average stock price is less susceptible to aberrant market price movements, which may not be reflective of the stock's long-term value.

A 13-week average stock price reflects a period that is still short enough to contain data that reasonably reflect current market expectations, but the period is not so short as to be susceptible to market price variations that may not reflect the stock's long-term value. In my judgment, a 13-week average stock price is a reasonable balance between the need to reflect current market expectations and the need to capture sufficient data to smooth out aberrant market movements.

Q WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?

A I used the most recently paid quarterly dividend, as reported in *Value Line*.[9] This dividend was annualized (multiplied by 4) and adjusted for next year's growth to produce the D_1 factor for use in Equation 2 above.

Q WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A There are several methods that can be used to estimate the expected growth in dividends. However, regardless of the method, for purposes of determining the market-required return on common equity, one must attempt to estimate investors' consensus about what the dividend or earnings growth rate will be, and not what an individual investor or analyst may use to make individual investment decisions.

As predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.[10] That is, assuming the market generally makes rational investment decisions, analysts' growth

[9] *The Value Line Investment Survey*, May 24, June 21, and August 2, 2013.
[10] *See, e.g.,* David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

projections are more likely to influence observable stock prices than growth rates derived only from historical data.

For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional security analysts' earnings growth estimates as a proxy for investor consensus dividend growth rate expectations. I used the average of analysts' growth rate estimates from three sources: Zacks, SNL, and Reuters. All such projections were available on August 1, 2013, and all were reported online.

Each consensus growth rate projection is based on a survey of security analysts. There is no clear evidence whether a particular analyst is most influential on general market investors. Therefore, a single analyst's projection does not as reliably predict consensus investor outlooks as does a consensus of market analysts' projections. The consensus estimate is a simple arithmetic average, or mean, of surveyed analysts' earnings growth forecasts. A simple average of the growth forecasts gives equal weight to all surveyed analysts' projections. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations.

Q WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A The growth rates I used in my DCF analysis are shown in Exhibit MPG-4. The average growth rate for my proxy group is 4.90%.

Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?

A As shown in Exhibit MPG-5, the average and median constant growth DCF returns for my proxy group are 9.04% and 8.74%, respectively.

Q DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

A Yes. The constant growth DCF analysis for my proxy group was based on a long-term sustainable growth rate of 4.90%. This growth rate is reasonable and in line with my estimate of a maximum long-term sustainable growth rate which I discuss later in this testimony. Hence, I believe the constant growth DCF analysis produces reasonable return estimates. However, to enhance the accuracy of my recommended return on equity I have developed alternative DCF models as discussed below.

Q WHAT IS YOUR ESTIMATE OF A MAXIMUM LONG-TERM SUSTAINABLE GROWTH RATE?

A A long-term sustainable growth rate for the utility stock, or any Company investment, cannot exceed the growth rate of the economy in which it sells its goods and services. Hence, a reasonable proxy for the long-term maximum sustainable growth rate for a utility investment is best proxied by the projected long-term Gross Domestic Product ("GDP"). *The Blue Chip Financial Forecasts* projects that over the next 5 and 10 years, the U.S. nominal GDP will grow in the range of 4.8% to 5.0%. As such, the average growth rate over the next 10 years is around 4.9%, which I believe is a reasonable proxy of long-term sustainable growth.

In my multi-stage growth DCF analysis, I discuss academic and investment practitioner evidence that accepts the projected long-term GDP growth outlook as a maximum sustainable growth rate projection. Hence, recognizing the long-term GDP growth rate as a maximum sustainable growth is logical, and generally consistent with academic and economic practitioner accepted practices.

Sustainable Growth DCF

Q PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE LONG-TERM GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.

A A sustainable growth rate is based on the percentage of the utility's earnings that is retained and reinvested in utility plant and equipment. These reinvested earnings increase the earnings base (rate base). Earnings grow when plant funded by reinvested earnings is put into service, and the utility is allowed to earn its authorized return on such additional rate base investment.

The internal growth methodology is tied to the percentage of earnings retained in the company and not paid out as dividends. The earnings retention ratio is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings retention ratio increases. An increased earnings retention ratio will fuel stronger growth because the business funds more investments with retained earnings.

The payout ratios of the proxy group are shown in my Exhibit MPG-6. These dividend payout ratios and earnings retention ratios then can be used to develop a sustainable long-term earnings retention growth rate. A sustainable long-term earnings retention ratio will help gauge whether analysts' current three- to five-year growth rate projections can be sustained over an indefinite period of time.

The data used to estimate the long-term sustainable growth rate is based on the Company's current market to book ratio and on *Value Line's* three- to five-year projections of earnings, dividends, earned returns on book equity, and stock issuances.

As shown in Exhibit MPG-7, page 1, the average sustainable growth rate for the proxy group using this internal growth rate model is 4.55%.

Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM GROWTH RATES?

A A DCF estimate based on these sustainable growth rates is developed in Exhibit MPG-8. As shown there, a sustainable growth DCF analysis produces proxy group average and median DCF results of 8.69% and 8.65%, respectively.

Multi-Stage Growth DCF Model

Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

A Yes. My first constant growth DCF is based on consensus analysts' growth rate projections, so it is a reasonable reflection of rational investment expectations over the next three to five years. The limitation on the constant growth DCF model is that it cannot reflect a rational expectation that a period of high/low short-term growth can be followed by a change in growth to a rate that is more reflective of long-term sustainable growth. Hence, I performed a multi-stage growth DCF analysis to reflect this outlook of changing growth expectations.

Q WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?

A Analyst projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies go through cycles in making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which accelerates their earnings growth. Once a major construction cycle is completed or levels off, growth in the utility rate base slows, and its earnings growth slows from an abnormally high three- to five-year rate to a lower sustainable growth rate.

As major construction cycles extend over longer periods of time, even with an accelerated construction program, the growth rate of the utility will slow simply because rate base will slow, and the utility has limited human and capital resources available to expand its construction program. Hence, the three- to five-year growth rate projection should be used as a long-term sustainable growth rate but not without making a reasonable informed judgment to determine whether it considers the current market environment, the industry, and whether the three- to five-year growth outlook is sustainable.

Q IS THE USE OF A MULTI-STAGE DCF MODEL SUPPORTED IN ACADEMIC AND INDUSTRY LITERATURE?

A Yes. In his book *New Regulatory Finance*, Dr. Roger Morin states the following:

> Dividends need not be, and probably are not, constant from period to period. Moreover, there are circumstances where the standard DCF model cannot be used to assess investor return requirements. For example, if a utility company is in the process of altering its dividend payout policy and dividends are not expected to grow at the same rate as earnings during the transition period, the standard DCF model is inapplicable. This is because the expected growth in stock price has to be different from that of dividends, earnings, and book value if the market price is to converge toward book value.
>
> * * *
>
> A Non-Constant Growth DCF model is appropriate whenever the growth rate is expected to change, and the only way to produce a change in the forecast payout ratio is by introducing an intermediate growth rate that is different from the long-term growth rate, as in the previous example.[11]

[11] *New Regulatory Finance*, Roger A. Morin, PhD, 2006 Public Utilities Reports, Inc., Vienna, Virginia, pp. 264 and 267.

Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

A The multi-stage growth DCF model reflects the possibility of non-constant growth for a company over time. The multi-stage growth DCF model reflects three growth periods: (1) a short-term growth period, which consists of the first five years; (2) a transition period, which consists of the next five years (6 through 10); and (3) a long-term growth period, starting in year 11 through perpetuity.

For the short-term growth period, I relied on the consensus analysts' growth projections described above in relationship to my constant growth DCF model. For the transition period, the growth rates were reduced or increased by an equal factor, which reflects the difference between the analysts' growth rates and the long-term sustainable growth rate. For the long-term growth period, I assumed each company's growth would converge to the maximum sustainable long-term growth rate.

Q WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services. Utilities' earnings/dividend growth is created by increased utility investment or rate base. Such investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth, and sales growth, in turn, is tied to economic growth in their service areas.

The Energy Information Administration ("EIA") has observed that utility sales growth tracks, albeit is lower than, the U.S. GDP growth, as shown in Exhibit MPG-9. Utility sales growth has lagged behind GDP growth for more than a decade. As a result, nominal GDP growth is a very conservative proxy for electric utility sales

growth, rate base growth, and earnings growth. Therefore, the U.S. GDP nominal growth rate is a conservative proxy for the highest sustainable long-term growth rate of a utility.

Q IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?

A Yes. This concept is supported in both published analyst literature and academic work. Specifically, in a textbook entitled "Fundamentals of Financial Management," published by Eugene Brigham and Joel F. Houston, the authors state as follows:

> The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[12]

Q IS THERE ANY ACTUAL INVESTMENT HISTORY THAT SUPPORTS THE NOTION THAT THE CAPITAL APPRECIATION FOR STOCK INVESTMENTS WILL NOT EXCEED THE NOMINAL GROWTH OF THE U.S. GDP?

A Yes. This is evident by a comparison of the compound annual growth of the U.S. GDP compared to the geometric growth of the U.S. stock market. Morningstar measures the historical geometric growth of the U.S. stock market over the period 1929-2012 to be approximately 5.6% and an inflation rate of 3.0%.[13] During this

[12] *Fundamentals of Financial Management*, Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298.
[13] *Morningstar 2013 Valuation Yearbook* at 23.

same time period, the U.S. nominal compound annual growth of the U.S. GDP was approximately 6.3%.[14]

As such, the compound geometric growth of the U.S. nominal GDP has been less than the nominal growth of the U.S. stock market capital appreciation. This relationship shows the U.S. GDP is a conservative estimate of long-term sustainable growth.

Q HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH RATE THAT REFLECTS THE CONSENSUS OF THE MARKET?

A I relied on the consensus analysts' projections of long-term GDP growth. *The Blue Chip Financial Forecasts* publishes consensus economists' GDP growth projections twice a year. These consensus analysts' GDP growth outlooks are the best available measure of the market's assessment of long-term GDP growth. These analyst projections reflect all current outlooks for GDP, as reflected in analyst projections, and are likely the most influential on investors' expectations of future growth outlooks. The consensus economists' published GDP growth rate outlook is 5.0% to 4.8% over the next 10 years.[15]

Therefore, I propose to use the consensus economists' projected 5- and 10-year average GDP consensus growth rates of 5.0% and 4.8%, respectively, as published by *Blue Chip Financial Forecasts,* as an estimate of long-term sustainable growth. *Blue Chip Financial Forecasts'* projections provide real GDP growth projections of 2.8% and 2.5%, and GDP inflation of 2.1% and 2.2%[16] over the 5-year and 10-year projection periods, respectively. This consensus GDP growth forecast

[14] U.S. Bureau of Economic Analysis, December 2012.
[15] *Blue Chip Financial Forecasts*, June 1, 2013 at 14.
[16] GDP growth is the product of real and inflation GDP growth.

represents the most likely views of market participants because it is based on published consensus economist projections.

Q DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP GROWTH?

A Yes, and these sources corroborate my consensus analysts' projections. The U.S. EIA in its *Annual Energy Outlook* projects real GDP out until 2040. In its *2013 Annual Report*, the EIA projects real GDP through 2040 to be in the range of 2.0% to 2.9%, with a midpoint or reference case of 2.5%.[17]

Also, the Congressional Budget Office ("CBO") makes long-term economic projections. The CBO is projecting real GDP growth of 2.6% to 2.2% during the next 5 and 10 years, respectively, with GDP price inflation of 2.0%.[18] The CBO's real GDP projections are higher than the consensus, but its GDP inflation is lower than the consensus economists.

The real GDP and nominal GDP growth projections made by the U.S. EIA and those made by the CBO support the use of the consensus analyst 5-year and 10-year projected GDP growth outlooks as a reasonable market assessment of long-term prospective GDP growth.

Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR MULTI-STAGE GROWTH DCF ANALYSIS?

A I relied on the same 13-week stock price and the most recent quarterly dividend payment data discussed above. For stage one growth, I used the consensus analysts' growth rate projections discussed above in my constant growth DCF model.

[17] *DOE/EIA Annual Energy Outlook 2013 With Projections to 2040*, April 2013 at 56.
[18] *CBO: The Budget and Economic Outlook: Fiscal Years 2013 to 2023*, February 2013 at 64.

The transition period begins in year 6 and ends in year 10. For the long-term sustainable growth rate starting in year 11, I used 4.9%, the average of the consensus economists' 5-year and 10-year projected nominal GDP growth rates.

Q WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF MODEL?

A As shown in Exhibit MPG-10, the average and median multi-stage growth DCF returns on equity for my proxy group are 9.03% and 9.02%, respectively.

Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

A The results from my DCF analyses are summarized in Table 3 below:

TABLE 3

Summary of DCF Results

Description	Proxy Group Average
Constant Growth DCF Model (Analysts' Growth)	9.04%
Constant Growth DCF Model (Sustainable Growth)	8.69%
Multi-Stage Growth DCF Model	9.03%

I conclude that a reasonable DCF return for SPS in this case is 9.00%. I largely rely on the results of my constant and multi-stage growth DCF models to support my recommended return. I believe the input growth rates and market data for these models support a reliable outlook at the current market cost of equity for SPS.

Risk Premium Model

Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

A This model is based on the principle that investors require a higher return to assume greater risk. Common equity investments have greater risk than bonds because bonds have more security of payment in bankruptcy proceedings than common equity and the coupon payments on bonds represent contractual obligations. In contrast, companies are not required to pay dividends or guarantee returns on common equity investments. Therefore, common equity securities are considered to be more risky than bond securities.

This risk premium model is based on two estimates of an equity risk premium. First, I estimated the difference between the required return on utility common equity investments and U.S. Treasury bonds. The difference between the required return on common equity and the Treasury bond yield is the risk premium. I estimated the risk premium on an annual basis for each year over the period 1986 through June 2013. The common equity required returns were based on regulatory commission-authorized returns for electric utility companies. Authorized returns are typically based on expert witnesses' estimates of the contemporary investor-required return.

The second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary "A" rated utility bond yields. I selected the period 1986 through June 2013 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Exhibit MPG-11, which shows that the market to book ratio since 1986 for the electric utility industry was consistently above 1.0. Over this period, regulatory authorized returns were sufficient to support market prices that at least exceeded book value. This is an indication that regulatory authorized returns on

common equity supported a utility's ability to issue additional common stock without diluting existing shares. It further demonstrates that utilities were able to access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Exhibit MPG-12, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.35%. Of the 28 observations, 22 indicated risk premiums fall in the range of 4.41% to 6.31%. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current return on common equity using this methodology.

As shown in Exhibit MPG-13, the average indicated equity risk premium over contemporary Moody's utility bond yields was 3.95% over the period 1986 through June 2013. The indicated equity risk premium estimates based on this analysis primarily fall in the range of 3.03% to 4.89% over this time period.

Q DO YOU BELIEVE THAT THESE EQUITY RISK PREMIUM ESTIMATES ARE BASED ON A TIME PERIOD THAT IS TOO LONG OR TOO SHORT TO DRAW ACCURATE CONCLUSIONS CONCERNING CONTEMPORARY MARKET CONDITIONS?

A No. Contemporary market conditions can change dramatically during the period that rates determined in this proceeding will be in effect. A relatively long period of time where stock valuations reflect premiums to book value is an indication that the authorized returns on equity and the corresponding equity risk premiums were supportive of investors' return expectations and provided utilities access to the equity markets under reasonable terms and conditions. Further, this time period is long

enough to smooth abnormal market movement that might distort equity risk premiums. While market conditions and risk premiums do vary over time, this historical time period is a reasonable period to estimate contemporary risk premiums.

The time period I use in this risk premium study is a generally accepted period to develop a risk premium study using "expectational" data. Conversely, studies have recommended that use of "actual achieved return data" should be based on very long historical time periods. The studies find that achieved returns over short time periods may not reflect investors' expected returns due to unexpected and abnormal stock price performance. However, these short-term abnormal actual returns would be smoothed over time and the achieved actual returns over long time periods would approximate investors' expected returns. Therefore, it is reasonable to assume that averages of annual achieved returns over long time periods will generally converge on the investors' expected returns.

My risk premium study is based on expectational data, not actual returns, and, thus, need not encompass very long time periods.

Q BASED ON HISTORICAL DATA, WHAT RISK PREMIUM HAVE YOU USED TO ESTIMATE SPS'S COST OF COMMON EQUITY IN THIS PROCEEDING?

A The equity risk premium should reflect the relative market perception of risk in the utility industry today. I have gauged investor perceptions in utility risk today in Exhibit MPG-14. On that schedule, I show the yield spread between utility bonds and Treasury bonds over the last 34 years. As shown on this schedule, the average utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are 1.55% and 1.96%, respectively. The utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utilities during June 2013 are 1.06% and

1.58%, respectively. The current average "A" and "Baa" rated utility bond yield spreads over Treasury bond yields are now lower than the 34-year average spreads.

A current 13-week average "A" rated utility bond yield of 4.51%, when compared to the current Treasury bond yield of 3.43% as shown in Exhibit MPG-15, page 1 implies a yield spread of around 1.08%. This current utility bond yield spread is lower than the 34-year average spread for "A" utility bonds of 1.55%. Similarly, the current spread for the "Baa" utility yields of 1.60% is lower than the 34-year average spread of 1.96%.

These utility bond yield spreads are clear evidence that the market considers the utility industry to be a relatively low-risk investment and demonstrates that utilities continue to have strong access to capital.

Q HOW DID YOU ESTIMATE SPS'S COST OF COMMON EQUITY WITH THIS RISK PREMIUM MODEL?

A I added a projected long-term Treasury bond yield to my estimated equity risk premium over Treasury yields. The 13-week average 30-year Treasury bond yield, ending August 2, 2013 was 3.43%, as shown in Exhibit MPG-15, page 1. *Blue Chip Financial Forecasts* projects the 30-year Treasury bond yield to be 4.10%, and a 10-year Treasury bond yield to be 3.10%.[19] Using the projected 30-year bond yield of 4.10%, and a Treasury bond risk premium of 4.41% to 6.31%, as developed above, produces an estimated common equity return in the range of 8.51% (4.10% + 4.41%) to 10.41% (4.10% + 6.31%). Based on the large risk premium in the market yield spreads, I recommend giving 75% weight to my high-end risk premium and 25% weight to my low risk premium estimate. This produces an equity risk premium

[19] *Blue Chip Financial Forecasts*, August 1, 2013 at 2.

estimate of 9.94%.[20] I believe this is appropriate given the current government influence in the long-term yield market.

I next added my equity risk premium over utility bond yields to a current 13-week average yield on "Baa" rated utility bonds for the period ending August 2, 2013 of 5.03%. Adding the utility equity risk premium of 3.03% to 4.89%, as developed above, to a "Baa" rated bond yield of 5.03%, produces a cost of equity in the range of 8.06% (5.03% + 3.03%) to 9.92% (5.03% + 4.89%). Again, recognizing the government interaction in the long-term yield market, I recommend an above average risk premium. I recommend a risk premium return on equity of 9.46%.[21]

My risk premium analyses produce a return estimate in the range of 9.46% to 9.94%, with a midpoint of 9.70%.

Capital Asset Pricing Model ("CAPM")

Q PLEASE DESCRIBE THE CAPM.

A The CAPM method of analysis is based upon the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:

$R_i = R_f + B_i \times (R_m - R_f)$ where:

R_i = Required return for stock i

R_f = Risk-free rate

R_m = Expected return for the market portfolio

B_i = Beta - Measure of the risk for stock

[20] 75% x 10.41% + 25% x 8.51% = 9.94%.
[21] 75% x 9.92% + 25% x 8.06% = 9.46%.

The stock-specific risk term in the above equation is beta. Beta represents the investment risk that cannot be diversified away when the security is held in a diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks can be eliminated by balancing the portfolio with securities that react in the opposite direction to firm-specific risk factors (e.g., business cycle, competition, product mix, and production limitations).

The risks that cannot be eliminated when held in a diversified portfolio are non-diversifiable risks. Non-diversifiable risks are related to the market in general and are referred to as systematic risks. Risks that can be eliminated by diversification are regarded as non-systematic risks. In a broad sense, systematic risks are market risks, and non-systematic risks are business risks. The CAPM theory suggests that the market will not compensate investors for assuming risks that can be diversified away. Therefore, the only risk that investors will be compensated for are systematic or non-diversifiable risks. The beta is a measure of the systematic or non-diversifiable risks.

Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.

A The CAPM requires an estimate of the market risk-free rate, the company's beta, and the market risk premium.

Q WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?

A As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield is 4.10%.[22] The current 30-year Treasury bond yield is 3.43%, as shown in

[22] *Blue Chip Financial Forecasts*, August 1, 2013 at 2.

Exhibit MPG-15, page 1. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 4.10% for my CAPM analysis.

Q WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE OF THE RISK-FREE RATE?

A Treasury securities are backed by the full faith and credit of the United States government, so long-term Treasury bonds are considered to have negligible credit risk. Also, long-term Treasury bonds have an investment horizon similar to that of common stock. As a result, investor-anticipated long-run inflation expectations are reflected in both common-stock required returns and long-term bond yields. Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate) included in a long-term bond yield is a reasonable estimate of the nominal risk-free rate included in common stock returns.

Treasury bond yields, however, do include risk premiums related to unanticipated future inflation and interest rates. A Treasury bond yield is not a risk-free rate. Risk premiums related to unanticipated inflation and interest rates are systematic or market risks. Consequently, for companies with betas less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated estimate of the CAPM return.

Q WHAT BETA DID YOU USE IN YOUR ANALYSIS?

A As shown in Exhibit MPG-16, the proxy group average *Value Line* beta estimate is 0.71.

Q HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?

A I derived two market risk premium estimates, a forward-looking estimate and one based on a long-term historical average.

The forward-looking estimate was derived by estimating the expected return on the market (as represented by the S&P 500) and subtracting the risk-free rate from this estimate. I estimated the expected return on the S&P 500 by adding an expected inflation rate to the long-term historical arithmetic average real return on the market. The real return on the market represents the achieved return above the rate of inflation.

Morningstar's *Stocks, Bonds, Bills and Inflation 2013 Classic Yearbook* estimates the historical arithmetic average real market return over the period 1926 to 2012 as 8.7%.[23] A current consensus analysts' inflation projection, as measured by the Consumer Price Index, is 2.2%.[24] Using these estimates, the expected market return is 11.10%.[25] The market risk premium then is the difference between the 11.10% expected market return, and my 4.10% risk-free rate estimate, or approximately 7.00%.

The historical estimate of the market risk premium was also estimated by Morningstar in *Stocks, Bonds, Bills and Inflation 2013 Classic Yearbook*. Over the period 1926 through 2012, Morningstar's study estimated that the arithmetic average of the achieved total return on the S&P 500 was 11.8%,[26] and the total return on long-term Treasury bonds was 6.1%.[27] The indicated market risk premium is 5.7% (11.8% - 6.1% = 5.7%). The average of my market risk premium estimates is 6.4% (7.0% to 5.7%).

[23] *Morningstar, Inc., Ibbotson SBBI 2013 Classic Yearbook* at 88.
[24] *Blue Chip Financial Forecasts*, August 1, 2013 at 2.
[25] { [(1 + 0.087) * (1 + 0.022)] – 1 } * 100.
[26] *Morningstar, Inc. Ibbotson SBBI 2013 Classic Yearbook* at 87.
[27] *Id.*

Q HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO THAT ESTIMATED BY MORNINGSTAR?

A Morningstar's analysis indicates that a market risk premium falls somewhere in the range of 6.0% to 6.7%. My market risk premium falls in the range of 5.7% to 7.0%. My average market risk premium of 6.4% is in the middle of Morningstar's range.

Morningstar estimates a forward-looking market risk premium based on actual achieved data from the historical period of 1926 through 2012. Using this data, Morningstar estimates a market risk premium derived from the total return on large company stocks (S&P 500), less the income return on Treasury bonds. The total return includes capital appreciation, dividend or coupon reinvestment returns, and annual yields received from coupons and/or dividend payments. The income return, in contrast, only reflects the income return received from dividend payments or coupon yields. Morningstar argues that the income return is the only true risk-free rate associated with Treasury bonds and is the best approximation of a truly risk-free rate.[28] I disagree with this assessment from Morningstar, because it does not reflect a true investment option available to the marketplace and therefore does not produce a legitimate estimate of the expected premium of investing in the stock market versus that of Treasury bonds. Nevertheless, I will use Morningstar's conclusion to show the reasonableness of my market risk premium estimates.

Morningstar's range is based on several methodologies. First, Morningstar estimates a market risk premium of 6.7% based on the difference between the total market return on common stocks (S&P 500) less the income return on Treasury bond investments. Second, Morningstar found that if the New York Stock Exchange (the "NYSE") was used as the market index rather than the S&P 500, that the market risk

[28] *Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook* at 55.

premium would be 6.5%, not 6.7%. Third, if only the two deciles of the largest companies included in the NYSE were considered, the market risk premium would be 6.0%.[29]

Finally, Morningstar found that the 6.7% market risk premium based on the S&P 500 was influenced by an abnormal expansion of price-to-earnings ("P/E") ratios relative to earnings and dividend growth during the period 1980 through 2001. Morningstar believes this abnormal P/E expansion is not sustainable.[30] Therefore, Morningstar adjusted this market risk premium estimate to normalize the growth in the P/E ratio to be more in line with the growth in dividends and earnings. Based on this alternative methodology, Morningstar published a long-horizon supply-side market risk premium of 6.0%.[31]

Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A As shown in Exhibit MPG-17, based on Morningstar's market risk premium of 6.7%, a risk-free rate of 4.10%, and a beta of 0.71, my CAPM analysis produces a return of 8.85%.

Return on Equity Summary

Q BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO YOU RECOMMEND FOR SPS?

A Based on my analyses, I estimate SPS's current market cost of equity to be 9.35%.

[29]Morningstar observes that the S&P 500 and the NYSE Decile 1-2 are both large capitalization benchmarks. *Id.* at 54.
[30]*Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook* at 54.
[31]*Id.*

TABLE 4

Return on Common Equity Summary

Description	Results
DCF	9.00%
Risk Premium	9.70%
CAPM	8.85%

My recommended return on common equity is 9.35%. My recommended return on equity is in the range of 9.00% to 9.70% and is supported by the results of my DCF studies and my risk premium studies. My recommended return of 9.35% is based on the midpoint of my DCF return estimate, 9.00%, and risk premium result, 9.70%. My CAPM model provides a return on equity slightly below the DCF results.

Financial Integrity

Q WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT AN INVESTMENT GRADE BOND RATING FOR SPS?

A Yes. I have reached this conclusion by comparing the key credit rating financial ratios for SPS, at my proposed return on equity and capital structure, to S&P's benchmark financial ratios using S&P's new credit metric ranges.

Q PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT METRIC METHODOLOGY.

A S&P publishes a matrix of financial ratios that correspond to its assessment of the business risk of the utility company and related bond rating. On May 27, 2009, S&P

expanded its matrix criteria[32] by including additional business and financial risk categories. Based on S&P's most recent credit matrix, the business risk profile categories are "Excellent," "Strong," "Satisfactory," "Fair," "Weak," and "Vulnerable." Most electric utilities have a business risk profile of "Excellent" or "Strong." The financial risk profile categories are "Minimal," "Modest," "Intermediate," "Significant," "Aggressive," and "Highly Leveraged." Most of the electric utilities have a financial risk profile of "Aggressive." SPS has an "Excellent" business risk profile and a "Significant" financial risk profile.

Q PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK RATIOS IN ITS CREDIT RATING REVIEW.

A S&P evaluates a utility's credit rating based on an assessment of its financial and business risks. A combination of financial and business risks equates to the overall assessment of SPS's total credit risk exposure. S&P publishes a matrix of financial ratios that defines the level of financial risk as a function of the level of business risk.

S&P publishes ranges for three primary financial ratios that it uses as guidance in its credit review for utility companies. The three primary financial ratio benchmarks it relies on in its credit rating process include: (1) Total Debt to Total Capital; (2) Debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA"); and (3) Funds From Operations ("FFO") to Total Debt.[33]

[32] S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

[33] *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

Q HOW DID YOU APPLY S&P'S FINANCIAL RATIOS TO TEST THE REASONABLENESS OF YOUR RATE OF RETURN RECOMMENDATIONS?

A I calculated each of S&P's financial ratios based on SPS's cost of service for its retail jurisdictional electric operations. While S&P would normally look at total consolidated SPS financial ratios in its credit review process, my investigation in this proceeding is not the same as S&P's. I am attempting to judge the reasonableness of my proposed cost of capital for rate-setting in SPS's retail regulated utility operations. Hence, I am attempting to determine whether my proposed rate of return will in turn support cash flow metrics, balance sheet strength, and earnings that will support an investment grade bond rating and SPS's financial integrity.

Q DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT EQUIVALENTS?

A Yes. In response to Question No. FEA 2-03, the Company provided its off-balance sheet debt equivalents including purchased power agreements and operating leases and their associated interest and depreciation expenses. I included these debt equivalents in my credit metric calculations.

Q PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS FOR SPS.

A The S&P financial metric calculations for SPS at a 9.35% return are developed on Exhibit MPG-18, page 1.

SPS's adjusted total debt ratio is approximately 53%. This is at the low end of the "Aggressive" utility guideline range of 50% to 60%. This total debt ratio will support an investment grade bond rating.

As shown in Exhibit MPG-18, page 1, column 1, based on an equity return of 9.35%, SPS will be provided an opportunity to produce a debt to EBITDA ratio of 3.2x. This is within S&P's "Significant" guideline range of 3.0x to 4.0x.[34] This ratio also supports an investment grade credit rating.

Finally, SPS's retail operations FFO to total debt coverage at a 9.35% equity return would be 22%, which is also at the low end of S&P's "Significant" metric guideline range of 20% to 30%. The FFO/total debt ratio will support an investment grade bond rating.

At my recommended return on equity of 9.35% and proposed capital structure, SPS's financial credit metrics are supportive of its current investment grade utility bond rating.

RESPONSE TO SPS WITNESS MR. JOHN J. REED

Q WHAT RETURN ON COMMON EQUITY IS SPS PROPOSING FOR THIS PROCEEDING?

A Mr. John Reed sponsors SPS's return on equity recommendation. Mr. Reed proposes a return on equity of 10.65% based on a recommended range of 10.15% to 10.75%.[35] He relied on a constant growth DCF analysis, CAPM studies, and a Bond Yield Plus Risk Premium approach to support his recommended return.

Q ARE MR. REED'S RETURN ON EQUITY ESTIMATES REASONABLE?

A No. Mr. Reed's proposed return on equity of 10.65% and range of 10.15% to 10.75% overstates SPS's current market cost of equity and should be rejected. Mr. Reed's

[34] *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009 at 4.
[35] Reed Direct Testimony at 4.

analyses produce excessive results for various reasons, including the following: (1) his constant growth DCF results are based on excessive, unsustainable growth rates; (2) his multi-stage growth DCF is based on a contradictory payment ratio and excessive, unsustainable GDP growth rate assumptions; (3) his CAPM is based on inflated market risk premiums; and (4) his Bond Yield Plus Risk Premium is based on inflated utility equity risk premiums.

Q PLEASE SUMMARIZE MR. REED'S RETURN ON EQUITY ESTIMATES.

A Mr. Reed's return on equity estimates are summarized in Table 5 below. In Column 2, I show the results with prudent and sound adjustments to his common equity return estimates. With such adjustments to his proxy group's DCF, CAPM and Risk Premium return estimates, Mr. Reed's own studies show my recommended return on equity for SPS is reasonable.

TABLE 5

Reed's Return on Equity Estimates

Description	Mean[1] (1)	Adjusted (2)
Constant Growth DCF (Mean)		
30-Day Average Stock Price	10.16%	[2]
90-Day Average Stock Price	10.12%	[2]
180-Day Average Stock Price	10.25%	[2]
360-Day Average Stock Price	10.42%	[2]
Average	10.25%	[2]
Multi-Stage Growth DCF (Mean)		
30-Day Average Stock Price	10.17%	9.42%[3]
90-Day Average Stock Price	10.13%	9.38%[3]
180-Day Average Stock Price	10.26%	9.51%[3]
360-Day Average Stock Price	10.42%	9.67%[3]
Average	10.25%	9.50%
CAPM Results (Bloomberg Beta)		
Current Treasury Yield (2.87%)	9.98%	7.56%
Near-Term Projected (3.15%)	10.06%	7.84%
Long-Term Projected (5.10%)	10.64%	9.79%
Average	**10.23%**	**8.40%**
CAPM Results (*Value Line* Beta)		
Current Treasury Yield (2.87%)	10.03%	7.63%
Near-Term Projected (3.15%)	10.11%	7.91%
Long-Term Projected (5.10%)	10.68%	9.86%
Average	**10.28%**	**8.50%**
Risk Premium		
Current	10.00%	8.44%
Near-Term Projected	10.11%	8.72%
Long-Term Projected	10.86%	10.67%
Average	**10.33%**	**9.30%**
Range	**10.15%-10.75%**	**8.40%-10.25%**
Recommended Return on Equity	**10.65%**	**9.30%**

Sources and Notes:
[1]Reed Direct Testimony at 10 and 11, Table JJR-1.
[2]Constant growth DCF results are unreasonable because of excessive growth rates. Reasonable DCF results are presented in adjusted multi-stage growth DCF results.
[3]Exhibit MPG-20.

Q PLEASE DESCRIBE MR. REED'S CONSTANT GROWTH DCF RETURN ESTIMATES.

A His constant growth DCF returns are developed in his Attachment JJR-3, pages 1-4. Mr. Reed's constant growth DCF models are based on consensus growth rates published by Zacks and First Call, and individual growth rate projections made by *Value Line*. He relied on dividend yield calculations based on average stock prices over four different periods – 30-day, 90-day, 180-day and 360-day.

Q DO YOU BELIEVE THAT MR. REED'S CONSTANT GROWTH DCF RETURN MODELS PRODUCE A REASONABLE RETURN ESTIMATE FOR SPS?

A No. Mr. Reed relied on growth rate estimates which are too high to be reasonable estimates of long-term sustainable growth.

Q PLEASE DESCRIBE THE GROWTH RATES INCLUDED IN MR. REED'S CONSTANT GROWTH DCF RETURN ESTIMATES.

A The growth rate estimates, dividend yields and corresponding DCF return estimates for Mr. Reed's constant growth DCF studies are illustrated on my Exhibit MPG-19. Mr. Reed's schedules do not show the details of the DCF estimate.

As shown on my Exhibit MPG-19, his DCF return estimates for his proxy group are based on a range of growth rate estimates from a low of 4.72%, to a mean growth rate estimate of 5.69%, and a high growth rate of 6.84%. These growth rate estimates were used in all of his constant growth DCF study 30-, 90-, 180-, and 360-day average stock prices.

Q WHY DO YOU BELIEVE THAT MR. REED'S MEAN (5.69%) AND HIGH-END (6.84%) GROWTH RATE ESTIMATES ARE TOO HIGH TO BE REASONABLE ESTIMATES OF LONG-TERM SUSTAINABLE GROWTH?

A These growth rates cannot be sustained indefinitely for various reasons. First, the consensus of economists is that the GDP growth of the U.S. general economy, which is a proxy for the growth rate of the economies in which these utilities operate, is between 4.8% and 5.0% indefinitely.[36] Hence, the growth rates of 5.69% and 6.84% are higher than the growth outlooks of the economies in which these utilities operate. It is simply not rational to expect that these companies can grow faster than the economies in which they provide service, because utilities provide service to meet the demand of the economies they serve.

Second, growth rates in the range of 5.69% and 6.84% could not be sustained by the current earnings retention rate of utility companies. Indeed, the *Value Line* long-term payout ratio for the utility industry will be about 62.11% (Exhibit MPG-6). In order to sustain growth rates of 5.69% and 6.84%, utilities would have to achieve returns on book equity of 15.17% and 18.05%, respectively, indefinitely.[37] Hence, it is simply not a rational outlook to expect that utilities will be able to produce earnings that could sustain this level of growth indefinitely.

Q CAN YOU DESCRIBE AGAIN WHY A THREE- TO FIVE-YEAR GROWTH RATE CAN EXCEED A LONG-TERM SUSTAINABLE GROWTH RATE?

A Yes. A three- to five-year growth rate can exceed a long-term sustainable growth rate for several reasons including the following: (1) the utility's capital program and rate base are growing at an abnormally high level; (2) a company's growth in

[36] *Blue Chip Financial Forecasts*, June 1, 2013, page 14.
[37] 5.69% ÷ (1 – 62.11%) = 15.17% and 6.84% ÷ (1 – 62.11%) = 18.05%.

earnings is above a depressed level of earnings; and/or (3) altering dividend payout ratio targets can create temporary acceleration or decline in short-term growth.

As discussed above, while short-term accelerated earnings growth rates may be a reasonable expectation for relatively short periods of time, it is not reasonable to expect that accelerated short-term growth can be sustained indefinitely. That is the flaw of Mr. Reed's DCF studies. He derives DCF estimates based on accelerated short-term growth rates that he assumes can be sustained over an indefinite period of time. This simply is not a rational outlook, and it produces an excessive DCF return estimate.

Q DID MR. REED PRESENT ANY ALTERNATIVE CONSTANT GROWTH DCF MODELS?

A Yes. Considering the Commission's prior practices, he presented a constant growth DCF model based on retention rate calculation, which yields DCF return estimates in the range of 7.81% to 8.06% (Attachment JJR-4). He concluded that these results are too low to be considered in the determination of SPS's fair return on equity.

In addition, Mr. Reed provided alternative DCF estimates by averaging some of his *Value Line*, Zacks, and First Call growth rate estimates, as shown on page 43 of his testimony and Attachment JJR-5.

Q DO YOU HAVE ANY COMMENTS CONCERNING MR. REED'S ALTERNATIVE DCF MODELS?

A Yes. I agree with Mr. Reed that his retention model does not produce reasonable results.

In regards to his averaging DCF models, I believe his results are overlapping the results of his standard constant growth DCF model and do not provide any additional meaningful information. Considering the fact that his averaging DCF models are based on the same growth rates and dividend yields as his standard DCF model, his averaging DCF models suffer from the same deficiencies described above in regards to his standard constant growth DCF model.

Q CAN MR. REED'S DCF ANALYSES BE REVISED TO REFLECT A REASONABLE LONG-TERM SUSTAINABLE GROWTH RATE?

A Yes. Mr. Reed's DCF studies can be revised to reflect the short-term growth rate estimates that will be realized over the period they were designed to reflect, five years, and the growth rate after that eventually would converge down to a lower sustainable long-term rate of growth. This can be accomplished by using a multi-stage growth DCF analysis. The multi-stage growth DCF model can reflect abnormally high short-term growth, followed by a decline to a lower growth rate that can be sustained over a long-term period.

Q DID MR. REED PERFORM A MULTI-STAGE GROWTH DCF ANALYSIS?

A Yes, he did, however, it is flawed for at least two reasons. First, he relied on a long-term GDP growth rate of 5.55% as a long-term sustainable growth. Mr. Reed's GDP growth rate is based on a nominal GDP growth rate that is considerably higher than the market GDP growth outlooks as reflected in the consensus analysts' projections. Second, he makes an inconsistent assumption on his long-term steady-state growth rate, in combination with his long-term steady-state dividend payout

ratio. The assumptions underlying these two growth outlooks are contradictory and produce an implausible transitional stage dividend growth rate outlook.

Q HOW DID MR. REED CALCULATE A NOMINAL GDP GROWTH RATE?

A As discussed at page 46 of his direct testimony, Mr. Reed relied on the long-term historical real GDP return of 3.24%, as measured over the period 1929 through 2011. He then adjusted this to a nominal GDP growth by an inflation rate of 2.27%, which is the average of three sources.[38] Using an inflation factor of 2.27% and an historical real GDP growth of 3.24%, Mr. Reed produced a nominal GDP growth rate outlook of 5.55%.

Q WHY IS MR. REED'S GDP GROWTH ESTIMATE EXCESSIVE IN COMPARISON TO THAT OF PUBLISHED MARKET ANALYSTS?

A The consensus economists' projected GDP growth rate is much lower than the GDP growth rate used by Mr. Reed in his DCF analysis. A comparison of Mr. Reed's GDP growth rate and consensus economists' projected GDP growth over the next 5 and 10 years is shown in Table 6. As shown in this table, Mr. Reed's GDP rate of 5.55% reflects real GDP of 3.24% and an inflation adjusted GDP of 2.27%. However, consensus economists' projections of nominal GDP over the next 5 and 10 years are 5.0% and 4.8%, respectively.[39]

As is clearly evident in Table 6, Mr. Reed's historical GDP growth is much higher than, and not representative of, consensus market expected forward-looking GDP growth.

[38](1) The average consensus analyst estimate of long-term projected growth rate in the CPI of 2.40%, (2) EIA projected CPI compound annual growth rate of 2.40%, and (3) EIA projected GDP Price Index of 2.06%.

[39]*Blue Chip Financial Forecasts*, June 1, 2012 at 14.

TABLE 6

GDP Projections

Description	GDP Inflation	Real GDP	Nominal GDP
Mr. Reed	2.3%	3.2%	5.55%
Consensus Economists (5-Year)	2.1%	2.8%	5.00%
Consensus Economists (10-Year)	2.2%	2.5%	4.80%

Source: *Blue Chip Financial Forecasts*, June 1, 2013 at 14.

As such, Mr. Reed's 5.55% nominal GDP growth rate is not reflective of consensus market expectations and should be rejected. Indeed, Mr. Reed's 5.55% GDP growth rate outlook is inconsistent with the consensus of economists' independent projections of future long-term GDP growth, and also inconsistent with projections made by the U.S. EIA, and CBO as referenced in my testimony above where I describe the parameters used in my own multi-stage growth DCF analyses. Those agencies also project nominal GDP much more consistent with the consensus independent economists' projections discussed in Table 6 above. For all these reasons, Mr. Reed's GDP growth outlook rate projections are simply out of line and out of touch with the consensus market outlooks.

Q PLEASE EXPLAIN HOW MR. REED'S MULTI-STAGE GROWTH DCF MODEL OVERSTATED DIVIDEND CASH FLOWS BECAUSE OF HIS LONG-TERM DIVIDEND PAYOUT RATIO ASSUMPTION.

A Mr. Reed modified analysts' three- to five-year dividend payout projections of 62.64% and assumed that eventually they would increase to the long-term historical median

dividend payout ratio of the industry of 66.40%.[40] Unfortunately, Mr. Reed's assumption that the utility industry's earnings will grow at the long-term GDP growth rate, is contradictory to his assumption that the dividend payout ratio will increase back to the historical long-term average. As a utility's payout ratio increases, its earnings growth rate will slow because it is retaining a smaller percentage of its earnings to fuel future growth. Historically, utilities' earnings have grown at rates slower than the GDP growth rate. This historical growth is largely because the historical payout ratios were higher than they are currently and are projected to be by *Value Line*.

Mr. Reed's assumption that payout ratios will increase during a transition period is driven by the unreasonable assumption that the dividend payout ratio will increase back to the long-term historical average, while earnings continue to increase at historically high levels. The combination of his historically high earnings growth rate is not plausible if the dividend payout ratio increases back to the long-term historical level. The two assumptions are contradictory, and cannot be used together.

Q HOW CAN MR. REED'S MODEL BE CORRECTED TO ELIMINATE THIS CONTRADICTORY ASSUMPTION?

A Simply eliminating his assumption that the utility payout ratio will revert from the analysts' three- to five-year growth rate projections to the higher long-term historical growth rate will correct this problem. Assuming the payout ratio will stay relatively flat based on the utility analysts' three- to five-year growth rate projections, and assuming earnings and dividends grow at approximately the GDP growth rate thereafter, will

[40]Attachment JJR-6.

have a consistent assumption for the outlook for growth for earnings and dividends going forward.

Q HOW WOULD MR. REED'S MULTI-STAGE GROWTH DCF MODEL CHANGE IF THE TWO CORRECTIONS YOU DESCRIBED ABOVE ARE MADE TO HIS RETURN ESTIMATE?

A As shown below in Table 7, revising the GDP growth rate to the consensus analysts' projection, and coordinating the payout ratio assumption with the long-term earnings growth rate assumption, reduces his multi-stage growth DCF return to 9.50% from 10.25%.

TABLE 7

Multi-Stage Growth DCF Analysis

Description	Reed[1] (1)	Corrected DCF[2] (2)
30-Day Average Stock Price	10.17%	9.42%
90-Day Average Stock Price	10.13%	9.38%
180-Day Average Stock Price	10.26%	9.51%
360-Day Average Stock Price	10.42%	9.67%
Average	10.25%	9.50%

Sources:
[1]Reed Direct Testimony at 11.
[2]Exhibit MPG-20.

Q PLEASE DESCRIBE THE ISSUES YOU TAKE WITH MR. REED'S CAPM ANALYSES.

A My major concern with Mr. Reed's CAPM analysis is his inflated market risk premium estimates.

Q PLEASE DESCRIBE MR. REED'S MARKET RISK PREMIUMS.

A Mr. Reed developed three DCF-derived market risk premium estimates of 10.10%, 9.82% and 7.87%, which are based on a market DCF return of 12.97% less the current, near-term and long-term 30-year Treasury bond yields of 2.87%, 3.15% and 5.10%, respectively. (Attachment JJR-8, page 2).

Q WHAT ISSUES DO YOU HAVE WITH MR. REED'S DCF-DERIVED MARKET RISK PREMIUM ESTIMATES?

A Mr. Reed's DCF-derived market risk premiums are based on a market return of approximately 12.97%, which consists of a growth rate component of approximately 10.35% and a dividend yield of approximately 2.37%. As discussed above, the DCF model requires a long-term sustainable growth rate. Mr. Reed's sustainable market growth rate of approximately 10.35% is far too high to be a rational outlook for sustainable long-term market growth. This growth rate is more than two times the growth rate of the U.S. GDP long-term growth outlook of 4.9%. Indeed, it is even about twice Mr. Reed's flawed and overstated GDP growth projection.

As a result of this unreasonable long-term market growth rate estimate, Mr. Reed's market DCF return is inflated and not reliable. Consequently, Mr. Reed's 10.10% (current), 9.82% (near-term) and 7.87% (long-term) market risk premiums are inflated and not reliable.

Q IS THERE INFORMATION ON ACTUAL ACHIEVED CAPITAL APPRECIATION FOR THE MARKET INDEX USED BY MR. REED?

A Yes. Morningstar estimates the actual capital appreciation for the S&P 500 over the period 1926 through 2012 to have been 5.6% to 7.5%.[41] While I do not endorse the use of a historical growth rate to draw assessments of the market's forward-looking growth rate outlooks, this data can be used to show how unreasonable and inflated are the market return estimates produced by Mr. Reed. Specifically, using the highest historical arithmetic average growth rate of 7.5%, and an expected dividend yield of 2.4% as estimated by Mr. Reed, would suggest a forward-looking market DCF return estimate of 9.9%. Further, simply observing the geometric and arithmetic average historical market risk premium also shows these estimates to be reasonable, and Mr. Reed's estimated DCF return on the market of approximately 13.0% to be excessive. Specifically, historically, the geometric and arithmetic average return on the market has ranged from 9.8% to 11.8%.

Virtually all historical data shows that Mr. Reed's 13.0% projected return on the market is excessive and produces an inflated market risk premium.

Q CAN MR. REED'S CAPM ANALYSIS BE REVISED TO REFLECT A MORE REASONABLE MARKET RISK PREMIUM?

A Yes. Using (1) Mr. Reed's risk-free rates of 2.87%, 3.15% and projected rate of 5.10% (Attachment JJR-8); (2) published Bloomberg and *Value Line* beta estimates of 0.70 and 0.71, respectively; and (3) the 6.70% Morningstar market risk premium described above, Mr. Reed's CAPM would be in the range of 7.56% to 9.86%.[42]

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[41] *Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook* at 23.

[42] 2.87% + 0.70 x 6.70% = 7.56%; 3.15% + 0.70 x 6.70% = 7.84%; 5.10% + 0.70 x 6.70% = 9.79%; 2.87% + 0.71 x 6.70% = 7.63%; 3.15% + 0.71 x 6.70% = 7.91%; 5.10% + 0.71 x 6.70% = 9.86%.

Q PLEASE DESCRIBE MR. REED'S BOND YIELD PLUS RISK PREMIUM.

A As shown on Attachment JJR-10, Mr. Reed constructs a risk premium return on equity estimate based on the premise that equity risk premiums are inversely related to interest rates. He estimates an average electric risk premium of 5.57% and a current, near-term and long-term risk premium over Treasury bond yields of 2.87%, 3.15% and 5.10% over the period January 1992 to December 2012, respectively. Then he applies a regression analysis to the current, near-term and long-term projected Treasury bond yields of 2.87%, 3.15% and 5.10% to produce an average electric risk premium of 7.13%, 6.96% and 5.76%, respectively. Thus, he calculates return on equity estimates of 10.00%, 10.11% and 10.86%, respectively.

Q IS MR. REED'S BOND YIELD PLUS RISK PREMIUM METHODOLOGY REASONABLE?

A No. Mr. Reed's contention that there is a simplistic inverse relationship between equity risk premiums and interest rates is not supported by academic research. While academic studies have shown that, in the past, there has been an inverse relationship among these variables, researchers have found that the relationship changes over time and is influenced by changes in perception of the risk of bond investments relative to equity investments, and not simply changes to interest rates.[43]

In the 1980s, equity risk premiums were inversely related to interest rates, but that was likely attributable to the interest rate volatility that existed at that time. As such, when interest rates were more volatile, the relative perception of bond

[43] "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," Robert S. Harris and Felicia C. Marston, *Journal of Applied Finance*, Volume 11, No. 1, 2001 and "The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985.

investment risk increased relative to the investment risk of equities. This changing investment risk perception caused changes in equity risk premiums.

In today's marketplace, interest rate volatility is not as extreme as it was during the 1980s.[44] Nevertheless, changes in the perceived risk of bond investments relative to equity investments still drive changes in equity premiums. However, a relative investment risk differential cannot be measured simply by observing nominal interest rates. Changes in nominal interest rates are heavily influenced by changes to inflation outlooks, which also change equity return expectations. As such, the relevant factor needed to explain changes in equity risk premiums is the relative changes to the risk of equity versus debt securities investments, and not simply changes in interest rates.

Importantly, Mr. Reed's analysis simply ignores investment risk differentials. He bases his adjustment to the equity risk premium exclusively on changes in nominal interest rates. This is a flawed methodology; it does not produce accurate or reliable risk premium estimates.

Q DO YOU HAVE ANY OTHER COMMENTS CONCERNING MR. REED'S RISK PREMIUM ANALYSES?

A Yes. Mr. Reed's use of projected long-term Treasury yields is not appropriate because the accuracy of those projections could be highly problematic. However, to limit the issues with Mr. Reed's studies and considering the low interest rate environment today, I will not take issue with his use of long-term projected Treasury bond yields.

[44] "The Risk Premium Approach to Measuring a Utility's Cost of Equity," Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *Financial Management*, Spring 1985, at 44.

Q CAN MR. REED'S BOND YIELD PLUS RISK PREMIUM STUDY BE USED TO PRODUCE A MORE REASONABLE RETURN ON EQUITY ESTIMATE FOR SPS?

A Yes. Mr. Reed's equity risk premium average of 5.57% applied to the Treasury bond yields of 2.87%, 3.15% and 5.10%, will produce a risk premium return estimate of 9.30%. While I agree with Mr. Reed that his estimate is significantly low because it is influenced by the current low-cost interest environment, I find his attempt to increase the average equity risk premium by applying the notion of an inverse relationship inappropriate.

Q DO YOU HAVE ANY COMMENTS CONCERNING MR. REED'S FLOTATION COSTS ADJUSTMENT?

A Yes. Mr. Reed estimated that a 15 basis point adder represents a reasonable adjustment to account for flotation costs. He also took flotation costs along with other factors into consideration when determining where the Company's return on equity falls within the range of his results.

Q DO YOU AGREE WITH MR. REED'S FLOTATION COST ESTIMATE OF 0.15%?

A No. Mr. Reed's flotation cost estimate is flawed and it should not be taken into consideration when determining a fair return for SPS.

Flotation costs are a legitimate cost of doing business. However, flotation costs should only be included in the development of cost of service under two conditions. First, the Company has to demonstrate what its actual flotation costs are, and prove they are reasonable. It is not appropriate to approximate flotation costs for utility companies and build those approximated costs into a utility's cost of service. Costs should be known and measurable and should be verifiable and most

1 importantly should be shown to be reasonable before they are included in cost of
2 service. This is not possible if a utility's flotation costs are approximated, as Mr. Reed
3 has done.
4 Second, and more important, SPS is not a publicly traded company. Rather, it
5 is a wholly-owned subsidiary of Xcel Energy. Hence, SPS does not incur costs
6 related to selling common stock to the market. SPS's common equity capital comes
7 from two sources: (1) retained earnings, which incur no flotation costs, and (2) equity
8 infusion from its parent company.
9 Therefore, Mr. Reed's estimate of 15 basis points to account for flotation costs
10 should be disregarded and not considered in determining SPS's return on equity.

11 **Q DID MR. REED ALSO OFFER AN ASSESSMENT OF CURRENT MARKET**
12 **CONDITIONS IN SUPPORT OF HIS RECOMMENDED RETURN ON EQUITY?**
13 A Yes. At pages 86 through 94 of his direct testimony, Mr. Reed describes several
14 factors that, he suggests, gauge investor sentiment, including incremental credit
15 spreads, and the relationship between the dividend yield of proxy group companies
16 and Treasury yields. He concludes that these metrics indicate that current levels of
17 instability and risk aversion are significantly higher than the levels observed prior to
18 the recent recession.

19 **Q DO YOU BELIEVE THAT MR. REED'S USE OF THESE MARKET SENTIMENTS**
20 **SUPPORTS HIS FINDINGS THAT SPS'S MARKET COST OF EQUITY IS**
21 **CURRENTLY 10.65%?**
22 A No. Indeed, in many instances Mr. Reed's analysis simply ignores market sentiments
23 favorable toward utility companies and instead lumps utility investments in with

general corporate investments. A fair analysis of utility securities shows that the market generally regards utility securities as low-risk investment instruments and supports the finding that utilities' cost of capital is very low in today's marketplace.

Q WHAT IS THE MARKET SENTIMENT FOR UTILITY INVESTMENTS?

A The market sentiment toward utility investments, rather than just general corporate investments, is that the market is placing high value on utility securities recognizing their low risk and stable characteristics.

For example, this is illustrated by my Exhibit MPG-14, under column 11, which shows the spread between "A" rated utility bond yields and "Aaa" rated corporate bond yields. Currently, the spread is less than one-half of 1 percentage point. This is a relatively low spread over the 34-year time horizon. Indeed, current spreads of utility versus high-grade corporate bond yields are at the lowest level they have been in most periods over the last 34 years. This is also reflective of the spreads between "Baa" utility bond yields relative to "Baa" corporate bond yields. Currently, utility bonds are trading at a premium to corporate bonds. This has been largely the case during the significant market turbulence that has occurred over the last five to eight years. However, over longer periods of time, utility bond yields on average trade at parity to a premium to corporate "Baa" rated bond yields. The current strong utility bond valuation is an indication of the market's sentiment that utility bonds have lower risk than general corporate bonds, and are generally regarded as a safe haven by the investment industry.

Also, Mr. Reed observes that utility bond yields are high relative to current Treasury bond yields. This abnormal yield spread is primarily caused by the flight to quality which has significantly enhanced Treasury bond valuations, and has in turn

widened the Treasury yield spread to utility dividends. Nevertheless, utility stocks have maintained relatively robust valuations and relatively stable dividend yields.

Further, other measures of utility stock valuations also support a robust market for utility stocks. As shown on my Exhibit MPG-21, utility valuation measures – e.g., price-to-earnings ratio and market price to cash flow ratio – show that stock valuation measures for the proxy group are robust. For example, for the proxy group, the current 2012 price-to-earnings ratio and cash flow ratios are comparable to the 12-year average of this ratio.

For all these reasons, direct assessments of valuation measures and market sentiment toward utility securities support the credit rating agencies' findings, as quoted above, that the utility industry is largely regarded as a low-risk, safe haven investment. All of this supports my findings that utilities' market cost of equity is very low in today's very low cost capital market environment.

Q DOES MR. REED OBSERVE CREDIT METRIC SPREADS IN SUPPORT OF HIS RETURN ON EQUITY RECOMMENDATIONS?

A Yes. Mr. Reed observes credit spreads during the period January 2012 through December 2012 in support of his recommendations. He also observes Treasury versus dividend yield spreads. (Reed Direct Testimony at 91-92).

Q DO THESE FACTORS DEMONSTRATE THAT UTILITIES' CAPITAL COSTS HAVE NOT DECREASED RECENTLY?

A No. As shown on my Exhibit MPG-14, utility bond yield spreads did increase particularly during market turbulence around 2008 through 2010, but have since reverted back to more normal average levels experienced over the last 30 years.

Further, a comparison of "Baa" corporate bond yields relative to utility bond yields shows that utility bond yields are being priced at a premium to corporate bonds indicating the market's acceptance of utilities as low-risk investments. On average, corporate and utility bond yields are about the same. Further, as I outline above in my testimony, utility price performance and utility dividend yields have been relatively robust. Utility stock prices have outperformed the markets during down markets, and have trailed the markets during recoveries but have still performed very well over the time period. Dividend yields are keeping track with declines in market interest rates, but utilities are affordable and maintaining a relatively low level of earnings payout. Hence, utility stock prices are stable, utility dividends yields are competitive, and utility dividend payments are relatively affordable, at payout ratios in the low 60% area. All of this supports the robust nature of the DCF return estimates in this proceeding, and is clear evidence that electric utilities' current market cost of capital, along with all other forms of capital costs in this market, is very low.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes, it does.

Qualifications of Michael P. Gorman

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and a Managing Principal with Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A In 1983 I received a Bachelors of Science Degree in Electrical Engineering from Southern Illinois University, and in 1986, I received a Masters Degree in Business Administration with a concentration in Finance from the University of Illinois at Springfield. I have also completed several graduate level economics courses.

In August of 1983, I accepted an analyst position with the Illinois Commerce Commission ("ICC"). In this position, I performed a variety of analyses for both formal and informal investigations before the ICC, including: marginal cost of energy, central dispatch, avoided cost of energy, annual system production costs, and working capital. In October of 1986, I was promoted to the position of Senior Analyst. In this position, I assumed the additional responsibilities of technical leader on projects, and my areas of responsibility were expanded to include utility financial modeling and financial analyses.

In 1987, I was promoted to Director of the Financial Analysis Department. In this position, I was responsible for all financial analyses conducted by the Staff. Among other things, I conducted analyses and sponsored testimony before the ICC on rate of return, financial integrity, financial modeling and related issues. I also supervised the development of all Staff analyses and testimony on these same issues. In addition, I supervised the Staff's review and recommendations to the Commission concerning utility plans to issue debt and equity securities.

In August of 1989, I accepted a position with Merrill-Lynch as a financial consultant. After receiving all required securities licenses, I worked with individual investors and small businesses in evaluating and selecting investments suitable to their requirements.

In September of 1990, I accepted a position with Drazen-Brubaker & Associates, Inc. ("DBA"). In April 1995, the firm of Brubaker & Associates, Inc. was formed. It includes most of the former DBA principals and Staff. Since 1990, I have performed various analyses and sponsored testimony on cost of capital, cost/benefits of utility mergers and acquisitions, utility reorganizations, level of operating expenses and rate base, cost of service studies, and analyses relating to industrial jobs and economic development. I also participated in a study used to revise the financial policy for the municipal utility in Kansas City, Kansas.

At BAI, I also have extensive experience working with large energy users to distribute and critically evaluate responses to requests for proposals ("RFPs") for electric, steam, and gas energy supply from competitive energy suppliers. These analyses include the evaluation of gas supply and delivery charges, cogeneration and/or combined cycle unit feasibility studies, and the evaluation of third-party asset/supply management agreements. I have participated in rate cases on rate

design and class cost of service for electric, natural gas, water and wastewater utilities. I have also analyzed commodity pricing indices and forward pricing methods for third party supply agreements, and have also conducted regional electric market price forecasts.

In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

A Yes. I have sponsored testimony on cost of capital, revenue requirements, cost of service and other issues before the Federal Energy Regulatory Commission and numerous state regulatory commissions including: Arkansas, Arizona, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and before the provincial regulatory boards in Alberta and Nova Scotia, Canada. I have also sponsored testimony before the Board of Public Utilities in Kansas City, Kansas; presented rate setting position reports to the regulatory board of the municipal utility in Austin, Texas, and Salt River Project, Arizona, on behalf of industrial customers; and negotiated rate disputes for industrial customers of the Municipal Electric Authority of Georgia in the LaGrange, Georgia district.

Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR ORGANIZATIONS TO WHICH YOU BELONG.

A I earned the designation of Chartered Financial Analyst ("CFA") from the CFA Institute. The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting, economics, fixed income and equity valuation and professional and ethical conduct. I am a member of the CFA Institute's Financial Analyst Society.

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Southwestern Public Service Company

Rate of Return
(December 31, 2014)

Line	Description	Amount (1)	Weight (2)	Cost (3)	Weighted Cost (4)
1	Long-Term Debt	$1,242,867,022	48.37%	6.27%	3.03%
2	Common Equity	1,326,686,686	51.63%	**9.35%**	4.83%
3	**Total**	**$2,569,553,708**	**100.00%**		**7.86%**

Source:
Page 2.

Southwestern Public Service Company

Adjusted Capital Structure

Line	Description	Proposed 12/31/2014 (1)	Adjustments (2)	Adjusted Amount (3)
1	Long-Term Debt	$ 1,242,867,022		$ 1,242,867,022
2	Common Equity	$ 1,452,473,930	$ (125,787,244)	$ 1,326,686,686
3	**Total**	**$ 2,695,340,952**		**$ 2,569,553,708**
	Equity Infusion			
4	SPS Projected		$ 307,000,000	
5	SPS Actual			
6	12/31/12*		$ 56,212,756	
7	6/30/13**		$ 125,000,000	
8	Total		$ 181,212,756	
9	**Adjustment**		**$ 125,787,244**	

Sources:
MFR Schedule G-1.
* SPS FERC Form 3-Q, Various Dates.
** SPS Form 10-Q as of June 30, 2013.