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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

SUPPLEMENTAL DIRECT TESTIMONY

OF

MATT BARNES

BPS TELEPHONE COMPANY

CASE NO. TC-2002-1076

Jefferson City, Missouri
October 2004

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Staff of the Missouri Public Service Commission,	)	
	)	
Complainant	)	
	)	
v.	)	Case No. TC-2002-1076
	)	
BPS Telephone Company,	)	
	)	
Respondent.	)	

AFFIDAVIT OF MATTHEW BARNES

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

Matthew Barnes, being of lawful age, on his oath states: that he has participated in the preparation of the following Supplemental Direct Testimony in question and answer form, consisting of 18 pages to be presented in the above case; that the answers in the following Supplemental Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.


_____ Matthew Barnes

Subscribed and sworn to before me this 14th day of October 2004.





TONI M. CHARLTON
NOTARY PUBLIC STATE OF MISSOURI
COUNTY OF COLE
My Commission Expires December 28, 2004

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1 **SUPPLEMENTAL DIRECT TESTIMONY**
2 **OF**
3 **MATT BARNES**
4 **BPS TELEPHONE COMPANY**
5 **CASE NO. TC-2002-1076**
6

7 Q. Please state your name.

8 A. My name is Matt Barnes.

9 Q. Are you the original witness in this case?

10 A. No, I am not. David Murray was the original witness in this case, but due to
11 the length of time and the demands that have been put on Staff witness Murray, I have been
12 assigned to write testimony in this proceeding.

13 Q. Please state your business address.

14 A. My business address is P.O. Box 360, Jefferson City, Missouri, 65102.

15 Q. What is your present occupation?

16 A. I am employed as a Utility Regulatory Auditor II for the Missouri Public
17 Service Commission (Commission). I accepted this position in June 2003.

18 Q. Were you employed before you joined the Commission's Staff (Staff)?

19 A. Yes, I was employed by the Missouri Department of Natural Resources as an
20 Account Clerk II in the Human Resources Program. Prior to that I was employed by the
21 Missouri Department of Conservation as an Auditor Aide. Prior to that job I was in the
22 United States Navy as a Personnelman Third Class.

23 Q. What is your educational background?

1 A. In December 2002, I earned a Bachelor of Science degree in Business
2 Administration with an emphasis in Accounting from Columbia College. I am currently
3 attending William Woods University pursuing a Master's degree in Business Administration
4 with an emphasis in Accounting and will graduate in May 2005.

5 Q. What is the purpose of your testimony in this case?

6 A. My testimony is presented to provide support for my recommendation to the
7 Commission as to a fair and reasonable rate of return for the Missouri jurisdictional small
8 telephone company rate base of BPS Telephone Company (BPS).

9 Q. Have you prepared any schedules in connection with your analysis of the cost
10 of capital for BPS?

11 A. Yes. I am sponsoring a study entitled "An Analysis of the Cost of Capital for
12 BPS Telephone Company, Case No. TC-2002-1076" consisting of 19 schedules, which are
13 attached to this supplemental direct testimony.

14 Q. What do you conclude is the cost of capital for BPS?

15 A. My analysis leads me to conclude that the current cost of capital for BPS is
16 8.43 percent.

17 **Determination of the Cost of Capital**

18 Q. Please describe the approach for determining a utility company's cost of
19 capital.

20 A. The total dollars of capital for the utility company are determined as of a
21 specific point in time. This total dollar amount is then apportioned into each specific capital
22 component, i.e., common equity, long-term debt, preferred stock and short-term debt. A
23 weighted cost for each capital component is determined by multiplying each capital

1 component ratio by the appropriate embedded cost or by the estimated cost of common
2 equity component. The individual weighted costs are summed to arrive at a total weighted
3 cost of capital. This total weighted cost of capital is synonymous with the fair rate of return
4 for the utility company.

5 Q. Why is a total weighted cost of capital synonymous with a fair rate of return?

6 A. From a financial viewpoint, a company employs different forms of capital to
7 support or fund the assets of the company. Each different form of capital has a cost and these
8 costs are weighted proportionately to fund each dollar invested in the assets.

9 Assuming that the various forms of capital are within a reasonable balance and are
10 costed correctly, the resulting total weighted cost of capital, when applied to rate base, will
11 provide the funds necessary to service the various forms of capital. Thus, the total weighted
12 cost of capital corresponds to a fair rate of return for the utility company.

13 **Capital Structure and Embedded Costs**

14 Q. What capital structure have you employed in developing a weighted cost of
15 capital for BPS?

16 A. I have employed the capital structure that existed as of June 30, 2004 for BPS.
17 Schedule 19 presents BPS' capital structure and associated capital ratios. The resulting
18 capital structure consists of 90.52 percent common equity and 9.48 percent long-term debt.

19 Q. What was the embedded cost of long-term debt for BPS at July 1, 2004?

20 A. The embedded cost of long-term debt for BPS at July 1, 2004 was
21 5.25 percent as indicated in BPS' response to Data Request (DR) No. 0030.

Cost of Equity

Q. How did you analyze those factors by which the cost of equity for BPS may be determined?

A. Because BPS does not have stock that is publicly traded, I performed an analysis of the cost of equity of a comparable group of four publicly traded telephone companies. I have used a weighted average of the discounted cash flow (DCF) model, the risk premium model and the capital asset pricing model (CAPM). I weighted these estimates as follows: DCF-75 percent, CAPM-15 percent, and Risk Premium-10 percent.

The DCF Model

Q. Please describe the DCF model.

A. The DCF model is a market-oriented approach for deriving the cost of equity. The return on equity calculated from the DCF model is what a utility should be inherently capable of attracting in the capital market. This results from the theory that security prices are adjusted continually over time, so that an equilibrium price exists. As a result, the stock is neither undervalued nor overvalued. It can also be stated that stock prices continually fluctuate to reflect the required and expected return for the investor.

The constant growth form of the DCF model was used in this analysis. This model relies upon the fact that a company's common stock price is dependent upon the expected cash dividends and cash flows received through capital gains or losses that result from stock price changes. The interest rate which discounts the sum of the future expected cash flows to the current market price of the common stock is the calculated cost of equity. This can be expressed algebraically as:

$$\text{Present Price} = \frac{\text{Expected Dividends}}{\text{Discounted by } k} + \frac{\text{Expected Price in 1 year}}{\text{Discounted by } k} \quad (1)$$

Since the expected price of a stock in one year is equal to the present price multiplied by one plus the growth rate, equation (1) can be restated as:

$$\text{Present Price} = \frac{\text{Expected Dividends}}{(1 + k)} + \frac{\text{Present Price}(1+g)}{(1 + k)} \quad (2)$$

where g equals the growth rate and k equals the cost of equity. Letting the present price equal P_0 and expected dividends equal D_1 , the equation appears as:

$$P_0 = \frac{D_1}{(1 + k)} + \frac{P_0(1+g)}{(1 + k)} \quad (3)$$

The cost of equity equation may also be algebraically represented as:

$$k = \frac{D_1}{P_0} + g \quad (4)$$

Thus, the cost of common stock equity, (k), is equal to the expected dividend yield (D_1/P_0) plus the expected growth in dividends (g) continuously summed into the future. The growth in dividends and implied growth in earnings will be reflected in the current price. Therefore, this model also recognizes the potential of capital gains or losses associated with owning a share of common stock.

The discounted cash flow method is a continuous stock valuation model. The DCF theory is based on the following assumptions:

1. Market equilibrium;
2. Perpetual life of the company;
3. Constant payout ratio;
4. Payout ratio of less than 100% earnings;

- 1 5. Constant price/earnings ratio;
- 2 6. Constant growth in cash dividends;
- 3 7. Stability in interest rates over time;
- 4 8. Stability in required rates of return over time; and
- 5 9. Stability in earned returns over time.

6 It is further assumed that an investor's growth horizon is unlimited and that earnings,
7 book values and market prices grow hand-in-hand. Although the entire list of the above
8 assumptions is rarely met, the DCF model is a reasonable working model describing an
9 actual investor's expectations and resulting behaviors.

10 Q. Can you directly analyze the cost of equity for BPS?

11 A. No. In order to arrive at a company-specific DCF result, the company must
12 have common stock that is market-traded and it must pay dividends. BPS does not have
13 publicly traded stock. Therefore, as indicated earlier in my testimony, I determined an initial
14 cost of equity based on a comparable group of four publicly-traded telephone companies
15 (comparables). Please see Schedule 1 for the criteria used to select the four comparables.

16 Q. In column 4 of Schedule 1 you changed the criterion from 11 Years of DPS &
17 EPS Information to 10-Year Dividend Growth Greater Than or Equal to Zero. Why did you
18 make this change?

19 A. I changed the criterion from 11 Years of DPS & EPS Information to 10-Year
20 Dividend Growth Greater Than or Equal to Zero because this criterion not only ensures that
21 the companies selected have 10 years of financial data available, but it also ensures that the
22 companies selected have not cut their dividend. Although it is not required to have

1 companies that have not cut their dividend to employ the DCF, using companies that have
2 not allows dividend growth to be used.

3 Q. Instead of calculating BPS Telephone Company's historical five-year and ten-
4 year Dividend Per Share (DPS), Earnings Per Share (EPS) and Book Value Per Share
5 (BVPS) growth rates you, as did Staff witness Murray, relied on Value Line's historical five-
6 year and ten-year historical growth rates. Why did you make this change?

7 A. Because investors rely on Value Line to make investment decisions, it
8 appeared to be logical to use these historical growth rates in analyzing what investors'
9 expectations may be for the growth in a company's stock price. The rate-of-return witness's
10 objective is to estimate investors' required rate of return. Therefore, because investors rely
11 on this information to make their investment decisions, this is consistent with the role of a
12 rate-of-return witness. Additionally, because Value Line averages three years of financial
13 data for both the beginning and ending values in its calculation of both historical and
14 projected compound growth rates, this minimizes the impact that a "good" or "bad" year may
15 have on the calculated growth rates.

16 Q. Please explain how you determined the growth term of the DCF model for the
17 comparables.

18 A. I calculated the comparables' historical growth rates of actual dividends per
19 share (DPS), earnings per share (EPS) and book values per share (BVPS), as well as the
20 sustainable growth rate. I also reviewed the projected growth rates for the comparables.
21 Schedules 4-1 through 4-4 list the annual compound growth rates calculated for DPS, EPS
22 and BVPS for ten and five years. Schedule 7 presents the average of the ten- and five-year
23 historical DPS, EPS and BVPS growth rates. The sustainable growth rates and the projected

1 growth rates for the comparables. The average of the historical growth rates is 6.42 percent.
2 The average of the sustainable growth rates is 6.15 percent (see Schedule 6).

3 Q. What outside sources did you rely upon in your analysis?

4 A. The projected growth rates were obtained from three outside sources. I/B/E/S
5 Inc.'s Institutional Brokers Estimate System, September 16, 2004, projects a five-year
6 average growth forecast of 5.23 percent for the comparables. Standard & Poor's (S&P)
7 Corporation's Earnings Guide, September 2004, projects a five-year EPS average growth rate
8 of 5.25 percent for the comparables. Value Line Investment Survey: Ratings and Reports,
9 July 2, 2004, projects the average compound annual rate of growth for EPS during the next
10 three to five years will be 2.88 percent for the comparables. An average of the historical
11 growth rates, column (1) of Schedule 7, and the average projected growth rates, column (6)
12 of Schedule 7, produces a reasonable growth rate of 5.65 percent. This rate of growth (g) is
13 the rate that I used in the DCF model to calculate a cost of common equity for the
14 comparables.

15 Q. Please explain how you determined the yield term of the DCF model for the
16 comparables.

17 A. The expected yield term (D_1/P_0) of the DCF model is calculated by dividing
18 the amount of common dividends per share expected to be paid over the next 12 months (D_1)
19 by the current market price per share of the firm's common stock (P_0). Even though the
20 model requires the use of a current spot market price, I have chosen to use a monthly
21 high / low average market price of the comparables' common stock for the period from
22 May 1, 2004 through August 31, 2004. This averaging technique is an attempt to minimize
23 the effects on the dividend yield that can occur due to daily volatility in the stock market.

Schedule 8 presents the monthly high / low average stock market prices from May 1, 2004 through August 31, 2004, for the comparables.

I referred to the Value Line Investment Survey: Ratings & Reports, July 2, 2004, to estimate the comparables' common dividend declared per share for the next 12 months by averaging the projected dividend for 2004 and 2005. Column 1 of Schedule 9 illustrates these results, which is dividing the expected dividend in column (1) of Schedule 9 by the average high / low stock price in column (2) results in the projected dividend yield in column (3). I calculated the average dividend yield of the comparables to arrive at my projected dividend yield of 3.55 percent.

Q. Please summarize the results of your expected dividend yield and growth rate analysis for the DCF cost of common equity for the comparables.

A. The summarized DCF cost of common equity estimate for the comparables is presented as follows:

$$\begin{array}{rccccccc} \text{Yield (D}_1\text{/P}_0\text{)} & & + & \text{Growth Rate (g)} & = & \text{Cost of Equity (k)} \\ 3.55\% & & + & 5.65\% & = & 9.20\% \end{array}$$

This DCF derived cost of common equity estimate was used in the weighted cost of equity calculation in Schedule 13 to estimate the comparables' cost of common equity.

The Risk Premium Model

Q. What is the Risk Premium model?

A. The risk premium concept implies that the required return on equity is found by adding an explicit premium for risk to a current interest rate. Schedules 10-1 through 10-4 show the average risk premium above the yield of the Thirty-Year U.S. Treasury Bond (30-year Treasury) for each of the comparables' expected return on common equity. My

1 analysis shows, on average, that the cost of common equity for the comparables is
2 19.03 percent (see Schedule 11). This cost of equity approach was not given the same weight
3 as the DCF approach because the DCF model is the primary model used by the Financial
4 Analysis Department to estimate the cost of equity in rate cases involving publicly traded
5 companies. Additionally, because the risk premium model's results deviate considerably
6 from the other two models (983 basis points higher than the DCF results, and 736 basis
7 points higher than the CAPM results), I have heightened concern as to the validity of the risk
8 premium results for this case.

9 **The Capital Asset Pricing Model**

10 Q. What is the Capital Asset Pricing Model (CAPM)?

11 A. The CAPM describes the relationship between a security's investment risk and
12 its market rate of return. This relationship identifies the rate of return which investors expect
13 a security to earn so that its market return is comparable with the market returns earned by
14 other securities that have similar risk. The general form of the CAPM is as follows:

15
$$k = R_f + \beta (R_m - R_f)$$

16 where:

17 k = the expected return on equity for a specific security;

18 R_f = the risk-free rate;

19 β = beta; and

20 $R_m - R_f$ = the market risk premium.

21 The first component of the CAPM is the risk-free rate (R_f), which reflects the level of
22 return that can be achieved without accepting any risk. In reality, there is no such risk-free
23 asset, but it is generally represented by U.S. Treasury securities. For purposes of this

1 analysis, the risk-free rate was represented by the average yield on the 30-Year Treasury of
2 4.90 percent for September 2004 as calculated from Yahoo!Finance's website
3 (www.investopedia.com/offsite.asp?URL=http://quote.yahoo.com/q?s=%5ETYX&d=1y.)

4 The second component of the CAPM is beta (β), which is an indicator of a security's
5 investment risk. It represents the relative movement and relative risk between a particular
6 security and the market as a whole (where beta for the market equals 1.00). Securities with
7 betas greater than 1.00 exhibit greater volatility than do securities with betas lower than 1.00.
8 This causes a higher beta security to be less desirable and therefore requires a higher return in
9 order to attract investor capital away from a lower beta security. Schedule 12 contains the
10 appropriate betas for the comparables.

11 The final component of the CAPM is the market risk premium ($R_m - R_f$), which
12 represents the expected return from holding the entire market portfolio less the expected
13 return from holding a risk-free investment. For purposes of this analysis, the appropriate
14 market risk premium was determined to be 6.60 percent as calculated in Ibbotson Associates,
15 Inc.'s Stocks, Bonds, Bills, and Inflation: 2004 Yearbook.

16 Schedule 12 presents the CAPM analysis with regard to the comparables. The CAPM
17 analysis produces an estimated cost of equity of 11.67 percent for the comparables. Because
18 the DCF model is the primary model used by the Financial Analysis Department to determine
19 the cost of equity in rate cases involving publicly traded utility companies, I do not believe
20 the CAPM analysis should be weighted as heavily as the DCF cost of equity analysis.

21 Q. Based on your analysis of the DCF, risk premium and CAPM cost of equity
22 results, what is your return on equity estimate for the comparables?

A. Based on my DCF, risk premium and CAPM analyses, I believe that the cost of equity should be 10.55 percent based on the following weighted average cost of common equity calculation (Schedule 13):

	<u>Weighting</u>	<u>Cost of Common Equity</u>	<u>Weighted Cost of Common Equity</u>
DCF	75.00%	9.20%	6.90%
Risk Premium	10.00%	19.03%	1.90%
CAPM	15.00%	11.67%	<u>1.75%</u>
Total			<u>10.55%</u>

Q. Do you believe that it is appropriate to apply the comparables' cost of equity to BPS?

A. Not on its own. Because I have seen a reduction in the number of comparables used in the generic telephone studies over the past several years from eleven in 1997 to four in 2002, I have some concern that this reduction may allow specific company characteristics to have a greater impact on the average cost of equity result. In order to calculate a more accurate average, it is preferable to have a larger number of comparables. Furthermore, in light of the recent trend for telecommunications companies to branch out into higher growth segments such as wireless services, the comparables used tend to have more nonregulated, high-growth operations that may cause the return on equity for these operations to be higher than the return on equity for slow-growth, regulated operations.

Q. How are you able to remedy this problem?

A. In order to remedy this problem, I excluded companies that receive less than 40% of their revenues from wireline operations. This resulted in the exclusion of ALLTEL and Telephone and Data Systems (TDS). ALLTEL and TDS both receive a significant amount of their revenue from wireless operations, further reducing the number of companies

1 used in this year's analysis. The selection of comparable companies is critical in order to
2 arrive at a "pure play" cost of common equity, which means choosing companies that are as
3 similar as possible to the regulated business of the subject company. Stock prices of the
4 technology sector in general, and the telephone sector in particular have been much lower
5 than prices earlier this decade. In addition, the comparables tend to be branching out into
6 higher growth, nonregulated aspects of the telecommunications industry. As a result, the
7 comparables' stock prices may be more depressed than the stock price of a
8 telecommunications company that tends to do more business in traditionally conservative,
9 regulated operations.

10 Q. How do you propose to address some of the concerns you noted in your
11 previous answer?

12 A. Because of the above concerns, I decided to use the 2002 Staff study, "An
13 Analysis of Generic Cost of Equity for Small Telephone Companies in Missouri" by
14 David Murray, the 2004-A Staff study, "An Analysis of Generic Cost of Equity for Small
15 Telephone Companies in Missouri" by Staff witness Murray and Staff witness Barnes, as
16 well as the 2004-B study done by myself (Schedules 1 through 13), to calculate averages of
17 all three generic telephone studies to arrive at a range of cost of equity estimates for small
18 telephone companies with various capital structures. The use of the average will help
19 alleviate the concerns about the reduction of the number of comparables. It will also help
20 alleviate the concern about the comparables becoming more heavily invested in nonregulated
21 aspects of the telecommunications industry.

22 Q. Did you estimate a specific point cost of equity for the cost of equity for small
23 telephone companies that may be subject to this analysis or did you use a range?

1 A. No, I used a range. Realizing that small telephone companies in Missouri
2 (fewer than 10,000 access lines) have varying capital structures, I believed that a financially
3 sound methodology was needed to take into account the concept that the return on equity
4 should be lower for a firm financed with 100 percent equity versus a company that is much
5 more heavily weighted in debt. From a conceptual perspective, financial theory indicates
6 that a company with debt has financial leverage and therefore, a certain level of financial
7 risk. If a company is financed with 100 percent equity, it does not have any financial
8 leverage or financial risk. Financial theory states that if financial risk exists, investors will
9 generally expect a greater return on equity for them to incur that additional risk. Conversely,
10 if a company does not have debt, it does not have financial leverage or resulting financial
11 risk. Therefore, investors will expect a lesser rate of return.

12 Q. How do you propose to make adjustments to ROE to take into consideration
13 capital structure?

14 A. I used a methodology that modifies the beta used in the CAPM equation to
15 remove the risk associated with financial leverage from the beta used in the model. This is
16 commonly referred to as unlevering the beta as explained in Dr. Roger A. Morin's book,
17 "Regulatory Finance; Utilities Cost of Capital," on pages 348-352. The equation is as
18 follows:

$$\beta_L = \beta_U [1 + (1 - T)D/E]$$

19
20 where β_L is the observed levered beta, β_U is the unlevered beta of the company with no debt
21 in the capital structure, D/E is the ratio of debt to equity, and T is the corporate income tax
22 rate. This can be algebraically solved to determine unlevered beta:

$$\beta_U = \beta_L / [1 + (1 - T)D/E]$$

1 The objective in determining the unlevered beta is to determine what the beta would be for a
2 company when financial leverage and resulting financial risk is removed. This unlevered
3 beta would then be used in the CAPM to determine the estimated cost of equity for a firm
4 that is financed without debt. If a firm does not have any debt, then there is no financial risk
5 to the shareholders because all earnings can accrue to the shareholders instead of having to
6 pay debt service to the debtholders. Therefore, a firm with debt inherently has more financial
7 risk, and will require a higher return on equity versus a lower return on equity for a firm
8 without debt. Additionally, a firm with fixed interest rate debt in its capital structure will
9 have a fixed interest expense. If revenues decrease for that company, it will have a more
10 dramatic impact on the return on equity for its shareholders because the company still has to
11 pay the fixed debt service expense to the debtholders. Alternatively, a company that does not
12 have debt will not have to pay this expense. Therefore, the return on equity for a firm with
13 debt in its financial structure will have greater volatility, causing its beta to be higher than a
14 comparable company with less debt in its capital structure. As a result, when one unlevers
15 the beta of a company with a higher degree of financial leverage, it will result in a larger
16 decrease in the beta than if the company had less financial leverage.

17 Q. Using the unlevered beta approach, what was the return on equity for a
18 company without any debt in its financial structure?

19 A. I subtracted the unlevered CAPM results (column 6) from the levered CAPM
20 results (column 5) to arrive at an average unlevered adjustment (see Schedules 14,
21 15 and 16). In Schedule 17, I subtracted each respective unlevered adjustment from the
22 corresponding levered cost of equity recommended in each of the three studies used. I then
23 averaged these unlevered return on equity results to arrive at my recommended unlevered

1 8.47 percent return on equity, which can be used for a firm that is capitalized with
2 100 percent equity.

3 Q. Did you estimate a return on equity for a company that is highly levered? If
4 so, how did you estimate this return on equity?

5 A. Yes. I reviewed the 2004-B, 2004-A and 2002 telephone studies to determine
6 the highest cost of equity for each study. Because the overall recommended returns on equity
7 for the three studies were based on a weighted average of the discounted cash flow method,
8 the risk premium method and the CAPM method, I calculated the weighted average costs of
9 equity for each company in all three studies to determine the highest cost of equity in each
10 study. As shown in Schedule 18, the average of the highest cost of equity from each study is
11 11.49 percent. This was determined to be the highest cost of equity that may be allowed for a
12 highly levered firm.

13 Q. Did you develop a range based on the unlevered cost of equity of 8.47 percent
14 and the average of the high costs of equity of 11.49 percent?

15 A. Yes. I used the 8.47 percent cost of equity as the low end of the range for the
16 recommended cost of equity for a company financed with 100 percent equity. I used the
17 11.49 percent cost of equity as the high end of the range for the recommended cost of equity
18 for a company financed with 100 percent debt. Companies with capital structures that fall in
19 between 100 percent equity and 100 percent debt would have an estimated cost of equity
20 somewhere within this range.

21 Q. The methodology used in this study appears to be different than what has been
22 used in cases involving electric, water and gas utilities. Is this technique appropriate for
23 other types of utilities?

1 A. I do not believe it is. Rate cases that involve electric, water and gas utilities
2 tend to involve larger companies that are publicly traded. The Financial Analysis
3 Department has consistently applied the DCF model in these cases because information is
4 available to compute the cost of equity for that specific company. BPS is not publicly traded,
5 so the cost of equity for this company is not directly observable through the use of the DCF
6 model. The comparable company approach is the customary approach to use when a
7 company is not publicly traded. In this case, using this approach without modification was
8 not appropriate because of capital structure issues and because of the possible differences
9 between regulated, potentially low-growth business ventures and nonregulated, potentially
10 high-growth business ventures.

11 **Rate of Return for BPS**

12 Q. Please explain how the returns developed for each capital component are used
13 in the ratemaking approach you have adopted to be applied to BPS' telephone operations.

14 A. The cost of service ratemaking method was adopted in this case. This
15 approach develops the public utility's revenue requirement. The cost of service (revenue
16 requirement) is based on the following components: operation costs, rate base and a return
17 allowed on the rate base.

18 It is my responsibility to calculate and recommend a rate of return that should be
19 authorized on the telephone utility rate base for BPS. Under the cost of service ratemaking
20 approach, a weighted cost of capital of 8.43 percent was developed for BPS' telephone
21 operations (see Schedule 19). This rate was calculated by applying an embedded cost of
22 long-term debt of 5.25 percent and a return on common equity of 8.76 percent selected from
23 the previously mentioned range, to a capital structure consisting of 9.48 percent long-term

1 debt and 90.52 percent common equity. The 8.76 percent was determined by taking the
2 difference between the high end of the range (11.49%) and the low end of the range (8.47%),
3 which is 3.02 percent, times the amount of debt in BPS' capital structure (9.48%), to arrive at
4 an adjustment of 29 basis points to the low end of the range. The addition of the 29 basis
5 points to the 8.47 percent low end results in a recommended cost of common equity of 8.76
6 percent.

7 Through my analysis, I believe that I have developed a fair and reasonable return that,
8 when applied to BPS' utility rate base, will allow BPS the opportunity to earn the revenue
9 requirement developed in this case.

10 Q. Does this conclude your prepared supplemental direct testimony?

11 A. Yes, it does.