

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

2 A My name is Marci L. Norby. My business address is 2515 Warren Ave., Suite 304,  
3 Cheyenne, Wyoming, 82002. I am employed as a Senior Rate Analyst with the Office  
4 of Consumer Advocate.

5  
6 **Q Please describe your educational background, occupation, and experience.**

7 A I received a Master of Science degree in Finance from the University of Wyoming in  
8 1999. The area of emphasis in my graduate work was the value of timing options in  
9 capital budgeting using the Black-Scholes model. After graduating I was employed as  
10 a financial analyst in the banking profession, where my duties included accounting,  
11 capital budgeting, financial budgeting, bond portfolio management and administration,  
12 institutional investing, economic analysis, and financial operations. I came to the  
13 Wyoming Public Service Commission in August of 2000 and then to the Office of  
14 Consumer Advocate in May of 2003.

15  
16 **Q Have you testified before the Commission in previous proceedings?**

17 A Yes. I have testified in eleven previous proceedings. I have testified in seven general  
18 rate cases, one unbundled network element telecommunications cost case, two  
19 TSLRIC telecommunications cases, one telecommunications service quality case, and  
20 one Commission investigation.

21  
22 **Q On whose behalf do you appear today?**

23 A I appear in this case on behalf of the Office of Consumer Advocate (OCA).

24  
25 **Q As a member of the OCA do you advocate the interests of certain groups of  
26 consumers over others?**

27 A No. As a member of OCA it is my obligation to represent the interests of all Wyoming  
28 citizens and all classes of utility customers in the state.

1 **Q What is the purpose of your testimony in this proceeding?**

2 A The purpose of my testimony is to present evidence supporting the OCA determined  
3 cost of equity capital for in this case as well as observations about the return on equity  
4 capital presented by the Company. I will also present my review of the cost of debt,  
5 the cost of preferred stock, my review of the appropriate capital structure, and an  
6 overview of the economic data. In addition, I will present testimony regarding the cost  
7 of service study and rate design in this case.

8  
9 **Q Do you sponsor any exhibits in this proceeding?**

10 A Yes, I sponsor OCA Exhibits MLN-1 though MLN-10 in this proceeding. I will refer to  
11 my exhibits throughout my testimony.

12  
13 **Q How is your testimony organized?**

14 A First I will present a summary of the OCA proposed cost of equity capital, capital  
15 structure, and an overview of the economic data that supports my analyses. I will then  
16 present the results of my review and analysis of the cost of service study and rate  
17 design.

18  
19 **I Cost of Capital**

20  
21 **Q What is the result of your review of the cost of debt included in the testimony of  
22 the PacifiCorp witness Mr. Williams?**

23 A I reviewed the cost of debt calculations included in Mr. Williams' testimony and exhibits  
24 and have found that the calculation is reasonable and accurately reflects PacifiCorp's  
25 actual cost of debt in the test year. The OCA agrees that PacifiCorp's cost of debt is  
26 6.601%.

27  
28 **Q Have you reviewed the cost of preferred stock presented in Mr. Williams'  
29 testimony?**

1 A Yes. I have found that the cost of preferred stock of 5.8% proposed by Mr. Williams is  
2 also reasonable and represents accurately the cost of preferred stock of PacifiCorp  
3 within the test year. The OCA has adopted the cost of preferred stock presented in the  
4 Company's analysis.

5  
6 **Q What is the cost of equity capital that OCA is recommending in this proceeding?**

7 A The OCA is proposing an overall weighted average cost of capital of 8.1% and a cost  
8 of equity capital of 10%.

	Weight	Cost	WACC
Debt	48.66%	6.600%	3.212%
Preferred	6.39%	5.800%	0.371%
Equity	44.95%	<b>10.0%</b>	4.495%
	100.00%		<b>8.1%</b>

10  
11 **Q Please give an overview of the theory of estimating the cost of equity capital.**

12 A The cost of equity capital is the return on investment that equity holders expect to  
13 receive from a given equity investment. The return is based on the investor's  
14 perceived risk associated with the risk and the returns on similar investments.  
15 Investors want to maximize the return on investment. In order to maximize the return,  
16 they will invest or stay invested if the expected return on investment is similar to  
17 alternative investments with comparable risk. A company will be able to attract capital  
18 if the expected return on equity capital is the same or better than those competing  
19 investments with similar risk. Estimating the cost of equity capital in the future is a  
20 matter of judgment based on the estimated returns of comparable assets in the market,  
21 relative risk, and the nature of the market itself.

22  
23 There are several methods by which the cost of equity capital can be estimated. Since  
24 no one method, or model, will provide an infallible estimation, it is prudent to use  
25 several methodologies in estimating the cost of equity capital. It is appropriate to use

1 more than one method and several comparable companies in the analysis, as well as  
2 informed judgment to validate the estimation. The results of each of the methods can  
3 also be used to check the results of the other methods.  
4

5 **Q How did you conduct your analysis in this case?**

6 A I first selected a group of comparable companies for use in the analysis. I then  
7 computed an average cost of equity capital by using the constant growth Discounted  
8 Cash Flow model (DCF), non-constant growth discounted cash flow model (NDCF),  
9 and the capital assets pricing model (CAPM). Initially, I averaged my results from my 3  
10 DCF models, 3 NDCF models, and my CAPM analysis. However, I excluded 2 of  
11 these models in my final recommendation, as I will discuss later in my testimony.  
12

13 The 3 DCF models in my analysis have different growth rates. I calculated a growth  
14 rate from 2003 through 2008 and a growth rate from 2003 through 2007 using the data  
15 in the Value Line Investment Survey (Value Line). I also used the Value Line analysts'  
16 forecasted growth rates (OCA Exhibit MLN-2, 3, and 4). The 3 NDCF models I used  
17 also incorporated the three constant growth rates in the second stage calculation of the  
18 model (OCA Exhibit MLN-6). I used a risk premium analysis to provide a check of  
19 these 7 models as illustrated in OCA Exhibit MLN-9.  
20

21 **Q How did you select the comparable companies for your analysis?**

22 A In selecting the appropriate comparable companies it is important to select those  
23 companies that most closely resemble PacifiCorp in risk profile. I chose comparable  
24 companies with a Standard & Poor's (S & P) rating of A- or higher. The S & P ratings  
25 are based on factors such as credit quality, prospects for growth, and vulnerability to  
26 changes in the marketplace, economic strength, and regulatory actions. By choosing  
27 companies with a similar debt rating, the analysis includes similar companies with  
28 similar risks within the industry. I also refined my comparable list with companies  
29 whose proportion of revenue derived from retail electrical operations is 70% or

1 greater.<sup>1</sup>

2  
3 These are reasonable constraints in which to gather comparable companies for the  
4 sample. If a smaller percentage of revenue derived from domestic retail electric utility  
5 operations were used, there may be a large amount of influence by other industrial  
6 markets that could skew the cost of capital and reflect an inaccurate picture of the  
7 current electric utility market. If a greater percentage of revenues for domestic  
8 electrical retail utility revenues were used, the list of comparable companies would  
9 decrease the sample size, where the sample may be exposed to abnormalities in the  
10 data that may bias the data output. According to PacifiCorp's data response to the  
11 OCA, PacifiCorp's retail utility revenues comprise 67% of total revenues for PacifiCorp.  
12  
13

14 **Q How are your comparable companies similar in risk to PacifiCorp?**

15 **A** The comparable companies are similar in S & P credit rating to that of PacifiCorp.  
16 Recently PacifiCorp was assigned an "A-" rating on its senior bonds by S & P. The  
17 comparables are also similar in that they employ a comparable percentage of retail  
18 domestic utility operations.  
19

20 **Q How does your comparable company sample differ from that of Mr. Hadaway's**  
21 **comparable company sample?**

22 **A** Mr. Hadaway states on page 3 of his testimony that he chose his list of comparable  
23 electrical utility companies such that they have an S & P rating of single A or higher  
24 and where at least 70% of the revenues are derived from domestic electric utility  
25 operations. I chose my comparable companies based on an S& P rating of A- and  
26 above, and those companies that had 70% or more of their revenues that are derived  
27 from domestic retail electric utility operations. Therefore, the sample selection criteria

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<sup>1</sup> Electrical revenue contributions were taken from each comparable company's annual report to shareholders.

1 are very similar. I have 14 of the same comparable companies and 3 comparable  
2 companies that are different from those used by Mr. Hadaway.

3  
4 **Q Why is it important to select comparable companies with similar risk profiles  
5 when conducting a cost of capital analysis?**

6 A Selecting comparable companies with similar risk profiles to that of PacifiCorp when  
7 estimating the cost of equity capital is essential in this analysis. Since investors want  
8 to maximize the return on investment and those investors will stay invested if the  
9 expected return is similar to other investments with comparable risk, it is important to  
10 conduct the analysis using comparable companies with similar risk profiles. The use of  
11 comparable companies is an acceptable practice in the regulation of utilities. The U.S.  
12 Supreme Court stated in the *Federal Power Commission v. Hope Natural Gas  
13 Company, in which the court stated,*

14  
15 *...the return to the equity owner should be commensurate with returns*  
16 *on investments in other enterprises having corresponding risk.*

17  
18 The comparable companies used in this type of analysis will never be an exact replica  
19 of PacifiCorp, but do provide a means of prudent estimation of the cost of capital.  
20 Appropriate comparable companies provide a basis for establishing the cost of equity  
21 capital. Because of the imperfect comparability, analysis must be conducted using  
22 several estimating calculations as well as informed judgment of those calculations and  
23 the nature of the market at hand to make an appropriate estimation.

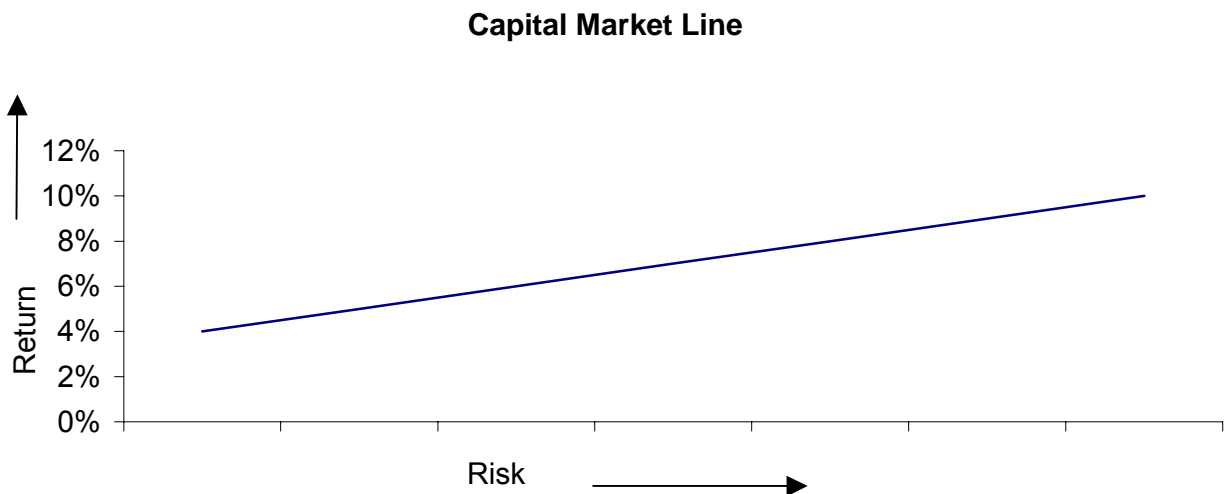
24  
25  
26 **Q Why is the measure of risk so important in this analysis?**

27 A Investors expect to earn a rate of return that is commensurate with the risk of holding  
28 the security. It is important in this proceeding to estimate and recommend a rate of  
29 return on equity that allows the company the opportunity to earn a return similar to

1 comparable companies within its industry. Choosing comparable companies with  
2 similar risk profiles to that of PacifiCorp will allow for a more accurate estimation of the  
3 cost of equity capital.

4  
5 Investors assume two types of risk when they hold equity securities: systematic and  
6 unsystematic risk. Systematic risk is a measure of how the asset covaries with the  
7 market in total. Unsystematic risk is independent of the market, and is associated with  
8 a particular investment or asset. It is unsystematic risk that can be measured by using  
9 a comparable analysis. In accumulating comparables in the analysis, the average risk  
10 return tradeoff can be measured for the group as they are subject to similar risks within  
11 their industry. The average risk return tradeoff can be inferred onto the subject  
12 company.

13  
14 The risk-return trade off is an important concept in estimating the cost of equity capital  
15 in the analysis. Generally, investors are risk averse. In order to hold securities with a  
16 higher degree of risk, the investor will demand a higher return for that security. The  
17 Capital Market Line (CML) illustrates this concept:  
18



19  
20 The CML demonstrates that as the perceived risk of an investment increases, the

1 expected rate of return for that investment also increases. This graph does not depict  
2 the exact relationship for any one investment, yet shows the general relationship  
3 between risk and return. The slope of this line reflects the aggregate attitude investors  
4 have toward risk. This concept is important to the various models by which the cost of  
5 equity capital is calculated.  
6

7 **Q What capital structure has the OCA used in this case?**

8 A The OCA has used the actual capital structure of PacifiCorp as presented in Mr.  
9 Hadaway's testimony, which is 48.66% debt, 6.39% preferred stock, and 44.95%  
10 equity as seen in OCA Exhibit MLN-1. The average capital structure of the comparable  
11 companies presented in my analysis is 57% debt, 3% preferred stock, and 40% equity.  
12 However, in omitting outliers in the comparable analysis that include capital structure  
13 well outside the mean of the sample, the average capital structure of the sample is  
14 54% debt, 3% preferred, and 42% equity, which is significantly close to PacifiCorp's  
15 actual capital structure.  
16

17 **Q Why compare PacifiCorp's actual capital structure to the comparable company  
18 average in your analysis?**

19 A The Value Line comprehensive electric utility industry average capital structure is 52%  
20 debt and 44% equity, which is extremely close to the capital structure used by  
21 PacifiCorp and OCA in this case. It is important to use a capital structure that is close  
22 to the industry capital structure because it is this market in which the company  
23 competes for capital. The capital structure of a company should be reasonable and  
24 such that ratepayers are not paying distorted costs. I elected to use the capital  
25 structure used by Mr. Hadaway, as it is not significantly different than the industry  
26 average capital structure, and more importantly, is significantly similar to the Value Line  
27 electric utility average capital structure, which is representative of the market.  
28  
29

1 **Q What resources did you use in gathering data on the comparable companies in**  
2 **your analysis?**

3 A I primarily used the Value Line Investment Survey, comparable company annual  
4 reports to shareholders for 2002, and C.A. Turner Utility Reports to gather financial  
5 data on the comparable companies. I also used information from The Federal Reserve  
6 Bank in St. Louis economic data, Mergent Bond Record, and Ibbotson Associates to  
7 gather further information.

8

9 **Q Please describe the models used in your analysis and your results.**

10 A

11 **I. Constant Growth Discounted Cash Flow Model**

12

13 I used the **constant growth Discounted Cash Flow (DCF)** model in estimating the  
14 cost of equity capital. The DCF model measures the investor's discount rate or  
15 required rate of return based on the estimated future cash flows of the investment.  
16 The cash flow associated with the investment in equity is dividend payments and  
17 changes in the equity's price. The DCF model used in this analysis is in the form  $E(r) =$   
18  $(D_1/P_0) + g$ , where:

19

20  $E(r)$  = expected return, cost of equity capital

21  $D_1$  = Dividend at the end of period one

22  $P_0$  = current stock price

23  $g$  = expected growth rate

24

25 This equation states that the expected return on equity is the expected dividend yield  
26 plus the growth rate. This approach includes the estimation of the return from an  
27 observable share price, expected future dividends, and capital appreciation.

28

29 In this model, the growth rate is constant, and important. The growth rate of equity

1 capital is not based solely on the growth of dividends; therefore, I have calculated the  
2 growth rates using a weighted average of earnings per share (3), dividends per share  
3 (1), and book value per share (2). Because this analysis is based on this weighted  
4 average, it provides a more comprehensive picture of the average growth rate of the  
5 sample by encompassing not just the projected growth of earnings per share, but also  
6 the projected growth of dividends per share and the projected growth of book value per  
7 share. Investors not only look at the dividend growth, investors are also interested in  
8 the overall financial health of a company and its prospects for growth. It is more  
9 accurate to calculate the growth rate of a company based on multiple factors than any  
10 single factor. For instance, if a company has a policy to decrease its dividend payout  
11 in the near future, a growth rate reflecting only the dividends would yield an unfair rate  
12 of return. Including the projected dividends, earnings per share, and book value per  
13 share in the growth projection gives a more accurate reflection of the overall prospect  
14 for growth.

15  
16 I used three different constant growth DCF models in my analysis. I calculated a  
17 constant growth DCF using the Value Line analysts' projected growth rates for  
18 dividends, earnings per share, and book value per share (OCA Exhibit MLN-3). I also  
19 calculated a constant growth rate model using the Value Line data for 2003 through  
20 2007 (OCA Exhibit MLN-5) as well as a constant growth rate model from 2003 through  
21 2008 (OCA Exhibit MLN-4).

22  
23 This analysis includes the 2003 average stock price of each of the comparable  
24 companies. The average stock prices for 2003 are \$0.56 per share lower than recent  
25 average recent stock prices (OCA Exhibit MLN-8). I used average stock price in 2003  
26 in my analysis.

27  
28 The estimated cost of equity capital output for all three constant growth DCF models  
29 falls within a range of 9.3% to 10.9% (OCA Exhibit MLN-3, OCA Exhibit MLN-4, and

1 OCA Exhibit MLN-5).

## 3 **II. Capital Asset Pricing Model**

4  
5 I also used the **Capital Assets Pricing Model (CAPM)** in my estimation of the cost of  
6 equity capital in this case. The CAPM approach calculates the expected return by  
7 adding the risk premium of the investment to the risk free rate of return. The CAPM  
8 equation is  $E(r) = R_f + \beta(R_m - R_f)$ , where:

9  
10  $E(r)$  is the expected return, cost of equity capital

11  $R_f$  is the risk free rate

12  $R_m$  is the required rate of return on the overall market

13  $\beta$  is the beta risk measurement.

14  
15 The CAPM model illustrates a basic concept that investors expect incremental  
16 increasing returns in exchange for assuming incremental increasing risks. In using the  
17 CAPM approach we assume that the cost of equity is equal to the risk free rate plus a  
18 risk premium that is based on the stock's beta coefficient and the market risk premium.  
19 Under the CAPM approach, a security's risk is measured by its beta coefficient. Beta  
20 is a measure of systematic risk (non-diversifiable), or the asset's covariance with the  
21 market. Beta is calculated by dividing the covariance of the security with the market  
22 divided by the variance of the market returns. The tendency of an individual stock to  
23 move with the market constitutes a non-diversifiable risk, as the market does, and will,  
24 fluctuate, which cannot be diversified away. This measure reflects investor's  
25 expectations of the future volatility of a particular security in relation to that of the  
26 market.

27  
28 The results of the CAPM analysis appear in OCA Exhibit MLN-2. The average of the

1 estimates is 9.5% (column Q). Although I have conducted a short-term analysis in my  
2 CAPM approach, I have excluded it in the Composite CAPM in column Q due to the  
3 more appropriate measure of the risk free rate being represented by the long-term  
4 Treasury Bond yield. If a short-term bond yield is used in this analysis (as well as in  
5 the risk premium approach) the short-term inflationary expectations embedded in these  
6 instruments are incorporated into the analysis. These short-term expectations do not  
7 coincide with the long-term expectations of common stock returns and are therefore,  
8 excluded. I have used the results of my CAPM analysis in supporting my final  
9 recommendation of a 10% cost of equity capital.

### 11 **III. Non-Constant Discounted Cash Flow Model**

12  
13 I conducted a third analysis using the **Non constant growth Discounted Cash Flow**  
14 **(NDCF) model**, the formula for which is stated below:

$$15 P_0 = D_1/(1+E(r)) + D_2/(1+E(r))^2 + \dots + D_n/(1+E(r))^n + ((D_n(1+g))/(E(r) - g)) * (1/(1 +$$

16  
17  $E(r))^n$ .

18  
19 This model illustrates the calculation of the cost of equity where non-constant growth is  
20 expected before year “n” and constant growth is expected thereafter. As in my  
21 constant growth DCF models, I conducted three different analyses using a calculated  
22 growth rate from 2003 through 2007, a growth rate from 2003 through 2008, and the  
23 Value Line analysts’ forecasted growth rate. I used these growth rates in that portion  
24 of the model that reflects a constant growth rate in year “n” (OCA Exhibit MLN-6).

25  
26 The non-constant portion of growth in my model is reflected in the change in dividends  
27 in each year. I used the average 2003 stock price (as discussed earlier), and the  
28 projected dividends from Value Line Investment Survey, both of which I used in the  
29 constant DCF models. The result of my 5-year, 6-year, and Value Line analyst’s

1 forecasted growth NDCF are 10.4%, 9.2%, and 8.6% respectively. The NDCF models  
2 are solved iteratively.

3  
4 **Q How does your DCF and NDCF analyses differ from that of Mr. Hadaway?**

5 **A** Mr. Hadaway uses a Sustainable Growth Method in his DCF model by using the  
6 retention ratio multiplied by the return on equity. This method requires that the analyst  
7 to estimate the return on equity before determining the growth rate. In using the  
8 method, the analyst must estimate the growth rate by multiplying the *projected return*  
9 *on equity* (projected earnings per share divided by the projected net book value per  
10 share) by the retention ratio in order to determine the *projected return on equity*. It is  
11 not reasonable to assume that the estimated return on equity used to estimate growth  
12 in this method will be sustainable indefinitely or allowed by regulation. In using this  
13 method, the analyst is assuming that the actual return expected to be earned (in  
14 perpetuity) by the company will be greater than the return recommended to be adopted  
15 by the Commission. Therefore, the analyst is recommending the Commission adopt  
16 two different costs of equity capital if the sustainable growth formula differs from the  
17 final return on equity recommended. In this case, the average return on equity for the  
18 comparable companies used in Mr. Hadaway's sustainable growth method analysis is  
19 12.59%, however, his recommendation is an 11.5% return on equity. In general, the  
20 sustainable growth method inflates the model's predictions. The retention ratio  
21 forecast in the growth rate is the least desirable of the growth rate calculations. The  
22 use of the retention ratio implies a circular estimation. Additionally, the retention growth  
23 method has proved to be one of the least accurate methods for predicting growth in  
24 actual data tests.<sup>2</sup>

25  
26 In addition, Mr. Hadaway uses the average of 3 growth rates in his DCF models, one of  
27 which is the historical 20-year growth of the Gross Domestic Product (GDP), 6%, for  
28 each of the comparable companies. Mr. Hadaway uses only the earnings per share

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<sup>2</sup> Kihm, Steven G and Rankin, William F. Jr., "An evaluation of Various Forms of the Discounted Cash Flow Model." Office of the Chief

1 from Value Line and Zack's, along with the historical 20-year GDP average in  
2 calculating the average growth for each of his comparable companies. Mr. Hadaway  
3 also uses this 6% 20-year GDP growth rate in his Low Near Term Two-Stage Growth  
4 NDCF model. He uses the 6% 20-year historical GDP growth rate as the second stage  
5 constant growth rate (into perpetuity).

6  
7 The use of the 20-year historical growth rate of the GDP in the model inflates the  
8 growth rate expected for the comparable companies. In using the historical GDP  
9 growth rate in his analysis, Mr. Hadaway is hypothesizing that his comparable  
10 companies will grow as fast as the American economy into the future as the average  
11 historical GDP he has calculated over the past 20-years. In reality, utilities have not  
12 historically grown as fast as the economy. Mr. Hadaway has shown that the GDP  
13 growth rate over the past 20-years is 6%. Over that same time period the Dow Jones  
14 Utility Index's average growth rate was 2.94%.<sup>3</sup> History has illustrated that the growth  
15 rate of utility companies in the United States is not as large as the average growth rate  
16 of the economy. Therefore, the use of the GDP growth rate in Mr. Hadaway's analyses  
17 **inflates** the expected growth rate of the comparable investments and that of  
18 PacifiCorp, which **inflates** the forecasted return on equity. It is unreasonable to use  
19 the 20-year historical average GDP growth rate in the DCF analysis. In doing so, the  
20 estimated average growth rate of each comparable company is, in part, equated with  
21 the forecasted growth rate with all other industries and companies in the market. Each  
22 industry has different growth rates and different risks associated with it. In analyzing  
23 the utility industry, we cannot compare its growth rate to companies in the American  
24 economy that are, for example, start up companies with exceptional growth rates in the  
25 early stages of life.

26  
27 The OCA is using a weighted average of earnings per share, dividends per share, and  
28 book value per share, which provides a more comprehensive and balanced depiction

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Economist, Public Service Commission of Wisconsin, October 1987.

1 of the average growth rate of the sample by encompassing not just the projected  
2 growth of earnings per share, but also the projected growth of dividends per share and  
3 the projected growth of book value per share. It is important to select comparable  
4 companies in this analysis that are included in the same industry as PacifiCorp. It is  
5 also important that these comparable companies are competing for capital in the same  
6 industry. The comparable companies, as well as PacifiCorp, are not competing with  
7 each alternative investment in the market, simply because different industries will  
8 collectively have different risk profiles. By including the 20-year historical GDP growth  
9 rate in the analysis for computing the cost of equity capital for each comparable  
10 company, the Company is asserting that the electric utility industry competes for capital  
11 with such companies as internet start-up companies. This is not correct and negates  
12 the analysis.

#### 13 14 **IV. Risk Premium Analysis**

15  
16 **Q What is the risk premium?**

17 **A** The return of the investment must offer a “risk premium” above that of a risk free rate  
18 of return to compensate investors for assuming additional risk in holding the  
19 investment. The rate of return demanded by investors to compensate for the additional  
20 risk of holding the investment (risk premium) can be added to a risk free rate of return  
21 to find the total required rate of return of the investment. In practice the risk premium  
22 must be calculated and must include compensation for all uncertainty and risk involved  
23 in the investment.

24  
25 **Q What are the results of your risk premium analysis?**

26 **A** The results of my risk premium analysis are shown on OCA Exhibit MLN-9. I have  
27 calculated a risk premium of 4.82%. I used the Value Line Composite Statistics for the  
28 Electric Utility Industry for an average return on common equity. Additionally, I used

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3 Marketvector.com.

1 the 20-year Constant Maturity Treasury Bond yield in calculating a five-year average  
2 risk premium. I added this risk premium to a recent 30 year Treasury bond yield used  
3 in my CAPM analysis (5.13%) to calculate an indicated equity return of 9.95%.

4  
5 I used a 30-year Treasury bond to indicate the risk free rate because it incorporates  
6 the long-term inflationary expectations without the need to adjust for default risk  
7 differentials as would be necessary when a corporate bond is used. The long-term  
8 Treasury bond yield is a more appropriate measure of a risk free rate than a short-term  
9 bond. The return on equity is based on long-term expectations, even if the investor  
10 does not hold the investment long-term. Therefore, it is more appropriate to use a  
11 long-term bond in developing the risk premium. The long-term government bond does  
12 possess interest rate risk. However, this risk will only affect investors if the bond is  
13 sold before maturity. The use of a short-term treasury bill may give an inaccurate  
14 depiction of the risk premium as it includes a premium for short-term inflationary  
15 expectations rather than the long-term expectations of the long-term Treasury bond.  
16 Moreover, short-term treasury bills are volatile in that they are influenced by short-term  
17 monetary policies such as a change in the Federal Funds rate.

18  
19 **Q How did you use the risk premium analysis in this case?**

20 **A** The risk premium analysis result is used as a check of the range of reasonableness  
21 calculated from the other models in my analysis.

22  
23 **Q How does your risk premium analysis differ from that of Mr. Hadaway's?**

24 **A** I used the long-term Treasury bond rate and the composite statistics of the electric  
25 utility industry over a period of 5 years in my calculation. Mr. Hadaway used the  
26 average public utility bond yield and the **authorized** electric returns compiled from  
27 "Regulatory Focus, Regulatory Research Associates, Inc." over a period of 22 years.

28  
29 **Q Do you agree with the method Mr. Hadaway used in his risk premium approach?**

1 A No. I disagree with the use of the **authorized** electric returns used in Mr. Hadaway's  
2 analysis. Although these returns are authorized, there is no guarantee that these  
3 returns will be, or were, actually realized. It is possible that the authorized returns used  
4 in Mr. Hadaway's analysis include authorized returns based on settlement agreements.  
5 There is no way to reasonably distinguish what is included in any of the analyses,  
6 decisions, or agreements reached in any of the cases in other jurisdictions. It is  
7 possible that the return on equity authorized pursuant to an agreement used in any  
8 case does not reflect the original position of any party of the case. Therefore, it is  
9 possible that any or all of the authorized returns used in his risk premium analysis are  
10 skewed. It is not prudent for the Commission to accept a risk premium analysis based  
11 on authorized returns within the industry when there is no practical way to validate that  
12 the returns authorized in this data from across the country are prudent.

13  
14 **Q How did you arrive at your final recommendation for the return on equity capital?**

15 A I compared the results of the 7 models used in the analysis. The grouping of all 7  
16 model results illustrates a minimum ROE of 8.6% and a maximum of 10.9%. These  
17 results are representative of the consistent method the OCA uses in estimating the  
18 cost of equity capital. However, my final recommendation excludes the DCF and the  
19 NDCF model results, where the Value Line analyst forecasted growth rates are used  
20 (OCA Exhibit MLN-7, lines 24 and 27). I excluded these two model results as the  
21 Value Line analyst forecasted growth rates, which were calculated from the years 2000  
22 through 2002 to the years 2003 through 2008, skewed the growth rates. The historical  
23 years in the calculation produced results that incorporated a period of decrease in  
24 earnings per share, which is the largest weighted aspect of the growth calculation,  
25 through a trough in the earnings per share and through a period of increasing earnings  
26 per share. In many of the comparable companies, this recent rise in the earnings per  
27 share has not reached the levels of the earlier years in the Value Line analyst  
28 calculation. It is important to omit this skewed calculation as this analysis uses the  
29 forecasted growth to calculate an expected ROE going forward.

1 The remaining model results yield a standard deviation of 0.7% (OCA Exhibit MLN-7).  
2 In calculating my final recommendation, I calculated the average of the remaining 5  
3 models, which is 9.9%. I rounded this number up to 10% for my final recommendation  
4 for a reasonable return on equity capital for PacifiCorp going forward. I also used my  
5 risk premium result of 9.95% to further support my recommendation.  
6

7 **Q Are there any other factors that affected your conclusions?**

8 A Yes, in OCA Exhibit MLN-10, the trend of the cost of “A” rated utility debt has  
9 continued to decrease since its recent high in May of 2000. The spread between the  
10 “A” rated utility debt and the 30-year Treasury bond has decreased overall since April  
11 of 2000. Although the spread had a short period trend of increase late in 2001, the  
12 spread continues through a period of lower lows. As the trend in the rates decrease  
13 and the spread diminishes, the corporate borrowing costs lessen. Therefore, corporate  
14 borrowing costs are decreasing and the corporate cost of capital should follow suit.  
15

16 **Q Are there any other comments you would like to make in regard to the return on  
17 equity issue in this case?**

18 A Yes. Mr. Hadaway and Mr. Furman have stated in testimony that because PacifiCorp  
19 does not have a pass on mechanism in place and is unable to recover costs  
20 associated with the extraordinary event it included in Docket No. 20000-ER-02-184, the  
21 Company’s risk has increased. However, neither witness has quantified this alleged  
22 increased risk or prepared any analysis of the industry or the comparable companies to  
23 illustrate the increased risk level. I recommend that the Commission give these  
24 arguments no weight, as the statements made in the witness’ testimony is not verified  
25 in any way. There is no way in which to increase the risk profile of PacifiCorp without  
26 proper evidence that the Company has quantifiably experienced more risk than the  
27 comparable companies or the industry.  
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29 **II Cost of Service**

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**Q Has the cost of service study been conducted in the same manner as Docket No. 20000-ER-02-184 and the stipulation?**

A Yes. The OCA agrees that the cost of service study presented in this case is based on the stipulation and agreement between parties in Docket No. 20000-ER-02-184. As stated in that agreement, the cost of service study methodology utilizes the non-coincident peak allocation methodology in order to allocate the primary distribution investments of the large industrial class then allocates the remaining costs to all remaining customers utilizing the coincident peak. The study also excludes the partial requirement Schedules 33 and 218 pursuant to the agreement.

The cost of service study presented by the Company is based on the test year result of operations and includes the Company’s requested authorized return on rate base (for the calculation of the revenue requirement per class) and the Company’s proposed revenue requirement.

**Q Is the OCA proposing any changes to the cost of service study presented by the Company in this case?**

A No. The OCA accepts the overall cost of service study methodology used by PacifiCorp in this case. However, the OCA is advocating a different authorized rate of return, rate base, expense levels, and revenue requirement than the Company in this case, which are inputs in the computation of the cost of service model.

**III Rate Design**

**Q Have you reviewed PacifiCorp’s proposed rate design and rate parity plan in this case?**

A Yes. The rates presented by the Company are properly moving to the cost of service in each class. The proposed rates in this case will move each class of customers to

1 within 1% of the cost to serve each class.

2  
3 The Company continues to move to rate parity in this case, eliminating differences  
4 between the rates for comparable services in eastern and western Wyoming as  
5 ordered by the Commission in Docket 20000-ER-00-162.<sup>4</sup> The plan outlined by Mr.  
6 Griffith (WGR-5) illustrates that rate parity will be achieved by December 31, 2005 and  
7 the cumulative effect on revenues that the rate parity plan will have on each class of  
8 customers. The cumulative effect (End of year 2005) on revenues for the total rate  
9 parity plan after implementation of rates in this case is an increase of 0.46% in the east  
10 and a decrease of 3.03% in the west. The impact on revenues in year one (December  
11 31, 2004) and year two (December 31, 2005) of the rate parity plan are revenue  
12 neutral changes.

13  
14 **Q What is the magnitude of the Company's proposed revenue changes in this case**  
15 **due to the Company proposed increase in rates?**

16 **A** Mr. Griffith's exhibit WRG-3 includes a summary of the Company's proposed revenue  
17 changes. I have included the magnitude of the Company's proposed revenue changes  
18 per class in the following table for convenience.

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**PacifiCorp**

<sup>4</sup> Docket No. 20000-00-ER-162

<b>Rate Class</b>	<b>Schedule</b>	<b>Proposed Revenue Increase Sub 198</b>
Residential East	2/18	9.21%
Residential Optional East	3/18	11.10%
Residential West	201	5.65%
Residential Optional West	205	7.25%
Outdoor Lighting East	15	16.02%
Large General Service kW<1,000 East	25	15.21%
Partial Requirements Service East	33	12.89%
Agriculture Pumping Service East	40	19.28%
Large General Service kW >1,000 East	46	12.90%
Large Gen. Service - Transmission East	48	12.90%
Recreational Field Lighting East	54	16.01%
General Service	206	21.87%
General Service High Voltage West	209	16.23%
Agriculture Pumping Service West	210	-15.91%
Large Power Service West	217	15.65%
Partial Requirements Service West	218	15.62%
Street Lighting East	51	16.00%
Street Lighting East	53	16.04%
Street Lighting East	57	16.00%
Street Lighting East	58	16.00%
Street Lighting West	207	29.00%
Street Lighting Company West	211	28.99%
Metered Outdoor Night Lighting West	212	27.03%
<b>Total Company Revenue Change</b>		<b>13.11%</b>

- 1
- 2 **Q What are the changes in rate schedules that PacifiCorp is requesting in this**
- 3 **case?**
- 4 **A** The Company is proposing to eliminate Schedule 45 (Large General Service) and 208
- 5 (Large General Service Optional) in this case. PacifiCorp is requesting authority to

1 combine Schedule 45 and 25 (General Service) into a modified Schedule 25, move  
2 most of the customers on Schedule 208 to Schedule 206, and move the one customer  
3 on Schedule 208 to Schedule 217. Most customers will realize lower bills under these  
4 changes, given current usage patterns.

5  
6 Under the modified Schedule 25, the basic charge is changed to reflect single phase  
7 and three phase users. The energy charges have been changed from the 1<sup>st</sup> 40,000  
8 kWh and All Additional kWh blocks to 1<sup>st</sup> 1,000 kWh, Next 8,000kWh, and All additional  
9 kWh. The kWh charges are slightly larger than current levels, however, most of the  
10 kW charges are eliminated and the basic charges are decreasing for this class.

11  
12 The Company has presented Schedule 25 and Schedule 206 separately in this  
13 proceeding. However, the east and west rates are equal in the Company's proposal.  
14 The OCA does not oppose combining these schedules under a single schedule in this  
15 proceeding.

16  
17 In the 2002 rate case, the rate parity plan proposed by the Company began to move  
18 Schedule 217 customers, < 46 kV, (Large General Service - West) to Schedule 46  
19 (Large General Service - East)). In this case, PacifiCorp has moved Schedule 217 (<  
20 46 kV) to the basic pricing structure in Schedule 46 to further integrate these two  
21 schedules.

22  
23 I also reviewed the Schedule 33 (Partial Requirement Service). In the stipulation in  
24 Docket No. 20000-ER-02-184, the parties stipulated that this rate class would reflect  
25 the following rate design.

<b>Component</b>	<b>Basis for Proposed Rate</b>
<b>Basic Charge</b>	
Primary	Schedule 46 Primary Basic Charge

Transmission	Schedule 48 Basic Charge
<b>Supplementary Demand</b>	
Primary	Schedule 46 Demand Charge
Transmission	Schedule 48 Demand Charge
<b>Back-up Facilities Charge</b>	
Primary	Rate Designed to achieve target after revising energy Charge (46)
Transmission	Schedule 218 Transmission Back-up Facilities Charge
<b>Back-up Demand Charge</b>	
Primary	Rate Designed to achieve target after revising energy Charge (46)
Transmission	Two cents less than Prim. Backup demand charge
<b>Excess Demand</b>	
Primary	Two times Supplemental Demand
Transmission	Two times Supplemental Demand
<b>Energy Charge</b>	
Primary	Schedule 46 Primary Energy Charge
Transmission	Schedule 48 Energy Charge

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**Q Will the adjustments to the revenue requirement proposed by the OCA have an impact on the rate design in this case?**

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**A** Yes. The adjustments the OCA is proposing in rate base, revenues, and expense levels will have an impact on the cost of service from which the rates are derived. The OCA recommends that the Company be required to recalculate the cost of service and submit the resulting rates in a compliance filing to account for the adjustments to its proposed rates base, revenue requirement, and expense levels adopted by the Commission in its decision. The OCA recommends that the Company be required to file a compliance filing consisting of the cost of service study and model (in disk form), as well as the appropriate tariffs before the Commission determined effective date.

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**Q In regard to changing rates in year one (December 31, 2004) and two (December 31, 2005) of the rate parity plan presented in this case, will PacifiCorp be required to file a compliance filing illustrating the rate changes absent any**

19

20

1 **general rate case in those years?**

2 A Yes. Pursuant to the Stipulation and Agreement in Docket 20000-ER-02-184, requests  
3 for revenue neutral changes in rates related to the rate parity plan will be filed with the  
4 Commission and is subject to review.

5  
6 **Q Are you proposing any deviations from the Company's general rate design in  
7 this case?**

8 A No. However, the OCA is requesting that the Commission require PacifiCorp to work  
9 with the customers taking service under Schedule 40 and 210, which is the irrigation  
10 customers in the east and the west respectively. We are making this recommendation  
11 due to the fact that there are significant deviations in kW demand used by customers in  
12 this class. The class varies from very small kW demand customers to large kW  
13 demand customers as depicted in the following tables.

14

<b>Schedule 40</b>				
<b>(East)</b>	<b>Average</b>		<b>Usage</b>	<b>Percent</b>
<b>KW</b>	<b>Customer #</b>	<b>Revenues (\$)</b>	<b>kWh</b>	<b>Load Factor</b>
0 through 5	83	\$ 32,450	310,601	24%
Over 5 through 7	22	\$ 13,143	168,244	21%
Over 7 through 9	31	\$ 22,419	299,294	18%
Over 9 through 10	9	\$ 7,203	110,996	24%
Over 10 through 50	169	\$ 380,143	7,980,357	43%
Over 50 through 100	29	\$ 177,114	3,976,554	43%
Over 100 through 150	4	\$ 54,010	1,308,870	60%
Over 150 through 200	1	\$ 8,490	186,000	35%
Over 200 through 250	2	\$ 30,314	721,499	52%
Over 250	1	\$ 19,587	477,680	59%
TOTAL	351	\$ 744,873	15,540,095	42%

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<b>Schedule 210 (West)</b>				
<b>kW</b>	<b>Average</b>		<b>Usage</b>	<b>Percent</b>
	<b>Customer #</b>	<b>Revenues (\$)</b>	<b>kWh</b>	<b>Load Factor</b>
0 through 5	1	\$ 1,326	2,801	18%

Over 5 through 7	0	\$	-	-	0%
Over 7 through 9	0	\$	-	-	0%
Over 9 through 10	0	\$	-	-	0%
Over 10 through 50	5	\$	39,505	411,075	44%
Over 50 through 100	3	\$	45,196	503,378	43%
Over 100 through 150	1	\$	28,675	317,620	41%
Over 150 through 200	1	\$	15,756	169,120	38%
Over 200 through 250	0	\$	-	-	0%
Over 250	0	\$	-	-	0%
TOTAL	11	\$	130,458	1,403,994	42%

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2 The OCA has analyzed this class of customers (Schedules 40-east irrigators and 210-  
3 west irrigators) in order to determine whether this class could be broken into small  
4 irrigators and large irrigators. Through discovery the OCA obtained the information in  
5 the table above from the Company, which itemizes the average number of customers,  
6 revenues collected, usage of customers, and percent load factor from customers in this  
7 class. Using this information the OCA was unable to determine an alternative rate  
8 design in this case. However, we are recommending that the Company and the  
9 ratepayers in this class work together in order to determine alternative information  
10 needed or methods of rate design for these customers.

11  
12 We are not recommending the cost of service be altered in any way. Rather, we are  
13 recommending that the Company and the ratepayers in this class work together and  
14 use the cost of service study to determine if the rates for the small and large irrigators  
15 can be separated in a palatable manner that covers the collective class cost of service.

16  
17 **Q Has the Company proposed any changes to its tariff language in this case?**

18 **A** No. In reviewing the tariff pages submitted by the Company, it has not proposed  
19 changes to the tariff language except where certain classes are merged. For example,  
20 the basic charges in Schedule 217 includes a proposed break out of load size in rates  
21 instead of a one size fits all basic charge. The Company has added language  
22 illustrating how load size is determined for the Basic Charge. The OCA does not  
23 dispute this additional language.

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**Q Please provide a summary of your recommendations in this case.**

A The OCA is recommending that the Commission authorize a return on equity of 10% and a return on rate base of 8.1%. The analyses presented by the OCA illustrate an acceptable limit to the appropriate authorized return on equity and rate base. The OCA asserts that the results presented in its analyses of the cost of capital are reasonable and reflect accurate growth rates within the electric utility industry.

The OCA recommends that the Company be required to recalculate the cost of service and submit the resulting rates in a compliance filing to account for the adjustments to its proposed rates base, revenue requirement, and expense levels adopted by the Commission in its decision. The OCA recommends that the Company be required to file a compliance filing consisting of the cost of service study and model (in disk form), as well as the appropriate tariffs before the Commission determined effective date. Further, the OCA recommends that the Company work with the customers that take service under Schedule 40 and 210 to determine an alternative rate design for the small and large irrigators that is agreeable and covers the collective class cost of service.

**Q DOES THIS CONCLUDE YOUR TESTIMONY?**

A Yes it does.