updated ROE analysis, my DCF models continue to support a reasonable range of 9.6 percent to 10.2 percent, the same as in my direct testimony. My updated risk premium analysis indicates a range of 9.55 percent to 9.88 percent, which is slightly above the range of 9.55 percent to 9.70 percent from my direct testimony. Given the continuing difficulties with interpreting quantitative COE model results and given the ongoing volatility in the equity markets, a 10.2 percent ROE at the upper end of my DCF range remains reasonable.

Q. How do the other parties' ROEs compare to the rates of return recently allowed for other vertically-integrated electric utilities around the country?

A. They are much lower. In Exhibit RMP___(SCH-1R), I provide quarterly average ROE data through the 1st Quarter of 2012, which are published by SNL's Regulatory Research Associates, an authoritative source for this information that is regularly relied upon by regulatory economists, as well as by regulatory commissions and their staffs. Table 1 below summarizes the quarterly ROE data for vertically-integrated electric utilities:

Table 1
Authorized Equity Returns for Vertically-Integrated Electric Utilities*

	2008	2009	2010	2011	2012
1st Quarter	10.49%	10.57%	10.59%	10.09%	10.30%
2nd Quarter	10.48%	10.75%	10.18%	10.26%	
3rd Quarter	10.48%	10.50%	10.32%	10.11%	
4th Quarter	10.38%	10.59%	10.32%	10.39%	
Full Year Average	10.45%	10.63%	10.38%	10.24%	10.30%
Average Utility Debt Cost	6.65%	6.28%	5.55%	5.17%	4.51%
Indicated Average Risk Premium	3.80%	4.35%	4.83%	5.07%	5.79%

*Vertically-Integrated Electric Utilities only. See Exhibit RMP___(SCH-1R), page 1 for the results for all companies.

These data show that there has not been one quarter in the past five years when allowed ROEs have been nearly as low as the other parties recommend. In fact, for the 1st Quarter of 2012, the average allowed ROE for vertically-integrated electric companies, like RMP, was 10.3 percent. Mr. Peterson's recommendation on behalf of the Division is a full 100 basis points below this contemporaneous result for other utilities. Mr. Peterson's misplaced discussion of my analysis notwithstanding, his and the other parties' low ROE recommendations are simple, mechanical applications of standard ROE estimation models. Those models are out of sync with current market realities and they do not provide a sound basis for substantially reducing RMP's allowed rate of return.

Q. Why do you believe that the traditional models are out of sync with the current cost of equity?

A. The Government's ongoing efforts to hold interest rates at record low levels in an effort to stimulate the economy have created an artificial supply and demand relationship in the capital markets. While these efforts have been successful in

reducing borrowing costs, they have not had an equal mitigating effect on equity market risks, a fact that the technical ROE models cannot capture and that the other parties have tried to ignore.

The current, artificially low interest rate environment presents a serious challenge for any effort to apply traditional rate of return models. The Government's stated policy of intervening in the capital markets to keep interest rates low[1] has entirely disrupted traditional relationships for income-oriented investors. With few income-producing investments available, such investors have turned to dividend-paying stocks, like utilities, because yields on their traditional fixed-income investments are so low. In the basic "yield plus growth" DCF format, this situation has produced historically low dividend yields and ROE estimates that are locked to the interest rate drop. Similarly, in the equity risk premium models, either the CAPM or conventional risk premium plus bond yield models, artificially low interest rates have directly reduced ROE estimates. The currently low dividend yields for utilities produce lower DCF estimates and low interest rates produce lower ROE estimates from equity risk premium models.

[1] On January 25, 2012 the Federal Open Market Committee of the Federal Reserve System ("Fed") issued the following policy statement:

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects economic growth over coming quarters to be modest and consequently anticipates that the unemployment rate will decline only gradually toward levels that the Committee judges to be consistent with its dual mandate. Strains in global financial markets continue to pose significant downside risks to the economic outlook. The Committee also anticipates that over coming quarters, inflation will run at levels at or below those consistent with the Committee's dual mandate.

To support a stronger economic recovery and to help ensure that inflation, over time, is at levels consistent with the dual mandate, the Committee expects to maintain a highly accommodative stance for monetary policy. In particular, the Committee decided today to keep the target range for the federal funds rate at 0 to 1/4 percent and currently anticipates that economic conditions--including low rates of resource utilization and a subdued outlook for inflation over the medium run--are likely to warrant exceptionally low levels for the federal funds rate at least through late 2014.

Although these factors are hardly mentioned by the other witnesses, they totally dominate the other parties' analyses. This status quo approach is not a reasonable basis for setting RMP's allowed rate of return.

The theoretical basis for the various COE models is that markets are operating in a free and unrestrained manner in which interest rates and stock prices are established solely based on investors' choices and not influenced by artificial intervention by the Government. While it may never be the case that the market is completely free from the impacts of Government monetary policy, the prolonged intervention of the Government to attempt to promote economic recovery through extremely low interest rates has caused distortions that the models were never designed to address.

Q. In your direct testimony, you provided data that illustrated interest rate trends and the spreads between U.S. Treasury bond yields and yields on single-A rated utility bonds. Have you updated that information?

A. Yes. In Exhibit RMP___(SCH-2R), page 1, I have updated the Government and utility interest rates and the associated spread data. These data for the past two years are summarized in Table 2 below.

Table 2

Long-Term Interest Rate Trends

Month	Single-A Utility Rate	30-Year Treasury Rate	Single-A Spread
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
May-11	5.32	4.29	1.03
Jun-11	5.26	4.23	1.03
Jul-11	5.27	4.27	1.00
Aug-11	4.69	3.65	1.04
Sep-11	4.48	3.18	1.30
Oct-11	4.52	3.13	1.39
Nov-11	4.25	3.02	1.23
Dec-11	4.33	2.98	1.35
Jan-12	4.34	3.03	1.31
Feb-12	4.36	3.11	1.25
Mar-12	4.48	3.28	1.20
Apr-12	4.40	3.18	1.22
May-12	4.20	2.93	1.27
3-Mo Avg	**4.36**	**3.13**	**1.23**
12-Mo Avg	**4.55**	**3.45**	**1.22**

Sources: Mergent Bond Record (Utility Rates); www.federalreserve.gov (Treasury rates). Three month average is for March-May 2012. Twelve month average is for June 2011-May 2012.

The data in Table 2 track the steady decline in corporate interest rates that has occurred since early 2009 and the market turmoil that has existed during this time period. Although rates have stabilized and risen slightly since November 2011, the Federal Reserve's continuing efforts to keep short-term rates near zero and longer-term U.S. Treasury rates at historically low levels continue to hold down corporate debt costs as well. While the effects of these monetary policy efforts are not easily captured in rate of return estimation models, equity market turbulence and the resulting elevated level of risk aversion indicate that the decline in ROE has been far less than the decline in corporate interest rates.

Q. Do the smaller spreads between single-A utility bond yields 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 since early 2009, concerns remain about high unemployment, large federal deficits, the sovereign debt crisis in Europe, as well as other domestic economic issues. These factors combined with sluggish growth in gross domestic product ("GDP") continue to raise substantial equity market concerns and contribute to heightened investor risk aversion.

Q. What do interest rate forecasts show for the coming year and beyond?

A. By late 2012, interest rates are expected to have begun increasing from currently low levels. In Exhibit RMP___(SCH-2R), page 2, I provide S&P's *Trends & Projections* forecasts, which extend through 2013. In Table 3 below, I compare

those forecasts to average interest rate levels for May 2012, obtained from the Federal Reserve System website:

Table 3
Interest Rate Forecast

	May 2012 Average	2012E Average	2013E Average
Treasury Bills	0.1%	0.1%	0.1%
10-Yr. T-Bonds	1.8%	2.1%	2.6%
30-Yr. T-Bonds	2.9%	3.2%	3.7%
Aaa Corp. Bonds	3.8%	4.0%	4.4%

Sources: Current Rates, www.federalreserve.gov.
Projected Rates, S&P *Trends & Projections*, May 2012.

These data show that during 2013, long-term Treasury interest rates are expected to rise by 80 basis points relative to the low levels in May 2012. The yields on high-grade corporate bonds are also expected to rise significantly from their current historically low levels.

Q. How have utility stocks performed since the market low point reached in March 2009?

A. Prior to May of 2011, utility stock prices had lagged well behind the general market recovery. Since the latter part of 2011, however, fears of potential sovereign defaults as well as domestic financial problems have caused equity market risk aversion to increase. This situation has made dividend oriented stocks, like utilities, relatively more attractive for all income-oriented investors. Improving stock performance for utilities has produced lower dividend yields in the DCF model; i.e., the DCF model results, with respect to dividend yields, do not reflect the overall market's volatility and heightened risk aversion. This anomaly makes it more difficult to interpret current DCF cost of equity estimates for utility companies.

Q. The other parties' employ the CAPM in their analyses. Can you explain why the CAPM currently understates ROE and why CAPM estimates should not be included in estimates of RMP's cost of capital?

A. Yes. The CAPM requires three inputs to estimate ROE:

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

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

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

The CAPM estimate of ROE is calculated from the following equation:

$$ROE = R_f + \beta(Rm - R_f)$$

Under present market conditions, and as applied by the other parties in their CAPM analyses, all three of the CAPM inputs tend to understate ROE. The risk-free rate, R_f, is understated because, due to the Government's easy money policies and investors' flight to safety, the U.S. Treasury rates used for R_f are artificially low. The second input, the market risk premium (R_m - R_f) is also understated. This is the case because the other parties base their market risk premium estimates on historical data and prior academic studies that cannot possibly reflect the recent market turmoil. While there is no objective source for measuring the widening equity risk premium phenomenon, the ongoing equity market volatility discussed above is indicative of the effect.

Finally, the CAPM's market risk factor, β, may be depressed if utilities provide poor market performance relative to the broader market indexes. All these

factors are reflected in the other parties' low CAPM estimates. Under these circumstances, their CAPM estimates of ROE should be disregarded.

Rebuttal of Division Witness Charles E. Peterson

Q. What are your principal areas of disagreement with Mr. Peterson?

A. Our most important disagreement is our alternative views of current financial market conditions. Mr. Peterson summarizes his view in the following statement at the end of his economic discussion: "The U.S. financial markets appear to have largely returned to their pre-crisis operations." (Peterson Direct at 14, line 304.) From his immediately preceding economic discussion (at 7-14), this statement is at best a non sequitur. As Mr. Peterson acknowledges, the Government's ongoing monetary policies have driven interest rates to record low levels and continuing turmoil in Europe has heightened investor risk aversion. Under these circumstances, Mr. Peterson's routine application of the various ROE estimation models is a fundamental mistake.

Q. Do you also disagree with technical aspects of Mr. Peterson's analysis?

A. Yes. I disagree with Mr. Peterson's continuing use of the capital asset pricing model ("CAPM") and his so-called Value Line financial strength risk premium model. He reports and, to some extent, claims value for the 7.5 percent to 8.5 percent ROE estimates that these models produce.[2] Such results should have been dismissed. I also disagree with Mr. Peterson's comparable company choices and with his selection and application of DCF growth rates. I will show that some of

[2] At page 32, lines 698-700, Mr. Peterson states that given the current 2.72 percent rate on a Treasury bond, his 7.43 percent CAPM estimate might be a reasonable expected return from a utility stock. On page 33, lines 713-716, Mr. Peterson says that his risk premium and CAPM estimates are "…suggestive that the DCF model results may be too high." These statements are indicative of Mr. Peterson's belief that lower interest rates translate directly to lower ROEs.

the companies he included in his comparable group are currently affected by extraordinary circumstances. I will also show that Mr. Peterson incorrectly used the "*Questar*" growth rate weighting scheme in his analysis and that he selected long-term DCF growth rates that are not consistent with investors' long-term economic growth rate experience. I also correct a mistake in the "terminal value" calculation in Mr. Peterson's two-stage DCF models. When these technical deficiencies are corrected, Mr. Peterson's DCF analysis supports a significantly higher ROE than he recommends for RMP.

Q. How is Mr. Peterson's analysis structured?

A. Mr. Peterson continues to present results from numerous alternative models, including the extremely low estimates from his CAPM and Value Line financial strength risk premium models. In DPU Exhibit 1.3, he provides estimates from six constant growth DCF models, the average of four two-stage DCF models, plus his CAPM and Value Line financial strength risk premium models. At the bottom of that exhibit, he indicates a reasonable range of 9.00 percent to 9.60 percent and a "Final Estimate Applicable to PacifiCorp" of 9.30 percent.

Q. Are Mr. Peterson's "Reasonable Range" and "Final Estimate" of ROE based on all the models he presents?

A. No. Although he includes a 7.43 percent CAPM result and an 8.53 percent Risk Premium result in his exhibit, his 9.00 percent to 9.60 percent range seems to have been formed from the average of his two-stage DCF models (9.01 percent) and his single-stage DCF model using forecast EPS growth rates (9.64 percent). Near the middle of that range, Mr. Peterson finds 9.28 percent to 9.32 percent

from his single-stage model with a 75/25 earnings/dividend growth rate assumption. With these results in mind, my technical responses to Mr. Peterson focus on our disagreements about how the DCF models should have been applied.

Q. Do you agree that Mr. Peterson's 75/25 growth rate weighting scheme from the 2002 *Questar* case should provide the midpoint of his range?

A. No. In the *Questar* case, the Commission found that a 75 percent earnings-25 percent dividends growth rate was a reasonable approach for setting the *low end* of the range. The Commission also recognized projected earnings growth rates for establishing the entire DCF growth rate range. In fact, in that case the Commission used the weighted average as the bottom of the DCF range and used projected earnings growth to set the top end of the range (*Questar* Order at 34-35).

From a policy perspective, reliance on dividend growth instead of earnings growth is problematic because, over the long-term horizon measured by the DCF model, earnings growth drives dividend growth, not the opposite. Had Mr. Peterson correctly used the 9.28 percent ROE from his dividend-earnings weighted average for the bottom of his range and the 9.64 percent ROE from his earnings-only growth rate for the top of his range, his own midpoint would have been approximately 9.5 percent instead of the 9.3 percent he recommends.

Q. Do you have other areas of disagreement with Mr. Peterson's growth rate inputs?

A. Yes. While he presents only a single average from his four two-stage growth models, it is clear that the results from portions of that analysis would have been

higher if he had used more reasonable long-term growth rates in stage 2 of his models.

Mr. Peterson's two-stage growth DCF results are shown in DPU Exhibit 1.9. In the first three of his four estimates, Mr. Peterson finds an ROE range of only 8.91 percent to 8.97 percent. The results for these three models are low because the long-term growth rate in stage 2 of those models (4.57 percent) is based on unreasonably low long-term GDP growth rate assumptions. In DPU Exhibit 1.5, Mr. Peterson indicates that the 4.57 percent GDP growth rate is the average of Congressional Budget Office ("CBO") (4.66 percent) and U.S. Energy Administration ("EIA") (4.48 percent) long-term forecasts.

These rates are unreasonable for two reasons. First, these rates are estimates of GDP growth only for the next 10 years. The DCF model assumes growth over a very long term. Therefore, rather than using an estimated growth rate through 2022, which is heavily weighted by current economic conditions, a growth rate going out much farther should be used. That is why I use a growth rate based on actual historical growth rates over 60 years giving greater weight to current results.

Second, and more important, these rates are low because they assume long-term inflation rates that are only about one-half the long-term historical inflation rate in the U.S. economy. The projected inflation rate in the CBO forecast is 1.73 percent and in the EIA forecast, it is 1.87 percent. As shown in my updated GDP forecast in Exhibit RMP___(SCH-6R), for the past 60 years, the U.S. GDP deflator has increased 3.4 percent per year and the consumer price

index has increased by 3.7 percent per year. Government policy issues for balancing the budget, containing the national debt, and maintaining the social security system aside, such low long-term inflation rates are not consistent with long-term experience or with the long-term requirements of the DCF model. As shown in Exhibit RMP___(SCH-6R), the long-run average nominal GDP growth rate has been 6.6 percent and my moderated forecast, weighted more heavily toward recent data, is 5.7 percent. Mr. Peterson's (as well as Mr. Lawton's and Mr. Gorman's) two-stage DCF estimates are based on unreasonably low medium-term growth rate projections and should be modified or disregarded.

Q. On page 21, Mr. Peterson explains that he eliminated six companies from your initial comparable group and used the remaining eight plus five other companies for his 13-company comparable group. How do you respond to his group selections?

A. The differences in our group selections are caused by differences in our respective selection criteria, and Mr. Peterson's failure to consider the extraordinary circumstances of three of his companies.[3] Relative to my single-A bond rating requirement (like PacifiCorp's actual bond ratings), Mr. Peterson expanded the bond rating cut-off to triple-B, he applied a size criterion, and he used a more complicated regulated revenue calculation.

For the majority of his companies most of his selections do not make a difference in his results. For three of his companies, however, there are currently extraordinary circumstances that make their DCF results questionable as estimates

[3] I included one of these companies, Edison International, in my initial proxy group, but have excluded it in my updated analysis based on the extraordinary change in circumstances since I completed my initial analysis.

of ROE for RMP. I will show that his inclusion of Edison International, Entergy Corp., and Pacific Gas & Electric is a major cause for Mr. Peterson's much lower average ROE estimates.[4]

Q. Please explain why these companies face extraordinary circumstances.

A. All three are undergoing a period of erratic earnings and earnings prospects caused by extraordinary events. PG&E Corp. has incurred and is continuing to incur significant expenses associated with a September 2010 pipeline explosion in San Bruno, California. During 2011, PG&E's earnings were reduced 80 cents per share by the effects of the explosion, and a further $200 million fine is pending before the California PUC. Based on these factors, Value Line notes: "[T]he company has already stated that the dividend won't be increased this year, and we expect no raise in 2013, either."[5] The DCF model is based on the assumption of steadily growing dividends. Because of PG&E's erratic earnings and the interruption of its normal dividend pattern, it should have been eliminated from Mr. Peterson's comparable group.

Entergy also is affected by several factors that detract from its comparability. The company's marginal single-A bond rating (A-/BBB+ from Standard & Poor's and Baa1 from Moody's) is indicative. Additionally, Entergy's non-regulated nuclear units have created significant concerns and the company is in the process of selling its transmission business. Therefore, a significant portion of the company's operations is currently undergoing merger/acquisition activity.

[4] As shown in Mr. Peterson's DPU Exhibit 1.6, in his constant growth DCF analysis, Edison International produces an ROE range of 5.92 percent to 6.15 percent; Entergy an ROE range of 7.18 percent to 8.89 percent; and PG&E an ROE range of 5.37 percent to 8.15 percent.
[5] Value Line Investment Survey, PG&E Corp. company page, May 4, 2012.

Finally, as a result of these factors, Entergy does not currently have consistent earnings growth estimates from investment analysts. In its most recent edition covering Entergy,[6] Value Line shows a growth estimate of negative 1.5 percent. Similarly, Thomson's growth estimate for the next five years is negative 1.70 percent. Zacks growth estimate is positive, at 2.0 percent. The average of these three estimates is a negative 0.40 percent. Such a rate is not sustainable, and for this reason, Entergy is not a good comparable in the DCF model and should not have been included in Mr. Peterson's group.

Edison International has similarly erratic earnings prospects due to nonrecurring charges for its non-regulated coal plants. Value Line notes that low power prices have made it unappealing for the company to spend large sums on environmental upgrades that would be needed to keep the coal units operating.[7] Value Line, Zacks, and Thomson forecast earnings growth for Edison International to be 1.0 percent, 1.50 percent, and 0.33 percent, respectively. The average of these rates is less than 1.0 percent. Edison's projected growth rates are so low that, along with its dividend yield of about 3 percent, its DCF estimates are not significantly above the cost of debt. For these reasons, Edison International should have been excluded from Mr. Peterson's proxy group.

Q. What would Mr. Peterson's constant growth DCF estimates have been if he had eliminated these three companies?

A. In Exhibit RMP___(SCH-3R), page 2, in the upper three panels I have replicated Mr. Peterson's constant growth DCF calculations. In the lower three panels, I have

[6] Value Line Investment Survey, Entergy Corp. company page, March 23, 2012.
[7] Value Line Investment Survey, Edison International company page, May 4, 2012.

recalculated his results after eliminating Edison, Entergy, and PG&E. The differences are significant. From his range of 9.27 percent to 9.35 percent, the recalculated results increase to a range of 9.86 percent to 10.19 percent. In the recalculations, I simply eliminated the three questionable companies and made no other changes to any of Mr. Peterson's other inputs or assumptions. Therefore, the difference in the results is entirely due to the inappropriate negative impact that these companies had in Mr. Peterson's analysis. These companies should have been eliminated by Mr. Peterson rather allowing them to skew his results to such unreasonably low levels.

Q. In Mr. Peterson's two-stage growth DCF models, what would his results have been if he had used a higher long-term GDP growth forecast?

A. A more reasonable GDP growth forecast would have significantly increased his results. That analysis is provided in Exhibit RMP___(SCH-3R), pages 3 and 4. In my adjustment to Mr. Peterson's assumed growth rate, I substituted my 5.7 percent long-term GDP growth rate for stage two growth in his first three models and I eliminated his low growth rate calculations for the three non-comparable companies, discussed above, in his fourth model. The average modified result from Mr. Peterson's four two-stage growth models is 9.87 percent.

Q. On page 34, lines 755-756, Mr. Peterson says that you put little or no weight on your DCF results based on analysts' growth rates. Is this statement correct?

A. No. In my direct testimony, I included the analysts' growth rate results (9.6 percent) as the bottom end of my DCF range. As shown in Exhibit

RMP___(SCH-7R), I continue to include that analysis in my update.

Q. On pages 36-37, lines 802-803, Mr. Peterson says that a trend analysis of authorized ROEs presented in your direct testimony, suggests that authorized ROEs in 2012 will average 9.49 percent. What is your response?

A. While I do not question Mr. Peterson's calculation, it misses my major point that as interest rates have declined to artificially low levels, COE has not moved in lockstep. In fact, Mr. Peterson's DPU Exhibit 1.13 clearly shows that the slope of the interest rate line is steeper than that of the authorized ROE line. This supports both the fact that risk premium increases as interest rates decline and that despite the unprecedented decline in bond yields from 2009 to the present, authorized ROEs have been relatively flat. This is particularly the case if data from 2012 is added to the graph. Although interest rates have continued to decline in 2012, authorized ROEs have actually increased modestly.

Q. On page 38, lines 832-837, Mr. Peterson says that you are missing the point of regulation and that the only concern should be what returns are currently required for RMP to attract capital. Do you agree?

A. No, and I believe this statement is a useful illustration of the fact that Mr. Peterson has placed excessive reliance on mechanical application of mathematical formulas without considering the impact of the current economic environment on the reliability of their results. We cannot measure the COE for one company, let alone for several companies. If we could, one of the most difficult issues in most general rate cases would be eliminated, and the Commission could simply plug numbers into a formula and rely on the result. Rather than doing that, the

Commission considers the opinions of analysts who use various models to assist them in estimating COE. In this case, the various models produce widely divergent results. Although this is attributable in part to the inputs selected for the models, it is also attributable to the fact that the models use different approaches to estimate COE. In this case, CAPM results are consistently well below DCF results. In other circumstances, CAPM results are consistently above DCF results. The models are tools to assist the analyst in reaching a judgment, they are not a substitute for expert judgment. If an analyst were to recommend an ROE that was outside the range of all models, he or she would clearly be required to provide some reasonable justification for doing so. In this case, I have explained why I believe ROE is at the high end of the range of results from my DCF model runs. Mr. Peterson and the other ROE witnesses would have the Commission rely entirely on model results.

Q. Finally, on page 40, lines 872-881, Mr. Peterson says that you are increasingly throwing out or ignoring data and have reduced the number of estimators you use because the results are too low. Do you agree?

A. No. I have conducted all of the same analyses in this case that I have in other cases over the past several years. I have long questioned the validity of CAPM, and have not used it for several years. I have considered the results of my risk premium results in this case just as I have in other cases. Therefore, Mr. Peterson's suggestion that I have eliminated data or model results because they produce results that are too low is unfounded.

Rebuttal of OCS Witness Daniel J. Lawton

Q. What is the basis for Mr. Lawton's 9.4 percent ROE recommendation?

A. At page 9, lines 223-224, Mr. Lawton explains that he employs the DCF model to estimate the cost of equity. At lines 227-229, Mr. Lawton further states that he uses CAPM and risk premium methods as checks of reasonableness. At page 28, in Table 3, and on lines 725-726, Mr. Lawton shows and explains that his DCF models produce a range of 9.0 percent to 9.8 percent. On page 32, in Table 4, Mr. Lawton expands his table to include risk premium, CAPM, and ECAPM (Empirical CAPM) results. Although Mr. Lawton discusses his risk premium estimates (9.5 percent-9.6 percent), he does not discuss or appear to uses his CAPM and ECAPM results (6.7 percent and 7.1 percent). At lines 824-826, Mr. Lawton also claims, that his midpoint ROE recommendation is supported by RMP's regulatory mechanism that he believes mitigate the Company's business risk. He does not recommend a reduction from his midpoint ROE to account for this claimed risk mitigation.

Q. What is your general assessment of Mr. Lawton's analysis and recommendation?

A. Similar to Mr. Peterson, Mr. Lawton's ROE recommendation is well below RMP's cost of equity. At 9.4 percent, Mr. Lawton's recommendation is 90 basis below the 1st Quarter 2012 average allowed return for other integrated-electric utilities (10.3 percent - 9.4 percent = 0.90 percent). His results are low because his models are artificially influenced by the Government-induced low interest rate environment; his models are negatively biased by his selection of growth rates in

his DCF analysis; and, also like Mr. Peterson, his results are negatively skewed by his inclusion of at least two companies that are not comparable to RMP. All these factors lead to an unreasonably low estimate of ROE.

Q. How is Mr. Lawton's DCF analysis structured?

A. Mr. Lawton presents both constant growth and two-stage growth DCF results. For both models, he employs a 21-company proxy group that includes Value Line electric utility companies with at least investment grade bond ratings (triple-B). He eliminate three of the otherwise qualifying companies (Black Hills, Sempra, and Vectren) because, even though they are classified as electric utilities by Value Line, more than one-half of their revenues come from gas distribution activities. He provides two versions of the constant growth model—one based on analysts' earnings per share ("EPS") growth rates and one based on the average of projected EPS growth and a calculated "sustainable growth rate."

Q. Do you disagree with any of the technical aspects of Mr. Lawton's DCF analyses?

A. Yes. Although most of Mr. Lawton's proxy company selections do not have much effect on his results, his general approach of expanding the group to include companies with bond ratings below PacifiCorp's single-A rating is questionable. Also, as noted above, I strongly disagree with his inclusion of at least two companies that are not comparable to RMP, and which happen to produce the lowest ROE estimates in his analysis.

I also disagree with Mr. Lawton's inclusion of the "sustainable growth," "br + sv" approach to average down his otherwise arguably reasonable analysts'

EPS growth rates. The "sustainable growth" approach has generally been rejected because it fails to include growth rate sources beyond earnings retention and new common stock sales above book value, and because the method itself is circular. The method is circular because the "r" in the "br" portion of the formula is the rate of return that the companies are expected to earn. And, the earned rate of return is itself in large part a result of the allowed rate of return in regulatory proceedings. The "br" result, therefore, depends on the allowed rate of return and, if the "br" approach is used in the regulatory process, the allowed rate of return depends on the rate of return expected to be earned by the utility. The "sustainable growth" approach is preferred by some regulatory economists because it ignores utilities' other potential sources of growth and thus generally produces a lower expected growth rate. That appears to be precisely the case in Mr. Lawton's present analysis.

Q. Can you demonstrate the estimates of COE that Mr. Lawton's DCF models would have produced with more reasonable input assumptions?

A. Yes. In Exhibit RMP___(SCH-4R), I have recalculated both his constant growth and two-stage growth models with more reasonable growth rate inputs. In my recalculations of Mr. Lawton's models, in all cases I eliminated two companies from his group (Edison International and Consolidated Edison). As I explained previously in my rebuttal of Mr. Peterson, Edison International is currently undergoing extraordinary conditions that are significantly affecting its earnings forecasts. Consolidated Edison also should be eliminated because it is a distribution-only utility, not a vertically-integrated utility like RMP.

Page 2 of Exhibit RMP___(SCH-4R) contains the results of Mr. Lawton's constant growth analysis with the growth rate based on his average analysts' growth rates, without his unreliable "b times r" growth rates. The result of that analysis is a COE of 9.82 percent. On page 3 of Exhibit RMP___(SCH-5R), I have recalculated Mr. Lawton's two-stage DCF model using his input assumptions, but without Edison International and Consolidated Edison in the group. The result of that analysis is a COE range of 6.57 percent to 9.69 percent. On page 4 of Exhibit RMP___(SCH-5R), I have recalculated Mr. Lawton's two-stage DCF model without Edison International and Consolidated Edison and with my updated 5.7 percent GDP growth rate estimate substituted for his 5.2 percent long-term growth rate estimate. The result of that analysis is a COE range of 10.01 percent to 10.13 percent. These calculations show that Mr. Lawton's DCF results do not support his low ROE recommendation when more reasonable inputs are used in his analysis.

Q. On page 33, Mr. Lawton concludes that his midpoint ROE recommendation is further supported by regulatory mechanisms like MPA and EBA. What is your response to this conclusion?

A. Mr. Lawton's assessment is incorrect because he fails to address the existence of these factors for other electric utilities, he fails to balance his discussion with other higher risk factors such as the large construction program that RMP faces, and he fails to even mention that the bottom line effect of these factors has not resulted in RMP earning a profit level for its shareholders anywhere near its allowed rate of return.

With respect to operating risks, Mr. Lawton notes the EBA, but he fails to mention that every company in the comparable group I used to estimate ROE has fuel and purchased power cost recovery mechanisms in place (as shown in Exhibit RMP___(SCH-1R), page 2), and that most of those mechanisms provide full cost recovery rather than the 70 percent level of the EBA. Mr. Lawton's reliance on MPA and EBA to support his low midpoint recommendation is misplaced and should be rejected.

Rebuttal of FEA Witness Michael P. Gorman

Q. What is the basis for Mr. Gorman's 9.25 percent ROE recommendation?

A. Mr. Gorman's results are summarized on page 36 of his testimony. Based on three constant growth and one multi-stage growth DCF model, a risk premium analysis, and the CAPM, he concludes that the reasonable ROE range is 9.0 percent to 9.5 percent with a midpoint of 9.25 percent.

Q. What is your general assessment of Mr. Gorman's ROE testimony and recommendation?

A. Mr. Gorman's recommendation is understated because he applies improper and inconsistent approaches in reaching his final ROE estimate. In his constant growth DCF model, he mistakenly retains a company (Edison International) with now unreliable analysts' growth rate data. The result of his multi-stage DCF analysis is low because his estimate for long-term GDP growth in that analysis is understated. Finally, Mr. Gorman's risk premium analysis is flawed because he continues to reject the well documented inverse relationship between equity risk premiums and the level of interest rates. Equity risk premiums increase when

interest rates are low, as they are now, and decrease when interest rates are higher. When corrections are made in these areas of Mr. Gorman's analysis, the results support an ROE near 9.8 percent (See Exhibit RMP___(SCH-5R), page 1).

Q. What are your general areas of disagreement with Mr. Gorman?

A. Mr. Gorman's analysis is negatively skewed by his assumptions and his application of the models. In his constant growth DCF analysis, he includes the ROE result for Edison International, which he determines to be 5.63 percent (see Exhibit FEA-4 (MPG-4)). On its face, this result should have been rejected since it is barely more than 100 basis points above the current cost of single-A debt at 4.4 percent (see Exhibit RMP___(SCH-2R), page 1). I previously discussed the reasons why Edison International should be excluded from the current comparable group in my rebuttal of Mr. Peterson. Mr. Gorman's constant growth DCF result is too low because he includes Edison International in his analysis. On page 2 of Exhibit RMP___(SCH-5R), I replicate Mr. Gorman's constant growth DCF analysis, but with Edison International excluded. As shown on that exhibit, by eliminating this one company, Mr. Gorman's range increases by about 20 basis points (from 9.32 percent-9.38 percent to 9.49 percent-9.60 percent).

While Mr. Gorman applies a non-constant growth DCF model similar to mine and agrees with me that GDP growth is acceptable for use in this approach, he relies on relatively short-term GDP growth rate forecasts that are dominated by recent historically low inflation. Mr. Gorman's GDP growth forecast contains inflation estimates that are almost a full percentage point below longer-term

historical averages. This approach is inconsistent with the long-term growth rate assumption that is fundamental to the DCF model.

In Mr. Gorman's risk premium analysis, he selects risk premiums that are not consistent with recent risk premium data because he fails to include the well documented inverse relationship between risk premiums and interest rates, *i.e.*, the tendency for risk premiums to widen when interest rates are low and narrow when interest rates are high. This omission causes Mr. Gorman's risk premium estimates to be significantly understated.

Q. Please elaborate on your specific disagreements with Mr. Gorman's multi-stage DCF analyses?

A. Mr. Gorman uses analysts' growth forecasts in the first five years of his multi-stage analysis and a GDP growth forecast for years 11 and later. In the intermediate years, six through 10, he interpolates between the first and third stages. I disagree with Mr. Gorman's results because his estimate of future GDP growth is far too low. His forecasts are for five- and 10-year periods from the *Blue Chip Financial Forecasts.*[8] The current Blue Chip consensus is low because it is dominated by recent virtually zero growth in the economy, and it is based on assumed long-term inflation rates of only about 2.0 percent. As shown in my updated GDP forecast (Exhibit RMP___(SCH-6R)), these inflation rates are lower than in any 10-year period in the last 60 years. The nominal 5.0 percent growth rate that he uses is itself lower than nominal GDP growth in most of the 10-year periods, other than the most recent period, which includes growth rates of -1.2 percent and 0.0 percent for 2008 and 2009, respectively. For Mr. Gorman to base

[8] Gorman Direct Testimony at 24.

his long-term DCF growth rate on such depressed data creates an unrealistically low estimate of ROE.

Q. If Mr. Gorman had used your updated GDP growth forecast of 5.7 percent in his multi-stage growth DCF analyses, what would his results have been?

A. In Exhibit RMP___(SCH-5R), page 3, I have reproduced Mr. Gorman's multi-stage growth DCF exhibit (Exhibit FEA-9 (MPG-9)) with the 5.7 percent growth rate substituted for his long-term GDP growth estimate. That revised analysis indicates a median ROE of 10.0 percent.

Q. Please comment on Mr. Gorman's risk premium analysis.

A. Mr. Gorman's risk premium analysis fails to include the well-documented tendency for risk premiums to expand when interest rates are low.[9] When his analysis is modified to properly reflect wider risk premiums when interest rates are lower, Mr. Gorman's risk premium analysis indicates a much higher ROE.

Q. Please elaborate.

A. Mr. Gorman's risk premium data are presented in Exhibits FEA-11 (MPG-11) and FEA-12 (MPG-12). He discusses the analysis on pages 26-30 of his testimony. The analysis consists of two parts. In one approach Mr. Gorman adds Government bond equity risk premiums of 4.41 percent to 6.13 percent to a projected Treasury bond yield of 3.90 percent. This produces an ROE result of 9.50 percent using a one-third weight for the lower end of the range and a two-thirds weight for the upper end. In Mr. Gorman's second approach, he adds a utility bond risk premium of 3.03 percent to 4.62 percent to the recent "A" utility bond yield of 4.40 percent.

[9] The relationship is a well-documented fact. A summary of published research on this topic is contained in Dr. Roger Morin's *New Regulatory Finance* text at pages 128-129. Mr. Gorman is inconsistent with the majority on this topic.

This produces an ROE result of 8.50 using the same weighting scheme as described above. From these two results, Mr. Gorman concludes that an ROE of 9.00 percent is appropriate (midpoint of 8.50 percent and 9.50 percent).

Q. In the risk premium analysis from your direct testimony, you used a standard regression analysis to account for the inverse relationship between risk premiums and interest rates. What do Mr. Gorman's risk premium data indicate when this approach is used?

A. In Exhibit RMP___(SCH-5R), pages 4-7, I have applied the standard regression analysis to calculate "interest rate adjustment" factors for Mr. Gorman's two risk premium studies. This approach properly takes into account the inverse relationship between equity risk premiums and interest rates. With this adjustment, Mr. Gorman's Treasury bond risk premium analysis indicates an ROE of 10.12 percent, as shown in pages 4-5 of Exhibit RMP___(SCH-5R). For his utility bond risk premium analysis, the indicated ROE is 9.52 percent as shown on pages 6-7 of Exhibit RMP___(SCH-5R). These results further confirm that Mr. Gorman's risk premium data support an ROE as high as 10.1 percent.

Q. In your direct testimony, you showed that the inverse relationship between equity risk premiums and interest rates can be seen without resort to the regression analysis approach. Does that analysis apply to your rebuttal of Mr. Gorman's risk premium analysis?

A. Yes. While statistical analysis is often used, especially in academic research, to substantiate certain economic and financial relationships, for the equity risk premium issue, the relationship 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 1986 and 2010 and for 2011 from my equity risk premium data that Mr. Gorman used.

Table 4
Average Five-Year Interest Rates and Equity Risk Premiums
(1986-2011)

Period	Average Utility Bond Interest Rate	Average Equity Risk Premium
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%
2011	5.17%	5.05%
Simple Average	7.63%	3.82%

Source: Exhibit RMP__(SCH-8R), 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. For Mr. Gorman to use the unadjusted simple average of long-term equity risk premiums with current, historically low interest rates is simply wrong. Such an approach will consistently understate the required COE.

Q. On pages 40-49, Mr. Gorman criticizes various aspects of your ROE analysis. What is your general response to his criticisms?

A. Mr. Gorman's criticisms are not accurate. They are principally focused on my use of the GDP growth rate in my DCF model, my use of projected interest rates, and my adjustment to the risk premium data to account for the current, low interest rate environment. I disagree with Mr. Gorman's use of relatively near-term, five- and 10-year Blue Chip forecasts for GDP growth; I disagree with his criticism of my use of projected interest rates in my risk premium analysis because Mr. Gorman also uses projected interest rates in his analysis; and I disagree with his contention that risk premiums do not increase as interest rates decrease.

Q. On page 42, Mr. Gorman criticizes your GDP growth forecast because it is higher than his Blue Chip forecast, which contains much lower projected inflation rates. How do you respond to Mr. Gorman's criticisms?

A. As noted by Mr. Gorman (at 42, lines 903-905), his Blue Chip forecasts are for only the next five- and 10-year periods and those forecasts indicate inflation rates of only 2.1 percent and 2.2 percent, respectively. My GDP growth rate estimate is based on a much longer time period, which is consistent with the DCF model's requirements, and with what investors can reasonably expect once economic conditions become more stable. While my forecast includes the near-term, low inflation rates that dominate Mr. Gorman's five- and 10-year periods, I also include longer-term data that cover other economic conditions, which can reasonably be expected over the very long-run DCF model horizon. Although I use data dating back to 1951 from the St. Louis Federal Reserve Bank data base,

my forecast is not a simple average or extrapolation of the historical data. Like most econometric forecasts, my approach uses the long-run historical relationships to project what investors may reasonably expect for the long-run future. To account for recent data having a greater influence on current expectations, I applied a weighted averaging process that gives about five times as much weight to the most recent 10 years as compared to the earliest 10 years. Giving more weight to the more recent, low inflation years also lowers the overall forecast. For example, my updated forecast is for a future growth rate of 5.7 percent, while the overall long-run average of the data is a growth rate of 6.6 percent. In this context, Mr. Gorman's criticism of my longer-term GDP growth forecast is unwarranted.

Q. Mr. Gorman criticizes your risk premium analysis because you used projected rates in part of that analysis. How do you respond?

A. Mr. Gorman's criticisms are misplaced. His risk premium analysis is constructed very similar to mine in that we both rely on current rates and projected rates. We both recognize that interest rates are forecast to increase in the coming years and that this near unanimous viewpoint should be reflected in the ROE analysis in this case.

Rebuttal of Wal-Mart Witness Steve W. Chriss

Q. On page 3, lines 7-11, Mr. Chriss recommends that the Commission should consider the reduction in the Company's risk that, he says, results from the EBA. What is your response to his recommendation?

A. Mr. Chriss is mistaken on at least two accounts. First, the premise of his

recommendation is that the Utah EBA reduces the Company's risk. With the Company exposed to potential loss of up to 30 percent of the difference between its in-rates and actual net power costs, it is unlikely that investors perceive a substantial risk reduction relative to typical energy cost recovery clauses of other electric utilities. While the EBA would mitigate conditions like those that resulted from the 2000-2001 energy crisis, other avenues of recovery might also be available under such conditions. Thus, Mr. Chriss' basic premise is questionable. The second, and more important, fallacy in his recommendation is that he ignores the relative position of RMP with respect to the comparable group. In Exhibit RMP___(SCH-1R), page 2, I show the fuel and purchased power recovery mechanisms for the 14 companies, with their operations in over 30 jurisdictions. In all the jurisdictions, there are only eight instances that involve dead bands or sharing mechanisms, and these are generally in the two percent to five percent range. All the other operations provide dollar-for-dollar recovery of prudently incurred costs. Using these companies to estimate RMP's cost of equity clearly eliminates any need to reduce the ROE estimate for RMP's EBA. Mr. Chriss' recommendation in this regard is inappropriate and should be disregarded.

Updated ROE Analysis

Q. Have you updated your ROE analysis to take into account recent data and current conditions in the capital markets?

A. Yes. Consistent with my customary practice, I have updated my ROE analysis for current market conditions using the same methodologies that I employed in my previous analysis.

Q. What are the results of your updated DCF analyses?

A. My updated DCF results are shown in Exhibit RMP___(SCH-7R). In the updated analysis, two companies were removed from my original comparable group and two companies were added. As already discussed, I removed Edison International because of the extraordinary circumstances currently affecting projections of its growth. I also removed Vectren because its percentage of regulated revenue has fallen below 70 percent. I added CMS Energy and Integrys. These companies were added because, in the case of Integrys, its regulated revenue percentage is now above 70 percent and, in the case of CMS Energy, its financial condition has normalized (its equity ratio is now above 30 percent). These companies now pass my screening criteria. The resulting group, therefore, remains 14 companies. The indicated DCF range is 9.6 percent to 10.2 percent.

Q. What are the results of your updated bond yield plus risk premium analysis?

A. My updated risk premium analysis is presented in Exhibit RMP___(SCH-8R). Based on projected single-A utility interest rates, the risk premium analysis indicates an ROE of 9.88 percent. Based on the most recent three month's average single-A rates, the risk premium ROE is 9.55 percent.

Q. What do you conclude from your updated ROE analyses?

A. My updated technical analyses indicate a current cost of equity capital in the range of 9.6 percent to 10.2 percent. These results are a realistic reflection of capital market conditions, but given the Government's ongoing intervention in the credit markets, they may not fully reflect the equity market risk that remains. My updated results show clearly that the other parties' recommendations are below

Rocky Mountain Power's current cost of equity capital. As stated previously, given current difficulties with interpreting financial model estimates and the forecasts for higher interest rates that I have presented, I believe the Company's initially requested 10.2 percent remains reasonable.

Q. Does this conclude your rebuttal testimony?

A. Yes.