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 No. DC WATER(B)-3. The average growth rates for the Electric and T&D proxy groups are 4.86% and 5.48%, respectively.

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

A As shown in Exhibit No. DC WATER(B)-4, the average and median constant growth DCF returns for the Electric proxy group are 8.90% and 8.66%, respectively. The average and median constant growth DCF returns for the T&D proxy group are 9.54% and 9.86%, respectively.

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

A Yes. The constant growth DCF analysis was based on Electric and T&D proxy group average growth rates of 4.86% and 5.48%, respectively. The growth rate for the Electric proxy group is reasonable because it is consistent with my estimate of a maximum long-term sustainable growth rate which I discuss later in this testimony. However, the growth rate for the T&D proxy group is higher than a maximum sustainable growth rate. Therefore, the constant growth DCF results for the T&D proxy group are not reasonable.

Q HOW DO YOU DETERMINE A MAXIMUM LONG-TERM SUSTAINABLE GROWTH RATE?

A A long-term sustainable growth rate cannot exceed the growth rate of the economy in which a company sells its goods and services over an indefinite period. A company's long-term earnings growth is tied to the market demand for its product or service. Hence, a reasonable proxy for the long-term maximum sustainable growth rate for a utility investment is the projected long-term U.S. gross domestic product ("GDP"). This growth rate serves as a proxy for the growth rate of the utility's service area economy.

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 rate for a DCF model.

In my multi-stage growth DCF analysis, I provide academic and investment practitioner evidence that supports my use of the projected long-term GDP growth outlook as a maximum sustainable growth rate projection.

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, and accretion value of new stock sales, that are retained and reinvested in utility plant and equipment. These reinvested earnings/equity contributions increase the capital equity base of rate base and grow earnings on a per share basis. Earnings grow when plant funded by reinvested earnings/equity contributions 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 groups are shown in my Exhibit No. DC WATER(B)-5. 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 growth rate 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 No. DC WATER(B)-6, pages 1 and 3, the average sustainable growth rate for the Electric and T&D proxy groups using this internal growth rate model are 4.51% and 4.03%, respectively.

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 No. DC WATER(B)-7. As shown there, a sustainable growth DCF analysis produces

Electric proxy group average and median DCF results of 8.54% and 8.30%, respectively. The sustainable growth DCF analysis for the T&D proxy group produces average and median DCF returns of 8.05% and 7.87%, 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 typically 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 slow from an abnormally high three- to five-year growth rate period 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 it is adding to a larger rate base, 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]

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

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

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 No. DC WATER(B)-8. 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. Ibbotson & Associates measures the historical geometric growth of the U.S. stock market over the period 1929-2012 to be approximately 5.6%. During this same time period, the U.S. nominal compound annual growth of the U.S. GDP was approximately 6.3%.[13]

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.

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[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] *Ibbotson & Associates 2012 Valuation Yearbook* inflation rate of 3.0%, and U.S. Bureau of Economic Analysis, November 2012.

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.[14]

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%[15] over the 5-year and 10-year projection periods, respectively. This consensus GDP growth forecast 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*

[14] *Blue Chip Financial Forecasts*, June 1, 2013 at 14.
[15] GDP growth is the product of real and inflation GDP growth.

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%.[16]

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%.[17] 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. 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.

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

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

A As shown in Exhibit No. DC WATER(B)-9, the average and median DCF returns on equity for the Electric proxy group are 8.92% and 8.95%, respectively. The average and median returns for the T&D group are 9.10% and 8.87%, respectively.

Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

A The results from my DCF analyses are summarized in Table 2 below:

TABLE 2

Summary of DCF Results

Description	Electric Proxy Average	T&D Proxy Average
Constant Growth DCF Model (Analysts' Growth)	8.90%	9.54%
Constant Growth DCF Model (Sustainable Growth)	8.54%	8.05%
Multi-Stage Growth DCF Model	8.92%	9.10%

I conclude that a reasonable DCF return for Pepco in this case is conservatively 9.10%. My constant growth analysts' growth rate estimate for the Electric proxy group of 8.90% is based on reasonable DCF parameters, growth rates and dividend yields. Therefore, I believe that is a robust, reasonable estimate of market-required return for this Company. My sustainable growth DCF model and multi-stage growth DCF model suggest slightly lower results than my constant growth analysts' growth model. For the T&D proxy group, I believe the growth rate in the analysts' growth rate exceeds a reasonable estimate of long-term sustainable growth. Therefore, I believe the DCF return of a multi-stage growth of 9.10% more reasonably reflects the sustainable growth outlook for this proxy group. As such, I believe a reasonable estimate of the DCF return for Pepco in this case is approximately 9.10%.

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 No. DC WATER(B)-10, 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 No. DC WATER(B)-11, 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 No. DC WATER(B)-12, 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 PEPCO'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 No. DC WATER(B)-13. On that schedule, I show the yield spread between utility bonds and Treasury bonds over the last 33 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 33-year average spreads of 1.55% and 1.96%, respectively.

A current 13-week average "A" rated utility bond yield of 4.36%, when compared to the current Treasury bond yield of 3.27% as shown in Exhibit No. DC WATER(B)-14, page 1 implies a yield spread of around 1.09%. This current utility bond yield spread is lower than the 33-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 33-year average spread of 1.97%.

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 PEPCO'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 July 12, 2013 was 3.27%, as shown in Exhibit No. DC WATER(B)-14, page 1. *Blue Chip Financial Forecasts* projects the 30-year Treasury bond yield to be 4.00%, and a 10-year Treasury bond yield to be 3.00%.[18] Using the projected 30-year Treasury bond yield of 4.00%, 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 8.41% (4.00% + 4.41%) to 10.31% (4.00% + 6.31%). Based on the large risk premium in the market yield spreads, I recommend giving 75% weight to my high-end

[18] *Blue Chip Financial Forecasts*, July 1, 2013 at 2.

risk premium and 25% weight to my low risk premium estimate. This produces an equity risk premium estimate of 9.84%.[19] This weighting is reasonable given the current government interaction in the long-term interest rate 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 July 12, 2013 of 4.87%. Adding the utility equity risk premium of 3.03% to 4.89%, as developed above, to a "Baa" rated bond yield of 4.87%, produces a cost of equity in the range of 7.90% (4.87% + 3.03%) to 9.76% (4.87% + 4.89%). Again, recognizing the government activity in the long-term interest rate market, I recommend a risk premium return on equity of 9.30%.[20]

My risk premium analyses produce a return estimate in the range of 9.30% to 9.84%, with a midpoint of 9.57%, rounded to 9.60%.

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

[19] 75% x 10.31% + 25% x 8.41% = 9.84%.
[20] 75% x 9.76% + 25% x 7.90% = 9.30%.

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 4.00%.[21] The current 30-year Treasury bond yield is 3.27%, as shown in

[21] *Blue Chip Financial Forecasts*, June 1, 2013 at 2.

Exhibit No. DC WATER(B)-14, page 1. I used *Blue Chip Financial Forecasts'* projected 30-year Treasury bond yield of 4.00% 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 No. DC WATER(B)-15, the Electric and T&D proxy group average *Value Line* beta estimates are 0.73 and 0.70, respectively.

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%.[22] A current consensus analysts' inflation projection, as measured by the Consumer Price Index, is 2.2%.[23] Using these estimates, the expected market return is 11.10%.[24] The market risk premium then is the difference between the 11.10% expected market return, and my 4.00% risk-free rate estimate, or approximately 7.10%.

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%,[25] and the total return on long-term Treasury bonds was 6.1%.[26] The indicated market risk premium is 5.7%

[22] *Morningstar, Inc., Ibbotson SBBI 2013 Classic Yearbook*; Market Results for Stocks, Bonds, Bills, and Inflation 1926-2012 at 88.
[23] *Blue Chip Financial Forecasts*, June 1, 2013 at 2.
[24] { [(1 + 0.087) * (1 + 0.022)] – 1 } * 100.
[25] *Morningstar, Inc. Ibbotson SBBI 2013 Classic Yearbook* at 87.
[26] *Id.*

(11.8% - 6.1% = 5.7%). The average of my market risk premium estimates is 6.4% (7.1% to 5.7%).

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 7.1%. My average market risk premium of 6.4% is within 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.[27] 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

[27] *Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook: Market Results for Stocks, Bonds, Bills, and Inflation 1926-2012* at 55.

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 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%.[28]

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.[29] 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%.[30]

Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A As shown in Exhibit No. DC WATER(B)-16, based on Morningstar's market risk premium of 6.7%, a risk-free rate of 4.00%, and a beta of 0.73 for the Electric proxy group and 0.70 for the T&D proxy group, my CAPM analysis produces returns of 8.89% and 8.69%, respectively, with a midpoint of 8.79%, rounded to 8.80%.

[28]Morningstar observes that the S&P 500 and the NYSE Decile 1-2 are both large capitalization benchmarks. *Id.* at 54.

[29]*Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook: Market Results for Stocks, Bonds, Bills, and Inflation 1926-2012* at 54.

[30]*Id.*

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 PEPCO?

A Based on my analyses, I estimate Pepco's current market cost of equity to be 9.40%.

TABLE 3

Return on Common Equity Summary

Description	Results
DCF	9.10%
Risk Premium	9.60%
CAPM	8.80%

My recommended return on common equity is 9.40%. My recommended return on equity is in the range of 9.10% to 9.60% and is supported by the results of my DCF studies and my risk premium studies. My recommended return of 9.40% is based on the approximate midpoint of my DCF return estimate, 9.10%, and risk premium result, 9.60%.

I am placing minimal weight on the results of my CAPM study because of my concerns about the risk-free rate and market risk premium outlined in this study.

Financial Integrity

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

A Yes. I have reached this conclusion by comparing the key credit rating financial ratios for Pepco, at my proposed return on equity and Pepco's proposed 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[31] 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." Pepco has an "Excellent" business risk profile and a "Significant" financial risk profile.

[31] 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.

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 Pepco'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.[32]

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 Pepco's cost of service for its retail jurisdictional electric operations. While S&P would normally look at total consolidated Pepco 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 Pepco'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 Pepco's financial integrity.

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

Q DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT ("OBSD")?

A No. The amount of off-balance sheet debt operating leases as reported by S&P was not material enough to have an impact on the financial ratios calculations. As such, I did not include them in the metrics to judge the reasonableness of my rate of return for retail operations in D.C. in this proceeding.

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

A The S&P financial metric calculations for Pepco at a 9.40% return are developed on Exhibit No. DC WATER(B)-17, page 1.

Pepco's adjusted total debt ratio is approximately 49%. This is at the high end of the "Significant" utility guideline range of 45% to 50%. This total debt ratio will support an investment grade bond rating.

As shown in Exhibit No. DC WATER(B)-17, page 1, column 1, based on an equity return of 9.40%, Pepco will be provided an opportunity to produce a debt to EBITDA ratio of 3.0x. This is at the low end of S&P's "Significant" guideline range of 3.0x to 4.0x.[33] This ratio also supports an investment grade credit rating.

Finally, Pepco's retail operations FFO to total debt coverage at a 9.40% equity return would be 21%, which is at the low end of the "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 9.40% and Pepco's proposed capital structure, Pepco's financial credit metrics are supportive of its current "BBB+" utility bond rating.

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

RESPONSE TO PEPCO WITNESS MR. ROBERT HEVERT

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

A Mr. Hevert is sponsoring Pepco's return on equity recommendation. He is proposing a return on equity of 10.25%[34] based on a recommended range of 10.25% to 11.50%. Mr. Hevert relied on a constant growth DCF analysis, CAPM studies, and a Bond Yield Plus Risk Premium approach to support his recommended return for Pepco.

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

A No. Mr. Hevert's estimated costs ranging from 10.25% to 11.50% are overstated and should be rejected. Mr. Hevert's analyses produce excessive results for various reasons: (1) his constant growth DCF results are based on excessive, unsustainable growth rates, (2) his CAPM is based on inflated market risk premiums, and (3) his Bond Yield Plus Risk Premium is based on inflated utility equity risk premiums.

Q PLEASE SUMMARIZE PEPCO WITNESS MR. HEVERT'S RETURN ON EQUITY ESTIMATES.

A Mr. Hevert's return on equity estimates are summarized below in Table 4. In Column 2, I show the results with prudent and sound adjustments to Mr. Hevert's common equity return estimates. With reasonable adjustments to his proxy group's DCF, CAPM and Risk Premium return estimates, Mr. Hevert's own studies show my recommended return on equity of 9.40% is reasonable for Pepco.

[34]Hevert Direct at 3.

TABLE 4

Hevert's Return on Equity Estimates

Description	T&D/Electric Mean[1] (1)	T&D/Electric Adjusted[2] (2)
Constant Growth DCF		
30-Day Average Stock Price	9.17%/10.24%	9.17%/9.57%
90-Day Average Stock Price	9.13%/10.23%	9.13%/9.54%
180-Day Average Stock Price	9.11%/10.24%	9.11%/9.56%
CAPM Results (Bloomberg Beta)		
Current Treasury Yield (Sharpe Ratio – 2.97%)	7.37%/7.71%	7.40%/7.70%
Current Treasury Yield (Bloomberg DCF – 2.97%)	9.53%/10.02%	7.40%/7.70%
Current Treasury Yield (Capital IQ DCF – 2.97%)	9.55%/10.05%	7.40%/7.70%
Near-Term Projected (Sharpe Ratio – 3.15%)	7.55%/7.89%	7.60%/7.90%
Near-Term Projected (Bloomberg DCF – 3.15%)	9.71%/10.20%	7.60%/7.90%
Near-Term Projected (Capital IQ DCF – 3.15%)	9.73%/10.23%	7.60%/7.90%
Average	**8.90%/9.35%**	**7.50%/7.80%**
CAPM Results (*Value Line* Beta)		
Current Treasury Yield (Sharpe Ratio – 2.97%)	7.56%/7.78%	7.60%/7.80%
Current Treasury Yield (Bloomberg DCF – 2.97%)	9.80%/10.13%	7.60%/7.80%
Current Treasury Yield (Capital IQ DCF – 2.97%)	9.82%/10.16%	7.60%/7.80%
Near-Term Projected (Sharpe Ratio – 3.15%)	7.74%/7.96%	7.80%/8.00%
Near-Term Projected (Bloomberg DCF – 3.15%)	9.98%/10.31%	7.80%/8.00%
Near-Term Projected (Capital IQ DCF – 3.15%)	10.00%/10.34%	7.80%/8.00%
Average	**9.15%/9.45%**	**7.70%/7.90%**
Risk Premium		
Current	10.22%	7.40%
Near-Term Projected	10.23%	7.55%
Long-Term Projected	10.77%	9.50%
Average	**10.41%**	**8.15%**
Range	**10.25%-11.50%**	**8.00%-9.60%**
Recommended Return on Equity	**10.25%**	**9.30%**

Sources:
[1]Hevert Direct at 29, 37 and 42.
[2]Exhibit No. DC WATER(B)-18.

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

A His constant growth DCF returns are developed in his Exhibit PEPCO (B)-2, pages 1-6. Mr. Hevert'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 three different periods – 30-day, 90-day and 180-day.

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

A No. Mr. Hevert relied on growth rate estimates for his Electric proxy group which are too high to be reasonable estimates of long-term sustainable growth because they are significantly above the sustainable long-term growth rate of 4.9% as discussed above.

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

A The growth rate estimates, dividend yields and corresponding DCF return estimates for Mr. Hevert's constant growth DCF studies are illustrated on my Exhibit No. DC WATER(B)-18. Mr. Hevert's schedules do not show the details of the DCF estimate.

As shown on that schedule, his DCF return estimates for his Electric proxy group are based on a range of growth rate estimates from a low of 4.75%, to a mean growth rate estimate of 5.97%, and a high DCF growth rate of 7.32%.

The T&D proxy group growth rate range from high-end is 5.45%, median 4.90%, to low-end 4.33%.

These growth rate estimates were used in all of his constant growth DCF study 30-, 90- and 180-day average stock prices.

Q WHY DO YOU BELIEVE THAT MR. HEVERT'S GROWTH RATE ESTIMATES FOR HIS PROXY GROUPS (IN THE RANGE OF 5.45% TO 7.32%) 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 projects that GDP growth of the U.S. general economy, which is a proxy for the service area of the economies of these utilities, is between 4.7% and 5.1% indefinitely.[35] The growth rates used by Mr. Hevert in the range of 5.45% to 7.32% 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. Utilities provide service to meet the demand of the economies they serve. The utility cannot grow faster than their service area economy for an indefinite period of time.

Second, growth rates in the range of 5.45% to 7.32% 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 in the range of 60.95% to 61.84% (Exhibit No. DC WATER(B)-5). In order to sustain growth rates of 5.45% and 7.32%, utilities would have to achieve returns on book equity of 14.28% and 18.75%, respectively, indefinitely.[36] It is simply not a rational outlook to expect that utilities will

[35] *Blue Chip Financial Forecasts*, June 1, 2013, page 14.
[36] 5.45% ÷ (1 – 61.84%) = 14.28% and 7.32% ÷ (1 – 60.95%) = 18.75%.

be able to produce earnings at a level that could sustain the three- to five-year growth rates for an indefinite time period.

Q CAN YOU AGAIN SUMMARIZE 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: (1) the utility's capital program and rate base are growing at an abnormally high level; (2) a company's growth in earnings is above a depressed level of earnings; and/or (3) altering dividend payout ratio targets can create temporary acceleration or decline to 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. Hevert's DCF studies. He is deriving DCF estimates based on accelerated short-term growth rates that he assumes can be sustained over an indefinite period of time. This is simply not a rational outlook, and produces an excessive DCF return estimate.

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

A Yes. Mr. Hevert'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 would eventually 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 HOW WOULD MR. HEVERT'S CONSTANT GROWTH DCF MODEL CHANGE IF A MULTI-STAGE DCF MODEL IS PERFORMED?

A As shown on my Exhibit No. DC WATER(B)-19, using *The Blue Chip Financial Forecasts'* GDP growth forecast of 4.9% (average of 5.1% and 4.7%) and Mr. Hevert's inputs as developed on his exhibit PEPCO (B)-2, will reduce his DCF return estimate for his Electric proxy group from 10.24% to approximately 9.60%. The results are summarized in Table 5 below.

TABLE 5

Hevert Multi-Stage DCF Analysis

Description	Hevert Mean[1] (1)	Revised Estimate[2] (2)
T&D		
30-Day Average Stock Price	9.17%	9.17%
90-Day Average Stock Price	9.13%	9.13%
180-Day Average Stock Price	9.11%	9.11%
Average	9.14%	9.15%
Electric		
30-Day Average Stock Price	10.24%	9.57%
90-Day Average Stock Price	10.23%	9.54%
180-Day Average Stock Price	10.24%	9.56%
Average	10.24%	9.56%

Sources:
[1]Hevert Direct, Exhibit PEPCO (B)-2.
[2]Exhibit No. DC WATER(B)-19.

Based on a revision to Mr. Hevert's DCF studies to reflect growth rate estimates that can be sustained indefinitely as required by the DCF model, a reasonable estimate for Pepco's current market cost of equity falls in the range of 9.15% to 9.56%, or a midpoint estimate of 9.36%. This is reasonably consistent with my recommended return on equity for Pepco in this case, and is within my estimated range.

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

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

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

A Mr. Hevert developed three market risk premium estimates. The first two are DCF-derived market risk premiums of 9.94% (Bloomberg) and 9.97% (Capital IQ), which are based on market DCF returns of 12.91% and 12.94%, respectively, less the current 30-year Treasury bond yield of 2.97%. (Hevert Direct, Exhibit PEPCO (B)-3). The second market risk premium (referred as the Sharpe market risk premium) of 6.67% is based on one historical market risk premium estimate of 6.60%, adjusted for the difference in long-term historical and current market volatility. (*Id.*, page 1).

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

A Mr. Hevert's DCF-derived market risk premiums are based on market returns of approximately 12.91% and 12.94%, which consist of a growth rate component of approximately 10.9% and a dividend yield of approximately 2.00%. As discussed above, the DCF model requires a long-term sustainable growth rate. Mr. Hevert's sustainable market growth rate of approximately 10.9% 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. Hevert's flawed and overstated GDP growth projection.

As a result of this unreasonable long-term market growth rate estimate, Mr. Hevert's market DCF returns are inflated and not reliable. Consequently, Mr. Hevert's 9.94% (Bloomberg) and 9.97% (Capital IQ) market risk premiums are inflated and not reliable.

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

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%.[37] 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. Hevert. Specifically, using the highest historical arithmetic average growth rate of 7.5%, and an expected dividend yield of 2% as estimated by Mr. Hevert, would suggest a forward-looking market DCF

[37] 2013 Ibbotson *SBBI Valuation Yearbook* at 23.

return estimate of 9.5%. Further, simply observing the geometric and arithmetic average historical market risk premium also shows these estimates to be reasonable, and Mr. Hevert's estimated DCF return on the market of approximately 13% is 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. Hevert's 13% projected return on the market is excessive and produces an inflated market risk premium.

Q PLEASE DESCRIBE MR. HEVERT'S SHARPE MARKET RISK PREMIUM.

A Mr. Hevert's Sharpe market risk premium is 6.67%. Mr. Hevert maintains that his Sharpe market risk premium adjusts the historical market risk premium to reflect the difference between historic and expected market volatility. He adjusts the historical market risk premium of 6.60% by the expected market volatility of 20.52%, relative to historical market volatility of 20.30%.[38] He measures expected market volatility using the Chicago Board Options Exchange's ("CBOE") three-month volatility index of settlement prices of futures on the CBOE's one-month volatility index (June 2013 through Aug 2013).

As shown on his Exhibit PEPCO (B)-3, page 1, using this relative comparison of market volatility, he adjusts the historical market risk premium of 6.60% up to 6.67%, by the ratio of expected market volatility of 20.52%, to historical market volatility of 20.30% (6.60% x (20.52% ÷ 20.30%)).

[38]Hevert Direct, Exhibit PEPCO (B)-3.

Q DO YOU BELIEVE THAT MR. HEVERT'S SHARPE RATIO EXPECTED MARKET RISK PREMIUM PRODUCES RELIABLE RESULTS?

A No. The period rates determined in this proceeding will be in effect is several years into the future. In significant contrast, Mr. Hevert is measuring expected market volatility for a relatively short six-week time period ending January 18, 2013. This relatively short period of time does not prove that market volatility in the long term will be different from volatility in the past. Mr. Hevert's short-term based analysis is not useful in estimating a fair return for Pepco in this case. It simply is not a method that estimates an investors' cost of capital for a long-term investment like a common equity security.

Q WHY IS MR. HEVERT'S PROPOSAL TO MEASURE MARKET RISK PREMIUM BASED ON A SIX-WEEK MARKET VOLATILITY NOT USEFUL IN ESTIMATING A FAIR RETURN ON EQUITY FOR PEPCO IN THIS PROCEEDING?

A Mr. Hevert's Sharpe ratio market risk premium does not capture the return expectations of long-term utility investors. Rather, it reflects the short-term investment outlooks of short-term trading investors or speculators looking to react to misvaluations in the marketplace. Indeed, the entire analysis is based on derivative future valuation data rather than directly on stock price data. As such, the Sharpe market risk premium does not measure long-term stock investment risk and return requirements, and does not produce a fair return on equity estimate for Pepco.

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

A Yes. Using Mr. Hevert's risk-free rates of 2.97% and 3.15% (Hevert Direct, Exhibit PEPCO (B)-5), published Bloomberg beta estimate of 0.71,[39] and the 6.70% Morningstar market risk premium described above, Mr. Hevert's CAPM would be in the range of 7.70% to 7.90%. Using the same risk-free rates and market risk premium, and the *Value Line* beta of 0.72,[40] will produce a CAPM return in the range of 7.80% to 8.00%[41] for Mr. Hevert's Electric proxy group.

Using Mr. Hevert's risk-free rates of 2.97% and 3.15% (Hevert Direct, Exhibit PEPCO (B)-5), published Bloomberg beta estimate of 0.66,[42] and the 6.70% Morningstar market risk premium described above, Mr. Hevert's CAPM would be in the range of 7.40% to 7.60%. Using the same risk-free rates and market risk premium, and the *Value Line* beta of 0.69,[43] will produce a CAPM return in the range of 7.60% to 7.80% for Mr. Hevert's T&D proxy group.[44]

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

A As shown on his Exhibit PEPCO (B)-6, Mr. Hevert constructs a risk premium return on equity estimate based on the premise that equity risk premiums are inversely related to the interest rates. He estimates an average electric risk premium of 4.39% over the period January 1980 to February 2013. Then he applies a regression analysis to the current, near-term and long-term projected Treasury bond yields of

[39] Hevert Direct, Exhibit PEPCO (B)-5.
[40] *Id.*
[41] 2.97% + 0.71 (or 0.72) x 6.70% = 7.70% (or 7.80%); 3.15% + 0.71 (or 0.72) x 6.70% = 7.90% (or 8.00%).
[42] Hevert Direct, Exhibit PEPCO (B)-5.
[43] *Id.*
[44] 2.97% + 0.66 (6.70%) = 7.40%; 3.15% + 0.66 (6.70%) = 7.60%; 2.97% + 0.69 (6.70%) = 7.60%; 3.15% + 0.69 (6.70%) = 7.80%.

2.97%, 3.15% and 5.10% to produce an average electric risk premium of 7.25%, 7.08% and 5.67%, respectively. This in turn yields a return on equity estimate of 10.22%, 10.23% and 10.77%, respectively.

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

A No. Mr. Hevert'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 with 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.[45]

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 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.[46] 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 highly influenced by changes to

[45] "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.

[46] "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.

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. Hevert'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 and does not produce accurate or reliable risk premium estimates. As such, his argument should be rejected by the Commission.

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

A Yes. Mr. Hevert'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. Hevert'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.

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

A Yes. Mr. Hevert's equity risk premium average of 4.39% applied to the Treasury bond yields of 2.97%, 3.15% and 5.10%, will produce a risk premium return estimate in the range of 7.40% to 9.50%. While I agree with Mr. Hevert 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. HEVERT'S FLOTATION COST ADJUSTMENT?

A Yes. In recognition of the Commission's preference for making flotation costs an expense item, Mr. Hevert did not propose a specific flotation cost adjustment. However, he estimated that a 15 basis point adder represents a reasonable adjustment to account for flotation costs if the Commission disallows flotation cost in the cost of service.[47]

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

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

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 cost for utility companies and build that approximated cost into a utility's cost of service. Costs should be known and measurable and should be verifiable and most importantly should be shown to be reasonable before they are included in cost of service. This is not possible if a utility's flotation costs are approximated, as Mr. Hevert has done.

[47]Hevert Direct PEPCO (B), at 5 and 54.

Second, and more important, Pepco is not a publicly traded company. Rather, it is a wholly-owned subsidiary of PHI. Hence, Pepco does not incur costs related to selling common stock to the market. Pepco's common equity capital comes from two sources: (1) retained earnings, which incur no flotation cost, and (2) equity infusion from its parent company.

Therefore, Mr. Hevert's estimate of 15 basis points to account for flotation costs should be disregarded and not considered in determining the Company's return on equity.

Q DO YOU AGREE WITH MR. HEVERT THAT THERE SHOULD BE NO ADJUSTMENT TO PEPCO'S RETURN TO REFLECT THE BILL STABILIZATION ADJUSTMENT MECHANISM ("BSA")?

A No. Mr. Hevert has not provided evidence that supports the discontinuation of a common equity return adjustment if the BSA is continued. The intent of the BSA is to stabilize revenue collections for Pepco, which reduces its uncertainty or risk of not fully recovering its revenue requirement. The BSA impacts customers' bills in a way that stabilizes the Company revenue, and thereby reduces its risk. As such, if the BSA continues, the 50 basis points return on equity adjustment to current market cost of equity should also continue. This has been a balanced practice in the past, and continues to be a balanced regulatory construct for this case.

Q DID MR. HEVERT ALSO OFFER AN ANALYSIS TO ASSESS CURRENT MARKET CONDITIONS IN SUPPORT OF HIS RECOMMENDED RETURN ON EQUITY?

A Yes. At pages 54 through 59 of his direct testimony, Mr. Hevert describes several factors which he suggests gauge investor sentiment including incremental credit

spreads, market volatility, and the relationship between the dividend yield of proxy group companies and Treasury yields. He concludes that these metrics indicate that current levels of instability and risk aversion are significantly higher than the levels observed prior to the recent recession.

Q DO YOU BELIEVE THAT MR. HEVERT'S USE OF THESE MARKET SENTIMENTS SUPPORTS HIS FINDINGS THAT PEPCO'S MARKET COST OF EQUITY IS CURRENTLY 10.25%?

A No. Indeed, in many instances Mr. Hevert's analysis simply ignores market sentiments toward utility companies, and instead lumps utility investments in with general corporate investments. A broader analysis of utility securities shows that the market generally regards utility securities as low-risk investment instruments, and helps support the reasonable findings that utilities' cost of capital is very low in today's marketplace.

Q WHAT IS THE MARKET SENTIMENT WHICH YOU BELIEVE DIRECTLY GAUGES MARKET SENTIMENT FOR UTILITY INVESTMENTS?

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

For example, as shown on my Exhibit No. DC WATER(B)-13, under column 11, I show 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 32-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 32 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 utility 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. Hevert 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.

For example, measures of utility stock valuations also support the conclusion that utility stocks have a robust valuation. As shown on my Exhibit No. DC WATER(B)-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 very strong. For example, for the Electric 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 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., 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. ("BAI") 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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Potomac Electric Power Company

Rate of Return
(March 31, 2013)

Line	Description		Amount (1)	Weight (2)	Cost (3)	Weighted Cost (4)
1	Long-Term Debt	$	1,901,855	50.81%	5.96%	3.03%
2	Common Equity		1,841,474	49.19%	**9.40%**	4.62%
3	**Total**	**$**	**3,743,329**	**100.00%**		**7.65%**

Source:
PEPCO (2A)-1.

Potomac Electric Power Company

Electric Proxy Group

Line	Company	Credit Ratings[1] S&P (1)	Credit Ratings[1] Moody's (2)	Common Equity Ratios SNL[1] (3)	Common Equity Ratios Value Line[2] (4)	S&P Business Risk Score[3] (5)
1	American Electric Power Company, Inc.	BBB	Baa2	44.3%	49.4%	Excellent
2	Cleco Corp.	BBB	Baa3	52.6%	54.4%	Excellent
3	Empire District Electric	BBB	Baa2	50.1%	50.9%	Excellent
4	Great Plains Energy Inc.	BBB	Baa3	46.9%	54.4%	Excellent
5	Hawaiian Electric Industries, Inc.	BBB-	Baa2	50.0%	53.1%	Strong
6	IDACORP, Inc.	BBB	Baa2	52.2%	54.5%	Excellent
7	Otter Tail Corporation	BBB	Baa3	54.4%	54.4%	Excellent
8	Pinnacle West Capital Corp.	BBB+	Baa2	52.9%	55.4%	Excellent
9	PNM Resources, Inc.	BBB	Ba1	45.5%	48.7%	Excellent
10	Portland General Electric Company	BBB	Baa1	51.1%	52.9%	Excellent
11	Southern Company	A	Baa1	43.8%	47.3%	Excellent
12	Westar Energy, Inc.	BBB	Baa2	45.4%	48.8%	Excellent
13	**Average**	**BBB**	**Baa2**	**49.1%**	**52.0%**	**Excellent**
14	Potomac Electric Power Company	BBB+[4]	Baa2[4]	49.8%[5]		Excellent

Sources:
[1] SNL Financial, Downloaded on July 12, 2013.
[2] *The Value Line Investment Survey,* May 3, May 24, and June 21, 2013.
[3] *S&P RatingsDirect:* "U.S. Regulated Electric, Gas, And Water Utilities, Strongest To Weakest," April 22, 2013.
[4] Hevert Direct at 9.
[5] Boyle Direct at 12.

Potomac Electric Power Company

T & D Proxy Group

Line	Company	Credit Ratings[1] S&P (1)	Credit Ratings[1] Moody's (2)	Common Equity Ratios SNL[1] (3)	Common Equity Ratios Value Line[2] (4)	S&P Business Risk Score[3] (5)
1	Centerpoint Energy	A-	Baa3	30.5%	34.0%	Excellent
2	Consolidated Edison	A-	Baa1	51.2%	54.1%	Excellent
3	Northeast Utilities	A-	Baa2	49.7%	55.4%	Excellent
4	UIL Holdings	BBB	Baa3	37.8%	41.1%	Excellent
5	**Average**	**A-**	**Baa2**	**42.3%**	**46.2%**	**Excellent**
6	Potomac Electric Power Company	BBB+[4]	Baa2[4]	49.8%[5]		Excellent

Sources:
[1] SNL Financial, Downloaded on July 12, 2013.
[2] *The Value Line Investment Survey,* May 24 and June 21, 2013.
[3] *S&P RatingsDirect:* "U.S. Regulated Electric, Gas, And Water Utilities, Strongest To Weakest," April 22, 2013.
[4] Hevert Direct at 9.
[5] Boyle Direct at 12.

Potomac Electric Power Company

Consensus Analysts' Growth Rates

(Electric Proxy Group)

Line	Company	Zacks		SNL		Reuters		Average of Growth Rates
		Estimated Growth %[1]	Number of Estimates	Estimated Growth %[2]	Number of Estimates	Estimated Growth %[3]	Number of Estimates	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	American Electric Power Company, Inc.	3.56%	N/A	3.40%	4	3.82%	8	3.59%
2	Cleco Corp.	8.00%	N/A	8.00%	1	8.00%	1	8.00%
3	Empire District Electric	3.00%	N/A	N/A	N/A	3.00%	1	3.00%
4	Great Plains Energy Inc.	6.19%	N/A	5.00%	5	6.26%	5	5.82%
5	Hawaiian Electric Industries, Inc.	3.70%	N/A	3.70%	2	3.70%	2	3.70%
6	IDACORP, Inc.	4.00%	N/A	4.00%	1	N/A	N/A	4.00%
7	Otter Tail Corporation	6.00%	N/A	6.00%	1	6.00%	1	6.00%
8	Pinnacle West Capital Corp.	4.45%	N/A	4.40%	4	5.45%	4	4.77%
9	PNM Resources, Inc.	7.32%	N/A	0.70%	2	6.43%	3	4.82%
10	Portland General Electric Company	6.53%	N/A	6.00%	3	5.67%	4	6.07%
11	Southern Company	4.61%	N/A	4.70%	6	4.83%	7	4.71%
12	Westar Energy, Inc.	4.31%	N/A	3.30%	4	3.90%	4	3.84%
13	**Average**	**5.14%**	**N/A**	**4.47%**	**3**	**5.19%**	**4**	**4.86%**

Sources:
[1] Zacks Elite, http://www.zackselite.com/, downloaded on July 12, 2013.
[2] SNL Interactive, http://www.snl.com/, downloaded on July 12, 2013.
[3] Reuters, http://www.reuters.com/, downloaded on July 12, 2013.