

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

**In The Matter of the Application of Rocky §
Mountain Power for Authority to Increase §
Its Retail Electric Service Rates in Utah §
and for Approval of Its Proposed Electric §
Service Schedules and Electric Service §
Regulations, Consisting of a General Rate §
Increase of Approximately \$161.2 Million §
Per Year, and for Approval of a New §
Large Load Surcharge §
§
§**

Docket No. 07-035-93

**Direct Rate of Return
Testimony of
Daniel J. Lawton
For the Committee of
Consumer Services**

March 31, 2008

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**DIRECT TESTIMONY OF
DANIEL J. LAWTON**

SECTION I: INTRODUCTION/BACKGROUND

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Daniel J. Lawton. My business address is 816 Congress Avenue, Suite 1120, Austin, Texas 78701.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I have been working in the utility consulting business as an economist since 1983. Consulting engagements have included electric utility load and revenue forecasting, cost of capital analyses, revenue requirements/cost of service reviews, and rate design analyses in litigated rate proceedings before federal, state and local regulatory authorities. I have worked with municipal utilities developing electric rate cost of service studies. In addition, I have a law practice based in Austin, Texas. My main areas of legal practice include administrative law representing municipalities in electric and gas rate proceedings and other litigation and contract matters. I have included a brief description of my relevant educational background and professional work experience in Exhibit CCS 3.1.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN RATE PROCEEDINGS?

A. Yes. A list of cases where I have previously filed testimony is included in my Exhibit CCS 3.1.

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

A. I have been retained to review Rocky Mountain Power's ("Company") cost of capital request on behalf of the Committee of Consumer Services ("Committee").

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

A. The purpose of my testimony in this proceeding is to address the Company's requested overall cost of capital. I will address the Company's requested return on equity, capital

27 structure, and cost rates for equity, debt and preferred stock, which is presented in the
28 direct testimony of its cost of capital witnesses, Dr. Samuel Hadaway and the direct and
29 supplemental testimony of Mr. Bruce Williams.

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

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

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

38 A. My analysis of the Company's requested 10.75% return on equity indicates such request
39 is overstated in current capital markets. Updating the Company's discounted cash flow
40 ("DCF") equity return analysis for current data, correcting the flawed long-term growth
41 rate assumption and relying on current interest rates rather than outdated forecasts, results
42 in a DCF range of 9.4% to 9.9% with a midpoint of about 9.70%. These same market
43 data updates applied to the capital asset pricing model ("CAPM") and relevant risk
44 premium analyses indicate a cost of equity range of 9.0% to 10.3% with a 9.85%
45 midpoint. My alternative DCF analysis results in a range of 9.82% to 10.08% with a
46 midpoint of about 9.95%. A 9.65% cost of equity is supported by the DCF analyses as
47 well as a check of reasonableness from the CAPM and risk premium results.

48 Based on my analysis, I make the following conclusions and recommendations:

- 49 (i) The Company's proposed 8.54% overall return on investment is overstated
50 and should not be adopted as representative of the Company's cost of
51 capital requirements;¹
- 52 (ii) The Company's requested 10.75% return on equity is an overstatement of
53 the required return on equity for the Company;
- 54 (iii) The Company's required return on equity is 9.85% and is reasonable for
55 the Company;

¹ The Company's 8.54% requested overall return on investment as set forth in the Supplemental Direct Testimony of Bruce Williams at 3:43-50.

- 56 (iv) The Company's long-term debt cost is 6.27%; and
57 (v) The Company's overall cost of capital for this case should be set at 8.07%.

58 **SECTION II: REGULATORY ISSUES AND COST OF CAPITAL**

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

61 A. The rate of return is an essential element in the process of rate regulation. The overall
62 return to be earned on rate base investment is typically a major part of overall revenue
63 requirement. For example, in this case the Company's originally requested cost of capital
64 of 8.59% produced a revenue requirement (before federal income taxes) of \$378.7
65 million or 24% of revenue requirements.² Thus, return on invested capital is a substantial
66 component of overall revenue requirements.

67 **Q. PLEASE EXPLAIN HOW THE VARIOUS COMPONENTS OF COST OF**
68 **CAPITAL ARE DETERMINED.**

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

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

80 The cost of capital is defined as the annual percentage that a utility must receive to
81 maintain its financial integrity, to pay a return to security owners and to insure the
82 continued attraction of capital at a reasonable cost and in an amount adequate to meet
83 future needs. Mathematically, the cost of capital is the composite of the cost of several

² See Direct Testimony of A. Richard Walje at 6:121.

84 classes of capital used by the utility – debt, preferred stock, and common stock, weighted
85 on the basis of an appropriate capital structure.

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

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

99 **Q. PLEASE EXPLAIN THE COST OF EQUITY CONCEPT.**

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

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

107 **Q. WHAT PRINCIPAL METHODOLOGY DO YOU EMPLOY IN YOUR COST OF**
108 **EQUITY CAPITAL ANALYSES?**

109 A. I employ the Discounted Cash Flow methodology for estimating the cost of equity,
110 keeping in mind the general premise that any utility's cost of equity capital is the risk free
111 return plus the premium required by investors for accepting the risk of investing in an
112 equity instrument. It is my opinion that the best analytical technique for measuring a

113 utility's cost of common equity is the DCF methodology. Other return on equity
114 modeling techniques such as the CAPM or risk premium are often used to check the
115 reasonableness of the DCF results.

116 **Q. PLEASE DESCRIBE THE RISKS YOU REFER TO ABOVE.**

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

122 **Q. PLEASE DESCRIBE ROCKY MOUNTAIN POWER.**

123 A. The Company is one of three business units owned by PacifiCorp. The Rocky Mountain
124 Power business unit provides electrical service to customers in Utah, Wyoming and
125 Idaho. PacifiCorp was acquired and is now a division owned by MidAmerican Energy
126 Holdings Company ("MEHC") in 2006. The equity investment of Rocky Mountain
127 Power is not publically traded.

128 **Q. PLEASE DISCUSS YOUR UNDERSTANDING OF THE COMPANY'S
129 UPDATED REVENUE REQUIREMENT FILING AND THE TEST YEAR
130 ORDERED BY THE PUBLIC SERVICE COMMISSION OF UTAH
131 ("COMMISSION") IN THIS CASE.**

132 A. The Company has filed for an annual revenue increase of \$99.8 million including a
133 request for a 10.75% return on shareholder equity. The Company's rate request and cost
134 of service analyses are based on a forecasted test year for the twelve months ending
135 December 31, 2008 as ordered by the Commission on February 14, 2008.

136 **SECTION III: CURRENT ECONOMIC CONDITIONS**

137 **Q. WHAT CURRENT ECONOMIC CONDITIONS IMPACT THE COST OF
138 CAPITAL?**

139 A. Current economic conditions have resulted in the Federal Reserve lowering projections
140 for economic growth due to the housing slump and recent banking problems and credit
141 conditions. Generally, the U.S. economy has weakened, which has prompted
142 recessionary concerns from financial analysts. Such concern continues despite the

143 Federal Reserve's recent cut of 50 basis points to the federal funds rate down to 3
144 percent. This 50 basis point reduction in the federal funds rate followed a 75 basis point
145 reduction just eight days earlier. The two rate cuts together total 125 basis points and
146 represent the most substantial single month reduction in over twenty years.

147 The liquidity crisis has resulted in the Federal Reserve further reducing the discount rate
148 on Sunday March 16, 2008 from 3.5% to 3.25%. This rate cut along with creating
149 additional lending facilities are two recent initiatives to bolster credit market liquidity.
150 On March 18, 2008, the Federal Reserve again announced a 75 basis point reduction to
151 the federal funds rate.

152 This latest action by the Federal Reserve reduces the federal funds rate to 2.25 percent.
153 The federal funds rate has been cut six times since September 2007 with the most recent
154 reductions being quite aggressive cuts. These Federal Reserve actions indicate interest
155 rates are not increasing.

156 In particular, housing market problems around the country and rising energy prices have
157 had an impact on economic growth and the projections of growth are being revised
158 downward. Moreover, recent cuts in short-term interest rates have impacted the longer-
159 term interest rate outlook. As can be seen from the Table 1 below, the 10 year and 30
160 year Treasury rates have declined from the June 2007 time period.

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TABLE 1³**10 Year and 30 Year Treasury Rates**

<u>Month</u>	<u>10 Year Treasury</u>	<u>30 Year Treasury</u>
June 2007	5.10%	5.20%
July 2007	5.00%	5.11%
August 2007	4.67%	4.93%
September 2007	4.52%	4.79%
October 2007	4.53%	4.77%
November 2007	4.15%	4.52%
December 2007	4.10%	4.52%
January 2008	3.74%	4.33%
February 2008	3.74%	4.52%

167 While the Federal Reserve continues to deal with the competing pressures of inflation,
 168 declining gross domestic product (“GDP”) growth and the prospects of a recession, the
 169 prevailing view appears to be a continuation of lower interest rates.

170 **SECTION IV: ROCKY MOUNTAIN POWER’S COST OF EQUITY REQUEST**
 171 **OVERVIEW**

172 **Q. HOW DID COMPANY WITNESS SAMUEL HADAWAY ESTIMATE THE**
 173 **REQUESTED 10.75% COST OF EQUITY?**

174 A. Mr. Hadaway based his 10.75% equity return recommendation on the results of a
 175 Constant Growth DCF model and Multistage Growth DCF model (relying primarily on a
 176 6.6% long-term growth rate) combined with two capital asset pricing models (CAPM)
 177 and two risk premium results.⁴ It appears that Dr. Hadaway ignored his constant growth
 178 DCF (Analysts Growth) and Harris-Marston Risk Premium results.⁵

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³ www.federalreserve.gov/releases/h15/data, March 4, 2009.

⁴ Direct Testimony of Samuel Hadaway at 2:38-43 and at 36: 758-778.

⁵ *Id.*

181 Dr. Hadaway's results can be summarized in Table 2 below:

TABLE 2⁶

Summary of Equity Cost Results of Dr. Hadaway

<u>Methodology</u>	<u>Results</u>
1). Constant Growth DCF (GDP Growth)	11.0% - 11.1%
2). Multistage Growth DCF	10.6% - 10.9%
3). CAPM Long-Term Risk Free Rate	9.83%
4). CAPM Short-Term Risk Free Rate	10.61%
5). Utility Debt and Risk Premium	10.8%
6). Morningstar Risk Premium Analysis	10.9%

182 Based on the results set forth in the table above and review of economic data, Dr.
 183 Hadaway concluded an equity return point estimate of 10.75% is appropriate for this
 184 case.⁷

185 **Q. DO YOU HAVE ANY COMMENTS REGARDING DR. HADAWAY'S**
 186 **ANALYSIS?**

187 A. Yes, I have a number of comments. First, the analytical tools employed by Dr. Hadaway,
 188 Constant Growth DCF, Multistage Growth DCF, CAPM, and Risk Premium Measures,
 189 are the same tools employed by most analysts and regulatory authorities when seeking to
 190 estimate cost of equity. These are the same analytical tools I relied on in making my
 191 estimate of cost of equity in this case.

192 Second, because the Company's stock is not publicly traded, Dr. Hadaway relied on the
 193 market data of a proxy risk group of companies for his DCF analyses.⁸ It is common
 194 practice for cost of capital experts to rely on a proxy group when estimating cost of
 195 equity when the target company is not publicly traded. However, analysts must exercise

⁶ *Id.* at 36: 758-776.

⁷ *Id.* at 2:41-43.

⁸ *Id.* at 2:44-46 to 3:47-60.

196 judgment in selecting the companies that comprise a proxy group and, therefore, the
197 composition of proposed proxy groups may sometimes differ among analysts. In this
198 case, I have used the same proxy group as Dr. Hadaway in making my cost of equity
199 recommendation.

200 Third, Dr. Hadaway's assumptions with regard to expected growth rates in his DCF
201 analyses, use of forecasted interest rates, and use of stale data renders his results
202 unreliable. My difference with Dr. Hadaway's analysis is largely in these three areas.

203 **Q. IF THE SAME MODELS AND COMPARABLE GROUP ARE USED, BUT DR.**
204 **HADAWAY'S DATA AND ASSUMPTIONS ARE EITHER UPDATED OR**
205 **CORRECTED, WHAT COST OF EQUITY RESULTS?**

206 A. When Dr. Hadaway's equity return models are correctly applied the ROE is about 9.65
207 percent, rather than his estimate of 10.75%. Correcting and updating Dr. Hadaway's
208 analyses results in a lower equity return, lower overall return earned on investment and a
209 substantial drop in the revenue requirement necessary to hold and attract investors.

210 **Q. PLEASE ADDRESS THE SPECIFIC PROBLEMS AND ERRORS IN DR.**
211 **HADAWAY'S TESTIMONY.**

212 A. I will address each of the errors and problems in Dr. Hadaway's December 2007
213 testimony in the same order as presented in his testimony.

214 First, Dr. Hadaway uses a traditional constant growth DCF model for the comparable
215 group of companies employing traditional dividend yield calculations and the average of
216 earnings per share forecasts made by three different analysts.⁹ Dr. Hadaway concludes
217 that the model results of 9.6% to 9.9% should be excluded from consideration because
218 such results are "well below risk premium checks of reasonableness".¹⁰ Given the recent
219 decline in interest rates, I believe the traditional DCF model results of 9.6%-9.9% are
220 consistent with risk premium and CAPM results and should not be excluded from
221 consideration in this case. I discuss CAPM and risk premium calculations later in my
222 testimony.

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⁹ Dr. Hadaway Direct Testimony at 32:679-684, also see (SCH-5) pp. 1 and 2 of 5.

¹⁰ *Id.* at 32:683-684.

224 **Q. DO YOU HAVE ANY COMMENTS REGARDING DR. HADAWAY'S SECOND**
 225 **CONSTANT GROWTH DCF CALCULATION, WHICH USES FORECASTED**
 226 **GROWTH IN GROSS DOMESTIC PRODUCT RATHER THAN ANALYSTS'**
 227 **EARNINGS FORECASTS?**

228 A. Yes. Dr. Hadaway substitutes a 6.6% GDP growth rate for the three different analysts'
 229 earnings per share ("EPS") forecasts to arrive at a DCF equity return result of 11.0% to
 230 11.1%.¹¹

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

233 A. Yes. As a long-term growth measure of the future, relying on the GDP historical growth
 234 measure as one of the measures to predict future earnings growth is not unreasonable. So
 235 long as future growth in GDP approaches the historical GDP measure, then the GDP
 236 growth rate proxy could be a reasonable estimate. However, caution should be taken in
 237 relying on historical GDP growth as the sole measure of expected growth in earnings.

238 I also differ with Dr. Hadaway in his change in methodology in calculating the GDP
 239 measure. In previous testimony such as the PacifiCorp rate case, Docket No. 03-2035-
 240 02, filed in May 2003, Dr. Hadaway employed a simple 20-year historical average of
 241 GDP growth for his long-term earnings growth proxy, which would produce a 5.6% GDP
 242 growth estimate. Since the 2003 case, Dr. Hadaway changed his methodology for
 243 calculating the historical GDP long-term growth rate. Rather than using the 20-year GDP
 244 average of 5.6%, Dr. Hadaway now takes an average of six different GDP growth period
 245 averages as illustrated in Table 3 below:

TABLE 3¹²
Summary GDP Growth Averages

10-year GDP average	5.4%
20-year GDP average	5.6%
30-year GDP average	6.9%
40-year GDP average	7.3%
50-year GDP average	7.1%
59-year GDP average	7.0%
Average of periods	6.6%

¹¹ Direct testimony at 32:684-687 also see (SCH-5) pp. 1 and 3 of 5; and (SCH-4) p.1 of 1.

¹² Dr. Hadaway Direct Testimony Exhibit RMP_ (SCH-4).

246 In other words, Dr. Hadaway's new methodology averages the historical averages. Dr.
247 Hadaway provides no explanation or basis for his changed methodology, the net impact
248 of which is to increase the long-term growth estimate from the 20-year average of 5.6%
249 to 6.6%.

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

252 A. No. A 20-year period is certainly a sufficiently long time period to smooth aberrations
253 and/or outliers to project into the future. I find no theoretical (economic or mathematical)
254 reason to employ an average of the 10, 20, 30, 40, 50 and 59 year averages. It could be
255 argued that more recent GDP growth data is more important, and the 10-year GDP
256 average of 5.4% would be the best GDP proxy of growth. This may be especially true
257 given recent Federal Reserve projections of a much lower GDP growth. In my opinion, if
258 the GDP average is to be used as one of the growth rate estimates, then the 10-year or 20-
259 year average of 5.4% to 5.6% is a reasonable compromise for consideration in this case.
260 I have employed the mid-point of 5.5% as a GDP growth rate proxy. Such a growth
261 estimate is consistent with analyst estimates for earnings and reflects current expectations
262 of declining GDP growth.

263 **Q. IF YOU CORRECT DR. HADAWAY'S GDP GROWTH RATE CALCULATION**
264 **WHAT DCF RESULTS DOES HIS DATA AND MODEL PRODUCE?**

265 A. Reducing the GDP growth estimate from 6.6% to 5.5% is a 110 basis point reduction to
266 Dr. Hadaway's claimed 11.0% to 11.1% results. Thus, correcting Dr. Hadaway's results
267 using a 5.5% GDP growth rate indicates a 9.9% to 10.0% constant growth DCF result.

268 It is important to note that the corrected ROE results above are consistent with the
269 constant growth results of 9.6% to 9.9% employing analyst's estimates of earnings per
270 share – which Dr. Hadaway mistakenly discarded.

271 **Q. DID DR. HADAWAY ESTIMATE A DCF RESULT EMPLOYING A MULTI-**
272 **STAGE DCF GROWTH MODEL?**

273 A. Yes. Dr. Hadaway's two-stage growth rate DCF model produces DCF estimates for ROE
274 of 10.6% - 10.9%.¹³ The problem with this analysis is his primary reliance on the faulty

¹³ Exhibit RMP_ (SCH-5) p.1.

275 6.6% GDP growth measure. When Dr. Hadaway's results are corrected for a 5.5% GDP
276 growth rate, the results are in the 9.6% to 9.8% range. I discuss this analysis in more
277 detail later in this testimony. Thus, the corrected multi-stage DCF model produces
278 results consistent with the previous two DCF analyses discussed above.

279 **Q. DID DR. HADAWAY PRESENT RESULTS FROM A CAPITAL ASSET**
280 **PRICING MODEL ("CAPM") CALCULATION?**

281 A. Yes. Dr. Hadaway presents two CAPM calculations: one based on the August through
282 October 2007 average 30-year Treasury Bond rate; and the second based on the 90-day
283 Treasury Bill rate.¹⁴ The results of his two CAPM analyses are 9.83% for the 30-year
284 Treasury Bond rate and 10.61% for the 90-day Treasury Bill rate.¹⁵ However, interest
285 rates have declined since Dr. Hadaway made these CAPM calculations and his results are
286 substantially overstated.

287 **Q. HAVE YOU REVIEWED 30-YEAR TREASURY BOND AND 90-DAY**
288 **TREASURY BILL RATES FOR A MORE RECENT THREE-MONTH PERIOD?**

289 A. Yes. Table 4 below presents a comparison of the interest rates employed by Dr.
290 Hadaway compared to more current interest rate data.

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¹⁴ Direct Testimony Samuel Hadaway at 33:696-706 and (SCH-7).

¹⁵ *Id.*

TABLE 4¹⁶

**COMPARISON OF 30 YEAR TREASURY BOND AND
90 DAY TREASURY BILL MONTHLY INTEREST RATES**

<u>MONTH</u>	<u>30-YEAR TREASURY BOND</u>	<u>90-DAY TREASURY BILL</u>
August 2007	4.93%	4.20%
September 2007	4.79%	3.89%
October 2007	4.77%	3.90%
3-month average	4.83%	4.00%
November 2007	4.52%	3.27%
December 2007	4.52%	3.00%
January 2008	4.33%	2.75%
February 2008	4.52%	2.12%
3-month average Dec.-Feb.	4.46%	2.62%

298 As shown in Table 4, the 30-year Treasury Bond rate has declined from the 4.83%
299 average employed by Dr. Hadaway to 4.46% currently. The 90-day Treasury Bill rate
300 has also declined from the 4.00% average used by Dr. Hadaway to 2.62% currently.

301 If current rates are used in Dr. Hadaway's CAPM analysis his results would range from
302 about 9.0% to 9.3%. Thus, the CAPM results are consistent with the DCF results
303 discussed earlier.

304 **Q. DID DR. HADAWAY ALSO ESTIMATE EQUITY RETURN BASED ON RISK**
305 **PREMIUM ANALYSES?**

306 A. Yes. Dr. Hadaway estimated three risk premium results in his testimony. These risk
307 premium analyses are as follows:

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¹⁶www.federalreserve.gov/releases/h15/data, March 2008.

TABLE 5**DR. HADAWAY RISK PREMIUM SUMMARY¹⁷**

(i) Utility Debt Plus Risk Premium	10.8%
(ii) Morningstar Risk Premium Analysis	10.9%
(iii) Harris-Martson Risk Premium	11.5%

311 The key problem with Dr. Hadaway's risk premium analyses is his reliance on forecasted
 312 interest rates to estimate debt costs.¹⁸ Dr. Hadaway's forecasted single-A utility bond
 313 interest rate is 6.4 percent.¹⁹ While Dr. Hadaway relied on a three-month average interest
 314 rate for this CAPM analysis, his risk premium approach relies entirely on forecasted
 315 rates. Given the changes in capital markets and continued decline in interest rates, Dr.
 316 Hadaway's analysis once again substantially overstates cost of equity.

317 **Q. BASED ON CURRENT MARKET DATA HOW OVERSTATED IS DR.**
 318 **HADAWAY'S RISK PREMIUM ESTIMATES?**

319 A. Employing Dr. Hadaway's method of estimating single-A utility bond costs, utilizing
 320 current rather than forecasted long-term Treasury rates, indicates a single-A utility rate of
 321 5.5% and not the 6.4% estimated by Dr. Hadaway. Moreover, reliance on the recent
 322 three-month average interest rate is consistent with Dr. Hadaway's CAPM analysis and
 323 captures the current downturn in interest rates. A more appropriate risk premium
 324 calculation is in the 10.0% to 10.3% range.

325 **Q. DO YOU HAVE ANY COMMENTS REGARDING THE HARRIS AND**
 326 **MARSTON (H&M) RISK PREMIUM?**

327 A. Yes, it is irrelevant and produces unreliable results. In every case over the last few years
 328 where Dr. Hadaway presents the H&M study, he consistently ignored the results. The
 329 pattern is repeated in this case: Dr. Hadaway presents the H&M study results, but does
 330 not rely on them in his risk premium analysis. This Commission should also ignore the
 331 H&M results as nothing more than an outlier.

¹⁷ Direct Testimony Samuel Hadaway at 33:711-35:755.

¹⁸ *Id.* at 33:715-716 and RMP_ (SCH-6) p. 1 of 2 notes.

¹⁹ *Id.*

332 **Q. DO YOU HAVE ANY ADDITIONAL COMMENTS ON DR. HADAWAY'S**
333 **ANALYSIS?**

334 A. Yes. In interpreting his own results Dr. Hadaway stated the following:

335 "Caution should be exercised in interpreting the basic quantitative
336 DCF and risk premium results, because they are based on recent
337 historically low points in the economic cycle. Under such
338 conditions, economic projections should also be considered.
339 Continuing economic growth and higher expected interest rates
340 show that less weight should be given to recent economic
341 history."²⁰

342 Given the current decline in expected economic growth, potential for further economic
343 decline and falling interest rates, Dr. Hadaway's analysis and conclusion are incorrect.
344 This Commission's Order on the test year issued on February 14, 2008, explicitly
345 recognized "...greater uncertainty of economic conditions..." as a factor in determining
346 the appropriate test period so as to "ensure just and reasonable rates."²¹ I recommend that
347 this Commission decline Dr. Hadaway's recommendation to rely on outdated forecasts or
348 to grant a 10.75% cost of equity in this case.

349 **SECTION V: COST OF CAPITAL**

350 **I. Cost of Equity Capital**

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

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

355 **Q. PLEASE DESCRIBE HOW YOU CONDUCTED YOUR DCF ANALYSIS.**

356 A. The Company does not have publicly traded common stock or other market data that is
357 required to estimate the cost of equity directly. I applied the DCF method employing
358 market data, as well as forecasted data of various financial parameters for a comparable
359 group of 15 electric utility companies. The comparable group of 15 utility companies

²⁰ Dr. Hadaway Direct Testimony at 36:479 – 783.

²¹ Commission Order on Test Year, Docket No. 07-035-93 at 4, (February 14, 2008).

360 employed in my analysis comes from the same group of companies used by Company
361 witness Dr. Hadaway in this case and is provided in my Exhibit CCS 3.2. Given that I
362 am basing my analysis on the same group of comparable companies as employed by Dr.
363 Hadaway, the equity cost calculation issue is narrowed to the methodology of estimation.

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

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

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

$$376 \quad K = D/P + G$$

377 where:

378 K = required return on equity,

379 D = dividend rate,

380 P = stock price,

381 D/P = dividend yield, and

382 G = growth in dividends.

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

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

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

396 The price and dividend data for each of the companies in the comparable group is
397 contained in my Exhibit CCS 3.3. I have utilized a six-week average of closing prices for
398 the period ending March 20, 2008. In my opinion, the six week average price reflects
399 current market conditions and the impacts of such conditions on market prices.

400 As can be seen in my Exhibit CCS 3.3 page 1, the six week average price for the 15
401 company comparable group is \$34.59. The more recent period has resulted in the general
402 level of prices to decline.

403 The dividend for each of the comparable companies was calculated by employing the six
404 week average price and the Value Line estimate of the 2008 dividend payment. The
405 resulting dividend yield range is 4.73% to 4.74% based on an average and median
406 calculation.

407 Also, on Exhibit CCS 3.3 page 2, I have updated Dr. Hadaway's constant growth DCF
408 employing three months of price data.

409 I have utilized the average of the monthly high and low prices for the period December
410 2007 through February 2008 for calculating average price. As can be seen from Exhibit
411 CCS 3.3 the December 2007 – February 2008 price data is consistent with the past 52
412 week average as well as Value Line's report of recent prices for these entities.

413 As shown in my Exhibit CCS 3.3, the average price used by witness Dr. Hadaway for the
414 15 company comparable group is \$37.85,²² while I have calculated a \$37.36 average price
415 based on more current data.

²² Direct Testimony Samuel Hadaway (SCH-5) p. 2 of 5.

416 The dividend for each of the comparable companies was calculated by employing
417 average price and the Value Line estimate of the 2008 dividend payment. The resulting
418 dividend yield range is 4.4% for the group, as shown in Exhibit CCS 3.3, page 2.

419 **II. Growth Rates**

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

423 A. Like dividend yields, there exists no single or simple method to calculate growth rates.
424 The calculation of investor growth expectations is the most difficult part of the DCF
425 analysis. To estimate investor expectations of growth, I have examined historical growth
426 and forecasted growth rates, and other financial data for each of the companies in the
427 comparable group.

428 **Q. PLEASE EXPLAIN YOUR GROWTH RATE ANALYSIS.**

429 A. I have included in my Exhibit CCS 3.4 the growth rates I have reviewed and/or relied on
430 in my analysis. The first set of growth rates examined is the historical growth rates in
431 earnings per share, dividends per share, and book value per share as reported by Value
432 Line Investment Survey. The second set of growth rates are the Value Line forecasted
433 growth rates in earnings per share, dividends per share, and book value per share for each
434 company of the comparable group. The third set of growth rates examined is the Zacks
435 forecasted growth rates in earnings. The fourth growth estimate I examined is the First
436 Call growth rate from Yahoo Finance. The First Call growth rates like Zacks and Value
437 Line are readily available to investors at no charge.

438 The comparable group average growth rates described above provide a range of estimates
439 ranging from 2.8% to 5.95%. Relying on an earnings per share forecast, the growth rate
440 range represented by the mean and median for the group can be narrowed to 4.7% to
441 5.34% in Exhibit CCS 3.4.

442 In my opinion, the growth rate range of 4.7% to 5.34% in Exhibit CCS 3.4 provides a
443 reasonable estimate of investor expectations of growth for each of the companies in the

444 group. In contrast, Dr. Hadaway's constant growth DCF analysis employed a 5.56%
445 growth rate average for the comparable group.²³

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

448 A. The results are presented in my Exhibit CCS 3.5 at page 1 and indicate a cost of equity of
449 9.82% to 10.08%. These results are comparable to witness Hadaway's constant growth
450 DCF results of 9.6% to 9.9%.²⁴ In addition, I have updated Dr. Hadaway's constant
451 growth DCF using a more recent three month period for calculating stock prices. The
452 results of this update is contained in my Exhibit CCS 3.5 at page 2 and shows a return
453 range of 9.42% to 9.74%.

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

456 A. Yes. I have recalculated each of Dr. Hadaway's DCF analyses to reflect more current
457 data and corrections to errors in his analyses, which I discussed earlier in my testimony.
458 These analyses are summarized in Exhibit CCS 3.6. Each of the DCF, CAPM and risk
459 premium analyses are updated in Exhibit CCS 3.6. Each of Dr. Hadaway's DCF analyses
460 are updated in Exhibits CCS 3.7 and CCS 3.8 CAPM and risk premium analyses are in
461 Exhibits CCS 3.9 and 3.10, respectively.

462 **Q. PLEASE DESCRIBE THE UPDATED CONSTANT GROWTH DCF ANALYSIS.**

463 A. Exhibit CCS 3.5 page 2 reflects the update to Dr. Hadaway's constant growth DCF
464 analysis. Again an update of the constant growth DCF produces an equity return range of
465 9.4% to 9.7%.

466 **Q. PLEASE DESCRIBE THE UPDATE OF DR. HADAWAY'S CONSTANT**
467 **GROWTH DCF ANALYSIS EMPLOYING LONG-TERM GDP GROWTH**
468 **PRESENTED IN EXHIBIT CCS 3.7.**

469 A. This constant growth DCF analysis employs GDP growth as the sole growth rate estimate
470 for calculating investor expectation. Dr. Hadaway's comparable analysis is shown in his
471 Exhibit RMP_ (SCH-5) at page 3 of 5.

²³ Dr. Hadaway Direct at Schedule (SCH-5).

²⁴ See Direct Testimony of Samuel Hadaway at Exhibit RMP-(Sch-5) p. 2 of 5.

472 Updating the price and dividend data using a 5.5% GDP growth rate rather than Dr.
 473 Hadaway's proposed 6.6% GDP growth rate indicates investor return requirements in the
 474 9.9% range as shown in Exhibit CCS 3.7.

475 **Q. PLEASE DESCRIBE YOUR DCF RESULTS CONTAINED IN EXHIBIT CCS 3.8.**

476 A. This analysis updates and corrects Dr. Hadaway's non-constant growth, Two-Stage DCF
 477 estimates in his Exhibit RMP (SCH-5) at page 4 of 5. I have updated the data and
 478 changed the long-term GDP growth rate to 5.5% for the reasons discussed earlier. The
 479 results of this analysis indicate investor return requirements of 9.7% to 9.8% based on the
 480 non-constant growth, Two-Stage DCF model.

481 **Q. PLEASE SUMMARIZE THE VARIOUS DCF ANALYSES YOU HAVE**
 482 **DESCRIBED.**

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

TABLE 6

SUMMARY OF COMPARABLE GROUP DCF ANALYSES

Description	Low	High
Update of Dr. Hadaway Models		
Traditional DCF Constant Growth	9.4%	9.7%
Non-Constant Growth Two Stage DCF	9.7%	9.8%
Constant Growth DCF w/GDP Growth	9.9%	9.9%
Average of Hadaway updates	9.4%	9.9%

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

487 A. Updating the data and correcting the growth rate calculation methodology to be
 488 consistent with Dr. Hadaway's previous testimony indicates an average cost of equity
 489 based on the DCF analyses in the 9.4% to 9.9% range, as shown on my Exhibit CCS 3.6.

490 My DCF analysis, based on a recent six weeks of stock prices contained in Exhibit CCS
 491 3.5 page 1, shows a DCF range of 9.8% to 10.1%. My analysis indicates an equity return
 492 at the upper end of Dr. Hadaway's updated and corrected DCF calculations. Thus, a DCF

493 estimate in the 9.85% range is a reasonable point estimate for the DCF analysis. The
494 average of Dr. Hadaway's corrected and updated results is about 9.7%. The midpoint of
495 my DCF analysis is about 9.95% (9.8% to 10.1%). Averaging my results with the
496 updated and corrected results presented by Dr. Hadaway indicates a 9.85% DCF estimate.

497 **SECTION VI: CAPITAL ASSET PRICING MODEL ("CAPM")**

498 **Q. DR. HADAWAY PRESENTED TWO CAPM ANALYSES FOR THE**
499 **COMPARABLE GROUP, DO YOU HAVE ANY COMMENTS ON HIS CAPM**
500 **ANALYSES?**

501 A. Yes. Like the risk premium method discussed below, the CAPM attempts to measure
502 investor equity cost requirements based on measurable differentials in debt and equity
503 investments. In Dr. Hadaway's first analysis he employed 30-year Treasury Bonds as the
504 risk free asset and concluded a 9.83% equity return was appropriate.²⁵ In his second
505 CAPM analysis, Dr. Hadaway employed a three-month average 90-day Treasury Bill rate
506 on the risk free asset and concluded an equity return of 10.61% was appropriate.²⁶ Both
507 analyses are included in Mr. Hadaway's Exhibit RMP ___ (SCH-7) where he presents the
508 midpoint of his CAPM analysis as 10.22%.

509 **Q. ARE DR. HADAWAY'S CAPM ESTIMATES OUT OF DATE?**

510 A. Yes. As can be seen from Dr. Hadaway's Exhibit RMP__ (SCH-7) footnote 1, the
511 interest rate data is based on the August through October 2007 period. As I discussed
512 earlier, interest rates have declined. Employing more recent three-month averages
513 changes the CAPM results to 9.0% and 9.31% as shown in my Exhibit CCS 3.9. The
514 midpoint of the CAPM is 9.17%, rather than the 10.22% claimed by Dr. Hadaway.
515 Moreover, my updated CAPM results employing all of Dr. Hadaway's assumptions,
516 supports an equity return in the 9.2% range.

517

518

²⁵ See Direct Testimony Samuel Hadaway at 33:696-701.

²⁶ *Id.* at 33:703-705.

519 **SECTION VII: RISK PREMIUM METHODOLOGY**

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

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

529 In this case, Dr. Hadaway calculated three risk premium estimates. Dr. Hadaway
530 compared authorized electric utility return on equity (“ROE”) to contemporaneous long-
531 term interest rates on utility bonds.²⁷ The difference between the authorized ROE’s and
532 utility bonds for the period 1980-2006 averaged 3.13%.²⁸ The 3.13% risk premium was
533 further adjusted to reflect the inverse relationship between risk premiums and interest
534 rates.²⁹ Dr. Hadaway concluded that as interest rates change by one percentage point, the
535 risk premium changes by about 0.4218 percentage points.³⁰ Dr. Hadaway’s resulting
536 adjusted risk premium in this case is 4.37%.³¹ Dr. Hadaway then adds the 4.37% adjusted
537 risk premium to the forecast estimate of single-A rated utility debt cost of 6.4%, to arrive
538 at 10.77% ROE estimate.³²

539 **Q. DO YOU AGREE WITH DR. HADAWAY’S RESULTS?**

540 A. No. First, as discussed above in the CAPM section, interest rates have declined. Second,
541 rather than employ a recent three-month historical interest rate, Dr.Hadaway employs a
542 projected long-term Treasury rate of 5.30% and adds an average single-A spread of 110
543 basis points to arrive at a projected single-A bond estimate of 6.40%.³³ This is not a

²⁷ Dr. Hadaway Direct at 33.

²⁸ Dr. Hadaway Direct at RMP (SCH-6) p. 1 of 2.

²⁹ *Id.* at 34.

³⁰ *Id.* at 34 and (SCH-6) p. 2 of 2.

³¹ Hadaway Direct, Exhibit RMP (SCH-6) p. 1 of 2.

³² *Id.*

³³ Exhibit RMP_(SCH-6), p. 1 of 2, footnote 2.

544 reliable estimate. The projections are out of date and interest rate projections have been
545 consistently high. Employing current market data (like the recent three-month average
546 for the CAPM analysis) is the most reasonable proxy for the future. This is especially so
547 given the Federal Reserve ongoing campaign to reduce short-term rates given economic
548 trends.

549 **Q. DID YOU CORRECT DR. HADAWAY'S RISK PREMIUM ANALYSIS?**

550 A. Yes. The most recent three-month long-term Treasury average is 4.46% and declining.
551 Adding 110 basis points single-A risk spread to the 4.46% results in a single-A projected
552 bond result in a single-A projected bond yield of 5.5%. Correcting Dr. Hadaway's
553 calculations result in a risk premium estimate of about 10.25%. This calculation is shown
554 in my Exhibit CCS 3.10.

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

556 A. In his second risk premium analysis, Dr. Hadaway employed the risk premium measured
557 for the period 1926 – 2006 as reported by Morningstar.³⁴ The resulting risk premium of
558 4.5% was added to the forecasted single-A rated utility debt estimate of 6.4% to arrive at
559 a 10.9% risk premium ROE estimate.³⁵

560 **Q. ARE THE RESULTS OF DR. HADAWAY'S SECOND RISK PREMIUM**
561 **ACCURATE?**

562 A. No, again his 6.40% estimate of a single-A utility bond is overstated. As I discuss above,
563 a more accurate single-A bond estimate based on current data is about 5.5%. Thus,
564 employing a 4.5% risk premium and a 5.5% bond rate results in an ROE estimate of 10%.

565 **Q. PLEASE DESCRIBE DR. HADAWAY'S THIRD RISK PREMIUM ANALYSIS.**

566 A. The third risk premium estimate is based on the Harris and Marston ("H&M") study that
567 measured risk premium based on an expectational approach (i.e., analysts' growth
568 forecasts using the S&P 500 as a proxy for the market portfolio³⁶). The H&M study

³⁴ Hadaway Direct at 34.

³⁵ *Id.* at 35.

³⁶ Robert S. Harris and Felicia Marston, "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management*, Summer 1992, at 63.

569 estimated risk premiums for the period 1982 – 1991 and concluded a 5.13% risk premium
570 above yields on corporate bonds.³⁷ Dr. Hadaway then combines a 5.13% risk premium
571 with a forecasted A-rated utility bond rate of 6.49% to arrive at an 11.53% risk premium
572 ROE calculation.³⁸

573 **Q. DO YOU HAVE ANY COMMENTS ON THIS THIRD RISK PREMIUM?**

574 A. Yes. Dr. Hadaway apparently ignored the results of his H&M risk premium study as it
575 never factors into his recommendation. In my opinion, a study that measures risk
576 premiums for the period 1982-1991 has little value when attempting to measure the
577 current cost of equity for the Company.

578 **Q. PLEASE SUMMARIZE THE RESULTS OF UPDATING AND CORRECTING**
579 **DR. HADAWAY'S CAPM AND RISK PREMIUM ANALYSES.**

580 A. Updating the risk premium and CAPM to reflect current market data and eliminating Dr.
581 Hadaway's unsupported single-A Bond interest rate forecast results in a range of 9.0% to
582 10.3%. The midpoint of this range is 9.65%.

583 The CAPM/risk premium range overlaps the DCF range of 9.4% to 9.9%. Moreover,
584 both the DCF analysis range and risk premium/CAPM check have the same midpoint of
585 9.65%. Thus, a 9.85% point estimate cost of equity for the Company is supported by
586 current market data.

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

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

592

593

594

³⁷ *Id.*

³⁸ Dr. Hadaway Direct at 35.

595

Table 7

DCF ANALYSES	
Update of Dr. Hadaway	Low High
DCF Traditional Growth	9.4% 9.7%
DCF GDP Growth	9.9% 9.9%
DCF Two-Stage Growth	9.7% 9.8%
DCF Range Midpoint DCF	9.4% 9.9% 9.65%
Risk Premium	10.0% 10.3%
CAPM	9.0% 9.3%
CAPM/Risk Premium Range Midpoint CAPM Risk Premium	9.0% 10.3% 9.65%

596

In my opinion, a cost of equity of 9.85% is reasonable. The DCF analyses indicates a cost of equity in the 9.4% to 9.9% range, while the risk premium approach indicates about a 9.0% - 10.3% equity return. A 9.85% equity return is the approximate average or midpoint of my DCF analysis and the updates of Dr. Hadaway's analyses as verified by the CAPM and risk premium results.

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SECTION VIII: CAPITAL STRUCTURE

602

Q. WHAT CAPITAL STRUCTURE AND COST RATES IS THE COMPANY REQUESTING IN THIS CASE?

603

604

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

605

606

607

608

609

TABLE 8³⁹**ROCKY MOUNTAIN POWER CAPITAL STRUCTURE AND COST RATES**

DESCRIPTION	RATIO	COST	WEIGHTED COST
Long-Term Debt	49.2%	6.30%	3.10%
Preferred Stock	.4%	5.41%	0.02%
Common Equity	50.4%	10.75%	5.42%
Total	100.0%	_____	8.54%

610 **Q. WHAT IS THE SIGNIFICANCE OF CAPITAL STRUCTURE?**

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

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

618 A. There exists no set debt/equity relationship for all firms or all industries in terms of
619 leveraging. However, the ideal capital structure is one that minimizes the overall cost of
620 capital to the firm, while still maintaining financial integrity so as to maintain the ability
621 to attract capital at reasonable costs to meet future needs. Because the cost of debt is
622 generally lower than the cost of equity, and also because the cost of debt represents a tax
623 deductible expense, any increase in the quantity of debt capital tends to decrease the
624 overall cost of capital relative to equity financing. One must keep in mind that increases
625 in the quantity of debt financing can cause the financial risk of the Company to increase.
626 In other words, there is a cost for the savings associated with increased debt leveraging.
627 That cost is increased financial risk to the firm.

628 In summary, it is not possible to determine with precision the exact proportion of debt
629 and equity that minimizes the overall cost of capital without imposing undue financial
630 risk upon the Company. There does exist some range of capital structure that, generally,

³⁹ Supplemental direct testimony of Bruce N. Williams at 3:46-50.

631 meets the goal of minimizing the overall cost of capital while maintaining the firm's
632 financial integrity.

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

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

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

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

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

649 A. Yes. It must also be remembered that the Company is being afforded the opportunity to
650 employ a forecasted test period and capital structure. While the Commission has
651 determined the forecast test period is calendar year 2008 and not the 12 months ending
652 June 30, 2009 – the test year is still forward looking. A forecasted test year provides the
653 Company benefits by reducing risks associated with regulatory lag. In other words,
654 future investment and cost changes that are reasonably expected to occur in the rate
655 effective period are reflected in the Company's cost of service and capital structure.

656 **Q. HOW DID THE COMPANY CALCULATE THE COST RATES FOR DEBT AND**
657 **PREFERRED STOCK?**

658 A. The Company relied on the embedded cost based on averaging the 2007 and 2008 year
659 end cost levels. The Company does include a projected or proforma debt issue of \$700
660 million for December 2008. This \$700 million pro forma debt issue is estimated to cost

661 6.52%.⁴⁰ Mr. Williams relies on forecasted Treasury rates for June 30, 2009 to arrive at
662 the projected cost of this debt issue. Mr. Williams combines a forecasted Treasury rate of
663 4.91% with a 152 basis point risk spread adder⁴¹ along with a 9 basis point issuance cost
664 estimate to arrive at his 6.52% estimate (4.91+1.52+.09). The resulting proposed long-
665 term total debt cost is 6.30%, which includes the impact of the Company's \$700 million
666 pro forma debt issue at a 6.52% cost rate.

667 **Q. WHAT CAPITAL STRUCTURE ARE YOU RECOMMENDING?**

668 A. The Company's proposed capitalization levels for debt, preferred and equity are not
669 unreasonable. While the actual levels may change slightly in the 2008 test year, I expect
670 only slight if any change to the capitalization for debt and equity. Regardless of the test
671 year used to set revenue requirement, the Company's debt and equity requirements
672 associated with capital expansion continue. Moreover, most of the Company's added
673 investment in this case will likely be permanently financed by the end of 2008. For these
674 reasons I do not expect any major changes in capital structure.

675 **Q. DO YOU HAVE ANY RECOMMENDED CHANGES REGARDING THE COST**
676 **RATES FOR THE VARIOUS CAPITAL COMPONENTS IN THE CAPITAL**
677 **STRUCTURE?**

678 A. Yes. I have already discussed equity cost and it is my recommendation that a reasonable
679 equity is 9.85%. For preferred stock I recommend the Company's requested cost level of
680 5.41 percent. For long-term debt I recommend a cost rate of 6.27% percent which is
681 slightly lower than the Company's 6.30% estimate.

682 **Q. HOW DID THE COMPANY ESTIMATE THE COST OF NEW LONG TERM**
683 **DEBT ISSUES?**

684 A. As described earlier the Company estimated the interest rate spread between twenty year
685 corporate debt on long-term Treasury issues as of November 2007 and concluded the
686 interest rate spread to be 1.52 percent.⁴² The Company also estimated issuance costs (all-
687 in cost) to be nine basis points or 0.09 percent.⁴³ Next, the forward long-term Treasury

⁴⁰ Bruce Williams Direct Testimony at 10:224-229.

⁴¹ The risk spread is the average yield difference between corporate debt and long-term Treasury rates.

⁴² Direct Testimony of Bruce Williams at 10:225-226.

⁴³ *Id.* at 10:227-228.

688 rate for June 30, 2009, (Company original proposed test year end) of 4.91 percent was
 689 acquired.⁴⁴ To arrive at the projected debt cost for the \$700 million of estimated debt to
 690 be issued, the debt spread, issuance cost and future June 30, 2009, Treasury rate were
 691 combined to arrive at a 6.52% (4.91 + 1.52 + 0.09) interest rate estimate.⁴⁵

692 **Q. DO YOU AGREE WITH THE COMPANY'S INTEREST COST ESTIMATE?**

693 A. I do not agree with the result for two basic reasons. First, the interest rate estimate
 694 assumes a June 30, 2009 ending test year. Second, the estimate relies on interest rate
 695 forecasts. Given changes in capital markets in recent months, declining short-term
 696 interest rates and projections of additional interest rate reductions, it is my opinion that
 697 current or actual interest rates should be employed rather than reliance on outdated and
 698 incorrect interest rate forecasts.

699 **Q. BASED ON CURRENT MARKET RATES WHAT INTEREST RATE LEVEL DO**
 700 **YOU RECOMMEND FOR THE PRO FORMA \$700 MILLION LONG-TERM**
 701 **DEBT SERIES IN THIS CASE?**

702 A. I would recommend use of the average of the most recent three months of the long-term
 703 Treasury rate. The following Table 8 is a summary of the 30-year Treasury rate for the
 704 December 2007 and February 2008 period.⁴⁶

Table 9

Long-Term Treasury Yields

December 2007	4.52%
January 2008	4.33%
February 2008	<u>4.52%</u>
Average	4.46%

705 Employing a 4.46% long-term Treasury rate, a 152 basis point interest rate spread and a
 706 nine basis point issuance adjustment results in a pro-forma interest rate estimate of 6.07%
 707 rather than the Company's 6.52% estimate. The net result is a reduction in annual

⁴⁴ *Id.* at 10:226.

⁴⁵ *Id.* at 10:228-229; Also see Exhibit RMP_(BNW-1) p. 5 of 6, line 22).

⁴⁶ www.federalreserve.gov/releases/h15/data.

708 interest payment obligations of \$3,150,000. The resulting long-term debt rate is 6.27%
 709 rather than the requested 6.30%. Thus, I am recommending a long-term debt cost of
 710 6.27%.

711 **Q. PLEASE SUMMARIZE YOUR OVERALL COST OF CAPITAL**
 712 **RECOMMENDATION IN THIS CASE.**

713 A. The Company's requested 10.75% return on equity is overstated in current capital
 714 markets. Updating the Company's discounted cash flow equity return analysis for
 715 current data, correcting the flawed long-term growth rate assumption and relying on
 716 current interest rates, results in a DCF range of 9.4% to 9.9% with a midpoint of about
 717 9.70%. My alternative DCF analysis results in a range of 9.82% to 10.08% with a
 718 midpoint of about 9.95%.

719 The midpoint of Dr. Hadaway's corrected and updated results is about 9.7%. The
 720 midpoint of my DCF analysis is about 9.95% (9.8% to 10.1%). Averaging my results
 721 with the updated and corrected results presented by Dr. Hadaway indicates a 9.85% DCF
 722 estimate. Applying the market updates to the Company's CAPM and relevant risk
 723 premium analyses indicate a cost of equity range of 9.0% to 10.3% and also supports a
 724 9.85% cost of equity.

725 Based on the analyses and results discussed above, I am recommending the following
 726 capital structure, cost rates, and overall cost of capital:

TABLE 10

**RECOMMENDED OVERALL COST OF CAPITAL
 AND CAPITALIZATION LEVELS**

<u>DESCRIPTION</u>	<u>RATIO</u>	<u>COST</u>	<u>WEIGHTED COST</u>
Long-term Debt	49.2%	6.27%	3.085%
Preferred Stock	0.4%	5.41%	0.02%
Common Equity	<u>50.4%</u>	<u>9.85%</u>	<u>4.964%</u>
Total	<u>100.00%</u>	—	<u>8.07%</u>

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

730 A. Yes. Based on the capital structure above, my recommended 8.07% overall cost of
731 capital provides coverage ratios of 3.49x and 2.62x for pretax and after-tax interest
732 coverage, respectively. These coverage ratios are sufficient for the Company to maintain
733 financial integrity.

734 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

735 A. Yes.