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MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION
UTILITY SERVICES

REBUTTAL TESTIMONY

OF

DAVID MURRAY

KCP&L Greater Missouri Operations
Great Plains Energy, Incorporated

CASE NO. ER-2012-0175

Jefferson City, Missouri
September 2012

** Denotes Highly Confidential Information **

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Q. Please state your name.

A. My name is David Murray.

Q. Are you the same David Murray who prepared the Rate-of-Return Section of Staff's Cost of Service Report ("Staff Report")?

A. Yes, I am. I filed rate-of-return ("ROR") testimony on August 9, 2012. I also filed ROR testimony in the Kansas City Power & Light Company ("KCPL") case, Case No. ER-2012-0175.

Q. What is the purpose of your Rebuttal Testimony?

A. The purpose of my Rebuttal Testimony is to respond to the direct testimonies of Samuel C. Hadaway, Michael Gorman and Matthew I. Kahal. Dr. Hadaway sponsors ROR testimony on behalf of KCP&L Greater Missouri Operations ("GMO"). Mr. Gorman sponsors ROR testimony on behalf of the Office of Public Counsel ("OPC"). Mr. Kahal sponsors ROR testimony on behalf of the Unites States Department of Energy ("DOE"). I will address the issues surrounding GMO's cost of common equity ("COE"), the appropriate capital structure to use for ratemaking purposes, and the cost of debt to be applied to GMO's Missouri electric utility rate base for ratemaking purposes in this proceeding.

EXECUTIVE SUMMARY

Q. Please explain why the Missouri Public Service Commission Staff's ("Staff") recommended return on common equity ("ROE") is lower than those of Dr. Hadaway, Mr. Gorman and Mr. Kahal.

A. Model inputs. All of the experts in this case use at least some similar methodologies to estimate GMO's COE and this is supposedly the premise for their recommended ROEs. Staff gives primary weight to its multi-stage discounted cash flow ("DCF") analysis; Dr. Hadaway gives primary weight to all of his various DCF analyses; Mr. Kahal gives primary weight to his constant-growth DCF analysis; while Mr. Gorman gives weight to his DCF and Risk Premium analyses. It is clear from a comparison of the commonly-used DCF methodology that Staff's lower COE estimate is primarily driven by Staff's position that investors do not project perpetual electric utility dividend growth based on 5-year EPS annual compound growth rate estimates or GDP annual compound growth rate estimates, but rather expect growth rates consistent with past industry performance and that of an industry expected to maintain relatively high dividend payout ratios. Staff's perpetual growth rate estimates are supported by empirical evidence, academic research and practical investment analyses.

All the ROR witnesses used at least one version of the DCF to estimate the COE in this case. Dr. Hadaway employed both the constant-growth DCF and the multi-stage DCF in estimating the COE; Mr. Gorman also employed both the constant-growth DCF and the multi-stage DCF in estimating the COE; while Mr. Kahal only used the constant-growth DCF. Staff also used both the constant-growth DCF and multi-stage DCF, but Staff gave its multi-stage DCF analysis primary weight in estimating the COE. As Staff will discuss in more detail later in its testimony, Staff believes the constant-growth DCF methodology can

yield reliable results, assuming the user applies growth rates consistent with long-term industry fundamentals, which Staff believes are best estimated by analyzing long-term historical experience with consideration of changes in the industry on a going-forward basis. Staff does not believe a constant-growth DCF methodology using equity analysts' 5-year EPS growth rate forecasts as the constant growth rate will yield reliable COE estimates unless they coincidentally match a sustainable perpetual growth rate.

Although each witness employed various DCF methodologies, the primary factor that causes varying COE results when applying DCF methodologies is the growth factor, whether it is the constant-growth rate in a single-stage DCF or the varying growth rates in a multi-stage DCF analysis. In the case of a multi-stage DCF analysis, the most critical stage for estimating the COE is that of the final stage, in which a perpetual growth rate is assumed. The perpetual growth rate often explains at least 75% of the COE estimate in multi-stage models. Consequently, to the extent the Commission accepts the multi-stage DCF methodology in estimating the COE, the main issue before the Commission would be a finding on a reasonable perpetual growth rate.

Dr. Hadaway uses a perpetual growth rate of 5.8%, based on his self-determined calculation of historical nominal GDP growth. Mr. Gorman relies upon a perpetual growth rate of 4.9%, which apparently is based upon projected nominal GDP growth information provided in the June 1, 2012 edition of *Blue Chip Financial Forecasts*. Staff used a perpetual growth rate range of 3.0% to 4.0%, based upon long-term realized growth rates for the electric utility industry, Staff's study of the information related to the utility industry's contribution to aggregate GDP growth, and Staff's knowledge of perpetual growth rates used by equity analysts in their own DCF analyses. Staff believes that its estimated growth rate is

consistent, if not on the high end, of current expectations of future growth and should be relied upon by the Commission in this proceeding.

Q. What proxy group does each witness use for purposes of his COE analyses?

A. Dr. Hadaway developed a proxy group of 22 electric utility companies for purposes of his COE analysis. Both Mr. Gorman and Mr. Kahal adopted the proxy group proposed by Dr. Hadaway. However, I used a more refined proxy group based on stricter selection criteria.

Q. Why didn't you adopt Dr. Hadaway's proposed proxy group?

A. Although Dr. Hadaway's proxy group is larger than my proposed proxy group, I believe a larger proxy group should not come at the expense of comparability. Dr. Hadaway's proxy group contains companies that have significant non-regulated operations, such as merchant generation operations. These operations are much riskier than GMO's regulated electric utility operations. However, because Dr. Hadaway does use such a large proxy group, it appears that because some of the data are so widely disparate, this cancels out some of the impacts of selecting companies for the proxy group that are not predominately pure-play regulated electric utilities. Consequently, Staff will focus its rebuttal testimony on other areas of Dr. Hadaway's testimony that cause him to estimate a higher than reasonable COE for GMO.

Q. Is there currently a difference in the capital structure recommendations of the ROR experts?

A. Yes. Staff uses Great Plains Energy, Inc.'s ("GPE") actual capital structure as of June 30, 2012, which is outside of the updated test year of March 31, 2012 but is within the true-up period of August 31, 2012. Dr. Hadaway recommends the use of a pro-forma

capital structure based on projected data through August 31, 2012. Mr. Gorman currently recommends the use of GPE's actual capital structure as of March 31, 2012. Mr. Kahal does not recommend a specific capital structure for purposes of his direct testimony, but for purposes of presenting the impact of his 9.5% ROE on the ROR, he uses GPE's pro-forma capital structure as of August 31, 2012. Fortunately, there is a true-up planned through August 31, 2012 in this proceeding so it is possible that the parties can continue to discuss the appropriate capital structure to use for the allowed ROR, even if we do not agree on the recommended ROE.

STAFF RESPONSE TO DR. HADAWAY'S RECOMMENDED ROE FOR GMO

SUMMARY

Q. Please summarize Dr. Hadaway's COE estimates and final recommended ROE.

A. Dr. Hadaway's DCF COE estimates range from 10.00% to 10.40% and his Risk Premium COE estimates range from 9.97% to 10.12% (*see* Table 6 on page 42 of Dr. Hadaway's Direct Testimony). Dr. Hadaway recommends an ROE of 10.40%

Q. Does Dr. Hadaway apply his DCF analyses to a proxy group?

A. Yes.

Q. Although you are not focusing on Dr. Hadaway's proxy group for purposes of your rebuttal testimony, can you please provide some examples of the companies Dr. Hadaway should have excluded from his proxy group and explain why?

A. Yes. The following companies have significant non-regulated operations and should be excluded from a proxy group that is developed for purposes of estimating the COE for regulated electric utility operations: DTE Energy Company ("DTE"), Edison

International, Hawaiian Electric Industries Inc. ("Hawaiian Electric") and Vectren Corporation ("Vectren").

DTE's operations consist of approximately 25% nonutility operations, which consist of gas midstream, unconventional gas production, power and industrial projects, and energy trading.[1] Edison International's operations consist of a high-risk, merchant generation subsidiary, Edison Mission Energy, which is causing a higher risk profile for Edison International on a consolidated basis.[2] Hawaiian Electric has banking operations which constitute 37% of Hawaiian Electric's total consolidated net income.[3] Vectren Corporation has approximately 20% of EBITDA from a variety of non-regulated businesses, such as coal mining, energy marketing, infrastructure services and energy services.[4]

Q. For purposes of the rest of your rebuttal testimony, will the impacts of your criticisms apply to Dr. Hadaway's selected proxy group?

A. Yes.

Q. Can you please explain your criticisms of Dr. Hadaway's DCF analyses?

A. Yes. Dr. Hadaway's DCF analyses consist of three variations of the DCF, which Staff will identify as: (1) the "equity-analyst constant-growth DCF", (2) the "GDP constant-growth DCF", and (3) the "GDP multi-stage DCF." All of these variations are heavily dependent on the constant growth rate(s) he uses to estimate the future growth in the stock price of his comparable companies. Consequently, his DCF COE estimates are very sensitive to the reasonableness of this growth rate.

[1] S&P Capital IQ, June 25, 2012.
[2] S&P Capital IQ, July 30, 2012.
[3] S&P Capital IQ May 4, 2012.
[4] S&P Capital IQ July 26, 2012.

Q. Why should the Commission dismiss the results of Dr. Hadaway's "equity-analyst constant-growth DCF", which uses a projected growth rate derived from equity analysts' projected 5-year earnings per share ("EPS") growth rates?

A. In this version of the DCF, Dr. Hadaway assumes that his comparable companies' stock prices will grow at the analysts' projected 5-year EPS growth rates indefinitely into the future. EPS projections are intended to reflect expectations over a 5-year period. As a result, these growth rates are not sustainable into perpetuity and do not reflect the long-term fundamentals of the electric utility industry.

Q. Why should the Commission not adopt Dr. Hadaway's "GDP constant-growth DCF" analysis, in which he assumes that his comparable companies' stock prices will grow indefinitely at a constant annual compound growth rate of 5.8%?

A. Dr. Hadaway's assumption that electric utility companies can and will grow at the same rate as the economy is flawed. Staff discussed this at length in the Staff Report. Staff will provide some additional information in its rebuttal testimony regarding the flaws of this assumption in addition to a simple example that shows why this assumption defies logic regarding basic risk and return principles. Even assuming *arguendo* that the expected nominal GDP growth is a reasonable proxy for the perpetual growth rate of a regulated electric utility company, his self-calculated growth rate of 5.8% does not represent investors' expectations of potential future long-term domestic economic growth.

Q. Why should the Commission not adopt Dr. Hadaway's "GDP multi-stage DCF" analysis, in which he assumes growth in dividends for the first five years based on Value Line's dividend per share ("DPS") projections and then a perpetual growth rate based on his self-calculated average annual nominal GDP growth of 5.8%?

A. This version of Dr. Hadaway's DCF analyses should be dismissed for the same reason as his "GDP constant-growth DCF" analysis discussed above. Investors do not expect regulated electric utility companies to grow in perpetuity at the same rate as the overall economy.

EQUITY ANALYSTS' EPS ESTIMATES FOR CONSTANT GROWTH

Q. What is the primary reason that Dr. Hadaway's "equity-analyst constant-growth DCF" COE estimate is unreliable?

A. Dr. Hadaway assumes that his proxy group can grow into perpetuity at an unsustainable annual growth rate of 5.63%. It is not logical to expect electric utilities' DPS to grow at a constant rate of 5.63% into the indefinite future. This growth rate is not only above what is reasonable to expect for the regulated electric utility industry, but it is also much higher than what investors expect for the growth in the overall economy.

While I do not believe the perpetual growth rate for the electric utility industry should be equivalent to the expected growth in GDP, expected long-term growth in GDP does influence expected growth for the electric utility industry. In this respect, an accurate measure of GDP is relevant, but not determinative. Because the electric utility industry's DPS, EPS and book value per share ("BVPS")[5] have not grown anywhere near the same rate as GDP in the past, it would take a leap of faith from investors to anticipate this higher rate of growth when determining a fair price to pay for electric utility stocks.

[5] Per share figures that are often analyzed to determine a sustainable long-term growth rate for the DCF methodology.

GDP AS A PROXY FOR ELECTRIC UTILITY INDUSTRY GROWTH

Q. In both his "GDP constant-growth DCF" and "GDP multi-stage DCF" Dr. Hadaway assumes his proxy group will grow at the same rate of the economy. Why is this assumption unreasonable?

A. The simplest way to illustrate the fallacy of Dr. Hadaway's use of GDP growth in his DCF analyses as a proxy for long-term growth of the regulated electric utility industry is to consider the impact of the appropriate application of this logic to the S&P 500 index. Because the S&P 500 index is considered a proxy for the U.S. stock market, it intuitively makes sense that the expected long-term growth of the S&P 500 may be consistent with the expected growth in GDP. However, because on average, the companies in the S&P 500 tend to have better growth prospects than the electric utility industry, the dividend payout ratio and the dividend yield is lower than that of the electric utility industry. This implies that the growth rate for the electric utility industry would have to be lower than an aggregate growth rate, i.e. GDP, used for the U.S. market, i.e. the S&P 500. Adding Dr. Hadaway's expected GDP growth rate of 5.8% to the current S&P 500 dividend yield of 2.24% as of August 9, 2012,[6] results in a COE estimate of 8.04%. Dr. Hadaway's "GDP constant-growth DCF" analysis of the electric utility industry results in an estimated cost of equity of 10.20%. Considering that electric utilities stocks are approximately 30% less volatile than the S&P 500, this illustrates how Dr. Hadaway's methodologies defy even the most basic risk and return principles of finance.

Q. Are there other reasons to be skeptical of Dr. Hadaway's use of GDP growth as a proxy for electric utility industry growth?

[6] http://www.standardandpoors.com/indices/sp-500/en/us/?indexId=spusa-500-usduf--p-us-l--

A. Yes. This assumption is often used for a company or an industry that is in its "growth phase," i.e., experiencing "supernormal" growth. In these cases, many finance textbooks recommend that the perpetual growth rate be based on the expected growth in the economy if, and only if, this approach is consistent with expected sustainable growth.[7] However, as Staff discussed in the Staff Report, even the S&P 500 has not grown at the same rate as GDP for the period 1947 through 2011. This is mainly attributed to the fact that companies must issue stock to pursue growth opportunities, which causes a dilution to existing shareholders. If the S&P 500 cannot grow at the same rate as GDP, then it is completely irrational to believe that electric utilities can grow at the same rate as GDP, considering that their dividend payout ratios are usually at least twice as high as the average for the S&P 500.

Empirical evidence Staff provided in the Staff Report comparing GDP growth to electric utility DPS, EPS, and BVPS growth clearly shows that electric utility per share growth rates have been approximately *half* of the growth of the overall economy for long historical periods. However, upon Staff's further analysis of data provided by the Bureau of Economic Analysis ("BEA") regarding various industries' contribution to aggregate nominal GDP growth, Staff discovered that on an aggregate basis, there have been periods in which the utility industry's contribution to nominal GDP had been growing at a faster rate than overall GDP, but there have also been instances in which it had been growing at a slower rate than overall GDP. Perhaps of most interest is the fact that utility growth as a percentage of GDP has been declining for approximately the last 20 years, which does not support the

[7] John D. Stowe, Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey, *Analysis of Equity Investments: Valuation*, 2002, Association for Investment Management and Research.
Aswath Damodaran, *Investment Valuation: Tools and techniques for determining the value of any asset*, 1996, John Wiley & Sons, Inc.

theory that aggregate utility growth would be expected to grow in the long-term at the same rate as aggregate GDP growth.

Q. Why is it important to distinguish between aggregate growth rates and per share growth rates when estimating the cost of capital and/or the value of a given utility stock?

A. Because investors are determining the fair value of the stock, not the company, the most relevant growth rate information is that on a per share basis. If a company issues equity to fund capital investment, then this dilutes existing shareholder value because earnings and dividends are spread over more shares. A prospective equity investor does not assume that he/she will realize the aggregate growth of the company because of this expected dilution.

Q. How much has dilution affected growth in per share figures for the proxy group of electric utilities you selected for purposes of estimating a potential long-term growth rate for your multi-stage DCF analysis?

A. The average growth rate in total dividends, total earnings and total book value over the period 1969 through 1998 was approximately 7.75%, whereas the average growth rate of this financial data on a per share basis for the same period was 3.59%. This is a dilution factor of over 50% to the growth of the aggregate financial data.

Q. What about the dilution in just earnings?

A. The average rolling 10-year compound growth rate in total earnings was 7.80%, whereas the rolling 10-year compound growth rate in EPS was 3.62%. Again, this is an over 50% dilution for purposes of per share growth, which is the focus of equity investors and analysts.

Q. What would this imply about any methodology used to estimate the future growth in utility per share figures?

A. An investor should reduce the aggregate growth rate projections by at least 50%.

Q. So, if one assumes that utility aggregate earnings can grow at the aggregate GDP growth rate, what growth rate would be assumed on a per share basis?

A. A growth rate of approximately 2.50%, which is consistent with most perpetual growth rates Staff has observed in investment analyses.

INVESTORS' GDP GROWTH EXPECTATIONS

Q. Assuming *arguendo* that electric utility companies can grow in perpetuity at the same rate of expected GDP growth, do you believe investors expect GDP to grow at a rate of 5.8% for the long-term?

A. No. Staff cited several sources in the Staff Report that indicate that the expected long-term growth in nominal GDP is in the 4 to 5% range. Staff will provide these again for convenience.

Several entities provide long-term GDP growth rate forecasts, such as the Congressional Budget Office ("CBO"), the Federal Reserve, the Energy Information Administration ("EIA"), and Blue Chip Financial Forecasts. In the Staff Report, Staff provided long-term projected GDP information from the CBO, EIA, The Survey of Professional Forecasters published by the Philadelphia Federal Reserve, The Federal Open Market Committee ("FOMC"), and The Livingston Survey. The CBO projects an annual compound growth rate in nominal GDP of approximately 4.90% through 2022; EIA projects an annual compound growth rate of 4.4% for the period 2010 through 2035; The Survey of

Professional Forecasters projects a 10-year annual compound growth rate in real GDP of 2.64%; The Livingston Survey projects an average annual compound growth rate of 2.7% over the next ten years and the FOMC projects a central tendency long-term real GDP growth of 2.3% to 2.6%. In each case in which the sources do not project a nominal GDP growth rate, Staff recommended adding a GDP price deflator of 2.0%, which is the CBO's prediction of long-term inflation and also the inflation rate which is targeted by the Federal Reserve. The Staff Report did not include projections from the Blue Chip Financial Forecasts because Staff does not subscribe to this publication. However, Mr. Gorman's workpapers did include this data. Private economists surveyed by Blue Chip Economic Forecasts project GDP growth rates to be approximately 5.1% over the period 2014 through 2018 and 4.7% for the period 2019 through 2023. Mr. Gorman indicated he used the average of these two growth rates to arrive at a 4.9% growth rate. However, Staff believes it is more appropriate to give more consideration to the projected growth in GDP in the later years. Based on the various sources Staff reviewed, an estimated 5.0% average annual GDP growth rate over the long-term is a more aggressive expectation, not to mention a 5.8% growth rate is outside of even high-end projections. All the evidence Staff has provided shows that regulated utilities' EPS and DPS do not and should not be expected to grow at the same rate as the aggregate GDP growth rate. However, if the Commission does accept this theory, it should at least be conservative and use the lower end of these projected GDP growth rates. In the Staff Report, Staff recommended the Commission use the lower end of the range (4.3%), which resulted in an 8.85% COE estimate using Staff's multi-stage DCF methodology.[8]

[8] Staff estimated the 4.3% growth rate based on an approximate additive methodology. If Staff had compounded real GDP growth and the inflation rate, the low-end growth rate would have been 4.35%.

Q. How would an assumed 4.3% nominal GDP growth rate impact the results of Dr. Hadaway's GDP constant-growth DCF analysis?

A. This would have resulted in a COE indication of 8.7% to 8.9%.

Q. How would an assumed 4.3% nominal GDP growth rate impact the results of Dr. Hadaway's GDP multi-stage DCF analysis?

A. This would have resulted in a COE indication of 8.7%.

Q. Are you aware of any internal DCF analysis performed by GPE that uses CBO projections to estimate long-term perpetual growth rates?

A. Yes. GPE's own 2011 goodwill impairment analysis, which requires an estimate of the "fair value" of utility assets, used CBO projected real GDP and inflation data as a proxy for perpetual growth in its own internal DCF analysis.

Q. Why does GPE use this source for its annual goodwill impairment tests?

A. According to KCPL witness, Darrin R. Ives in his September 27, 2010 deposition in Case No. ER-2010-0355, GPE considers CBO information to be "...one of the best published views of go forward growth and inflation."[9]

Q. Did GPE use any of the other aforementioned sources in previous goodwill impairment tests?

A. Yes. GPE used Blue Chip Economic Indicator data for purposes of estimating future economic data for its 2008 goodwill impairment analysis.

Q. Did GPE provide a reason as to why it relied on the CBO projections in the 2009 study rather than the Blue Chip Economic Indicator consensus economic forecasts that it had used in the 2008 study?

[9] Darren Ives' September 27, 2010 Deposition, p. 69, ll. 9-11.

A. No. In the same 2010 deposition taken of Mr. Ives, KCPL's Assistant Controller at that time, and now Senior Director of Regulatory Affairs, he indicated he was not sure why they switched sources and he indicated that he would not necessarily ascribe more credibility to one over the other.[10]

Q. Why is this information pertinent to the estimation of the COE in this case?

A. Because it is Dr. Hadaway's position that investors rely on his calculations of historical GDP growth to project growth rates in a DCF analysis rather than relying on the previously mentioned sources. This assumption has a major impact on his COE estimate. Even if Dr. Hadaway had relied on the more aggressive nominal GDP growth estimates from the same sources GPE uses for its own internal DCF analyses, then his COE estimates would be in the lower 9% range for both his "GDP constant-growth DCF" and his "GDP multi-stage DCF" analysis.

Q. What perpetual growth rates did GPE use when estimating the fair value of its utility assets using a DCF approach?

A. The perpetual growth rate used in GPE's most recent goodwill impairment tests in 2011 was only ** ___ **.

Q. What was the basis for this perpetual growth rate?

A. This growth rate was determined by taking the sum of 75% of the CBO's long-term projected inflation rate and 25% of the CBO's long-term projected real GDP growth rate.

Q. Did the Company provide its logic for using these two growth factors as a proxy for perpetual growth in valuing its utility assets?

[10] Ives' September 27, 2010 Deposition in Case No. ER-2010-0355, p. 82, ll. 5-6.

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A. Yes. In response to Staff Data Request No. 209.1, the Company indicated the following:

> Real GDP is a measure of the value of the economy's output adjusted for price inflation and is sometimes referred to as "constant" GDP. Because real GDP is adjusted for the impact of price inflation, it provides a view of the total output of goods and services, i.e. actual economic production. The growth of Great Plains Energy's utility business is driven by increases in actual economic production, therefore, real GDP provides a proxy for potential growth. The Company determined that in order to have as accurate of a future view as possible it was important to look at both real economic growth (real GDP) and price inflation (CPI) when determining the fair value of its business units for purposes of the goodwill impairment test.

Q. Is the ** ___ ** growth rate supposed to be a proxy for real growth and inflation growth?

A. I am not sure. This was not explained well in the Company's response to this data request, but the fact that the Company would use such a widely divergent perpetual growth rate for an internal valuation analysis compared to that assumed by its ROR witness for estimating the cost of capital should cause doubt about the credibility of Dr. Hadaway's aggressive growth rate estimates.

Q. Why would GPE use projected inflation rates for the perpetual growth rates?

A. Because according to the accounting principles governing the estimation of a fair value, a company in a "steady-state" should not be expected to grow much higher than expected inflation in perpetuity. In fact, in a document provided by KCPL at the time of Staff's deposition of Mr. Ives in Case No. ER-2010-0355, Price Waterhouse Coopers ("PwC") indicated the following about the reasonableness of perpetual growth rates:

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> The terminal value represents the present value in the last year of the projection period of all subsequent cash flows in perpetuity. A long-term growth rate in excess of a projected inflation rate should be viewed with skepticism and adequately supported and explained in the valuation analysis.[11]

A key assumption made for purposes of determining the residual value of a business unit in the terminal year of the analysis is that the unit will grow at a constant rate into perpetuity because the company has reached a state of maturity. Dr. Hadaway's assumed perpetual growth rate is approximately three times that of expected inflation rates and Dr. Hadaway's only support for this assumption are some generic academic references. In the Staff Report, Staff provided an extensive amount of information that demonstrates that practical and empirical evidence do not support this view.

RISK PREMIUM ANALYSES

Q. What are your primary concerns regarding Dr. Hadaway's risk premium analyses?

A. Dr. Hadaway's risk premium analyses assumes that state commissions' allowed ROE's represent the market-determined COE for electric utility companies. He compounds the problem with this assumption by suggesting that the COE should be adjusted due to his observation that allowed ROEs are negatively correlated with changes in utility bond yields. While Staff believes it is safe to conclude that risk premiums are not constant over time, Staff also believes that the use of actual or allowed ROE data to interpret the market's required risk premium is of questionable value. For example, Eugene Fama and Kenneth French concluded that *earned* ROEs over the period of 1950 through 2000 were not

[11] Document 3. B provided at Darren Ives' September 27, 2010 Deposition. P. 30, PriceWaterhouseCoopers Dataline 2008-35: Nonfinancial Asset Impairment Considerations (*Updated March 26, 2009).*

consistent with *required* ROEs over the same period.[12] Fama and French arrived at this conclusion by using the DCF method to compare the COE to the ROE over the same period. Fama and French's conclusions are very similar to the issues discussed by Mr. Gorman when he indicates that the returns achieved in the stock market for the period covered in the Ibbotson and Associates' data reflects an abnormal appreciation of the price-to-earnings ratio in the U.S. markets.

Dr. Hadaway also added his estimated risk premium to projected bond yields. This is inappropriate because it is akin to using projected stock prices in a DCF analysis. A ROR witness should not attempt to estimate where he thinks stock prices and bond yields will be in the future, because then he is substituting his judgment for that of the market.

Staff's concerns notwithstanding, if the Commission desires to incorporate this methodology in estimating a fair ROE, then Staff advises the Commission to use actual utility bond yields and an unadjusted risk premium to estimate an "allowed ROE risk premium" COE estimate.

STAFF RESPONSE TO MR. GORMAN'S RECOMMENDED ROE FOR GMO

Q. What is Mr. Gorman's recommended ROE for GMO in this case?

A. His ROE recommendation in this case is 9.30% based on COE estimates ranging from 9.10% to 9.50%.

Q. How did Mr. Gorman arrive at a recommended ROE of 9.30%?

A. Mr. Gorman chose the mid-point of his COE estimates from his DCF and risk premium analyses. The high-end, 9.50%, COE estimate was based on the highest estimate (9.46%) of three different DCF analyses he performed on Dr. Hadaway's proxy group.

[12] Eugene F. Fama and Kenneth R. French, "The Equity Premium," *The Journal of Finance*, (April 2002).

His 9.10% COE estimate was based on his risk premium analysis. Mr. Gorman dismisses his CAPM COE estimate of 8.40%.

Q. Why did Mr. Gorman dismiss his CAPM COE estimate?

A. He didn't explain this in much detail in his testimony.

Q. Do you believe COE estimates in the 8% range for regulated electric utilities are realistic in the current capital and macroeconomic environment?

A. Absolutely. I even estimated the COE to be as low as the 7% range for regulated electric utilities. However, I did not ultimately recommend an ROE based on this lower COE estimate. I did explain that I believe this low of a COE is entirely plausible in today's capital market environment and in fact is consistent with the COE used by equity analysts for purposes of estimating a fair price to pay for regulated electric utility stocks.

Q. What are the primary causes of Mr. Gorman's higher DCF cost of equity estimates compared to yours?

A. Mr. Gorman relies on DCF analyses that assume a long-term perpetual growth rate in the range of 4.85% to 5.14%. Perpetual growth rates this high are not supported by empirical evidence or practical investment analysis. Staff has **never** seen an investment analyst assume this high of a perpetual growth rate for purposes of estimating the value of a regulated electric utility stock. Staff provided examples in the Staff Report of the impact such high growth assumptions would have on investors' estimated value of regulated electric utility stocks.

Q. But don't your examples assume investors are using a COE below the allowed ROEs granted by state commissions?

A. Yes. This is exactly my point. Staff has seen numerous examples of investment analyses which show that investors build in certain expected authorized ROE outcomes for rate cases for purposes of cash flow modeling, but then they discount these expected cash flows by their real required ROE, which is their COE.

Q. If allowed ROEs are set higher than the COE, then will this cause upwardly biased COE estimates if an analyst makes this assumption for purposes of his risk premium analysis?

A. Yes, and this is exactly the assumption Mr. Gorman makes for purposes of his risk premium analysis, which is the basis for the lower end of his estimated COE range. However, to the extent that the Commission believes it needs to allow ROEs similar to those being authorized in other states, then this methodology may have appeal.

If the Commission decides to consider Mr. Gorman's methodology for purposes of establishing an allowed ROE, then, for purposes of Mr. Gorman's first risk premium analysis, I recommend the Commission use current 30-year T-bond yields rather than an expected bond yield as Mr. Gorman proposes. Using current 30-year T-bond yields would reduce Mr. Gorman's risk premium estimate by approximately 84 basis points, which would cause his risk premium COE range to be 7.17% to 8.89%. Even using Mr. Gorman's arbitrary weighting of 2/3 for the high end estimate and 1/3 weight to the low end estimate, results in a COE estimate of 8.46%.

Mr. Gorman's second risk premium analysis compares allowed ROEs to 'A' rated utility bond yields for the period 1986 through 2011. However, Mr. Gorman then adds this risk premium to a 'Baa' bond yield to estimate the COE. When performing a risk premium analysis it is proper to add the risk premium to the same bond category as was used to

estimate the risk premium. If Mr. Gorman had used average 'Baa' utility bond yields, his risk premium range would have been 2.71% to 4.36%, with a mid-point of 3.54%. Adding this mid-point risk premium to the current 'Baa' bond yield of 4.95%, results in a COE estimate of 8.49%.

Q. Considering the fact that there seems to be adequate support for Mr. Gorman to estimate a COE in the 8% range, if Mr. Gorman believes the allowed ROE should be set based on the COE, then why wouldn't he recommend a lower ROE?

A. I am not sure.

Q. Is Mr. Gorman the Office of Public Counsel's witness in this case?

A. Yes.

Q. What ROE does the consumer advocate witness in Kansas recommend for KCPL's Kansas rate case?

A. The Kansas Citizen's Utility Ratepayer Board's ("CURB") ROR witness recommended an 8.5% ROE in testimony filed on August 22, 2012, in the KCPL rate case in that state, KCC Docket No. 12-KCPE-764-RTS.

Q. What ROE did the Staff of the Corporation Commission of Kansas recommend?

A. 9.2%.

Q. Has it become more common for non-utility ROR witnesses to recommend ROEs in the single-digits?

A. While Staff has not performed a specific survey to conclude this to be the case, Staff is generally aware that this is becoming more common. The current macroeconomic and capital market environment is resulting in extremely low costs of capital

for low-risk investments, such as utility stocks. It would seem only fair to ratepayers to allow this lower cost of capital to be passed on to ratepayers in the form of lower allowed ROEs. There was a time when utility commissions authorized higher returns when the economic conditions warranted, but those conditions simply don't exist at this time.

Q. If the Commission authorized an ROE for GMO lower than that authorized for KCPL by Kansas, would GPE be more likely to invest in its KCPL utility assets in Kansas as compared to KCPL's Missouri utility assets?

A. In response to Staff Data Request No. 0505, the Company indicated the following about such a possibility: "No, the Company does not make investment decisions based on the respective authorized ROEs in Missouri and Kansas."

STAFF RESPONSE TO MR. KAHAL'S RECOMMENDED ROE FOR GMO

Q. What is Mr. Kahal's recommended ROE in this case?

A. His recommended ROE is 9.50% based primarily on a constant-growth DCF analysis of Dr. Hadaway's proxy group of companies. His DCF analysis produced a range of COE estimates of 8.8% to 9.8%, with a 9.3% mid-point. Mr. Kahal did not indicate that he chose to recommend an ROE higher than the mid-point because of any specific risk issues related to GMO as they compare to the proxy group.

Q. What is your primary concern with Mr. Kahal's constant-growth DCF analysis?

A. Mr. Kahal decided to rely exclusively on equity analysts' 5-year EPS growth rate forecasts to estimate a constant-growth rate range of 4.5% to 5.5%. As Staff explained extensively in the Staff Report, Staff is not aware of any investment analyst that determines the price to pay for a regulated utility stock price by making this naïve assumption. Staff has

gone so far as to say it has **never** seen an investment analysis that makes this assumption and Staff has reviewed a considerable amount of utility stock investment analysis over the past several years. Staff also provided several examples of what the justified price of specific utility stocks would be if this high of a growth rate of DPS in perpetuity were discounted by a COE for the market as a whole (i.e., the S&P 500). Using these growth rates with more reasonable COE estimates simply results in extraordinarily high stock price estimates as compared to those estimated by professional equity analysts.

Q. Does a COE as low as 9.5% even with such high growth rates demonstrate the significant decrease in the COE over the last couple of years?

A. Yes. Although Staff disagrees with the absolute value of Mr. Kahal's estimate, Staff believes the Commission can evaluate the relative changes in constant-growth DCF estimates from specific ROR witnesses for purpose of supporting a change in the allowed ROE from the last rate case, Case No. ER-2010-0356.

Q. Did Mr. Kahal sponsor ROR testimony in the last rate case?

A. No.

Q. Did Mr. Gorman and Dr. Hadaway sponsor ROR testimony in the last rate case?

A. Yes.

Q. Did Mr. Gorman and Dr. Hadaway provide a constant-growth DCF COE estimate using equity analysts' 5-year EPS growth rates as a proxy for perpetual growth in the last rate case?

A. Yes.

Q. What was Mr. Gorman's constant-growth DCF COE estimate in the last case?

A. 10.33%.

Q. What is it in this case?

A. 9.5%.

Q. What was Dr. Hadaway's constant-growth DCF COE estimate in the last rate case?

A. 10.6%.

Q. What is it in this case?

A. 10.0%.

Q. What is the range of the relative decrease in COE based purely on the constant-growth DCF?

A. 60 to 83 basis points.

Q. If the Commission applied this decrease to its last allowed ROE for GMO of 10.0%, what would the range be?

A. 9.17% to 9.40%.

STAFF'S RESPONSE TO DR. HADAWAY'S, MR. GORMAN'S AND Mr. KAHAL'S RECOMMENDED CAPITAL STRUCTURE FOR GMO

Q. Please summarize Dr. Hadaway's, Mr. Gorman's and Mr. Kahal's recommended capital structure for GMO.

A. Dr. Hadaway's recommended capital structure is based on GPE's projected capital structure as of August 31, 2012, the agreed-upon true-up period in this case. Mr. Gorman recommends GPE's actual capital structure as of March 31, 2012, which was the agreed-upon update period for this case. Mr. Kahal has not taken a specific position on capital structure at this point. Staff currently recommends using GPE's capital structure as of

June 30, 2012, because this period, along with an adjustment for the July 2, 2012 retirement of Aquila legacy debt, captures all known significant financing activities that have recently occurred at GPE. Because Staff anticipates GMO will be able to provide it with actual data through August 31, 2012 in time for surrebuttal testimony in this case, Staff plans to update its recommended capital structure at that time. Staff will also discuss in more detail in its surrebuttal testimony any remaining differences between the parties on the recommended capital structure for purposes of this case.

STAFF'S RESPONSE TO DR. HADAWAY'S, MR. GORMAN'S AND MR. KAHAL'S RECOMMENDED COST OF DEBT FOR GMO

Q. What is the basis for Dr. Hadaway's recommended embedded cost of debt of 5.733% for GMO?

A. The debt issuances that underlie Dr. Hadaway's embedded cost of debt recommendation include debt that was assumed by GPE when it acquired Aquila, Inc. and still reside with the entity now named GMO and debt that was issued subsequent to GPE's acquisition of the GMO properties. The debt issued subsequent to the acquisition of the GMO properties has been issued by GPE and then assigned to GMO through an intercompany loan agreement.

Dr. Hadaway's pro forma estimate through August 31, 2012, of the direct GMO debt and the debt assigned to GMO was 5.733%. The cost of this debt was 5.975% as of June 30, 2012. This embedded cost of debt is based purely on debt issued by GMO or debt assigned to GMO. All KCPL debt is excluded from this embedded cost of debt calculation.

Q. Have there been any unique financing activities at GPE that can cause some confusion regarding the appropriate capital structure and debt costs for purposes of this case and the KCPL rate case?

A. Yes. GPE recently remarketed notes that were issued to investors in GPE's equity units in May 2009. The proceeds from this issuance were assigned to GMO as debt even though under the terms of the equity unit contract, the proceeds are technically used to purchase GPE common shares. Equity unit investors provided the $287.5 million of capital raised in May 2009, which required these investors to purchase GPE common shares at a pre-determined price 3-years later. If GPE had not been able to remarket the notes, then the equity units would simply convert to common equity without GPE raising additional capital. However, because GPE did remarket the notes, this provided and additional $287.5 million in debt capital in March 2012. These proceeds were loaned to GMO through an intercompany loan contract, which was combined with other capital to retire GMO's $500 million debt that matured on July 2, 2012.

It is Staff's understanding that if GPE had not remarketed the debt, then GPE's common equity ratio would have been much higher. However, GPE would have still needed to raise capital to retire debt coming due at GMO in July 2012. If GPE had issued common equity to do so, then its capital structure would be even more weighted with equity than reflected in Staff's recommended June 30, 2012 capital structure.

If the above explanation seems confusing, it's because it is. The blending of the financing activities of the parent company with its subsidiaries causes such convoluted situations. This is one of the reasons it is logical to use a consolidated capital structure along with a consolidated cost of debt when subsidiaries are not financially managed on a stand-alone basis. This approach helps minimize potential manipulation, intended or unintended, of the capital structure and capital costs. Assuming appropriate cost adjustments

are made to the GPE debt issuances, Staff believes this approach can provide the most equitable ROR for both GMO and KCPL.

Q. What is the basis for Mr. Gorman's recommended embedded cost of debt of 6.21% for GMO?

A. Mr. Gorman recommends GMO's embedded cost of debt of 6.21% as of the update period, March 31, 2012, which was provided by the Company in response to Staff Data Request No. 0168. This embedded cost of debt is based entirely on direct GMO debt issuances and debt issued by GPE that was then assigned to GMO. Mr. Gorman did not make this explicit allocation of GPE debt. It was embedded in GMO's calculations provided in its response to Staff's data request.

Q. Does Mr. Kahal make an explicit recommendation for GMO's embedded cost of debt?

A. No. Although Mr. Kahal uses GMO's projected embedded cost of debt of 5.73% for purposes of providing an overall ROR, it appears he is reserving the right to recommend some other cost of debt in subsequent rounds of testimony.

Q. Why do you disagree with the embedded costs of debt recommended by Dr. Hadaway and Mr. Gorman?

A. Because these embedded costs of debt do not give consideration to the fact that GPE is not managing GMO and KCPL as stand-alone entities, at least from a financing perspective.

Q. What do you mean?

A. GPE has issued three separate debt issuances on behalf of GMO and each of these debt issuances are of shorter tenors than debt KCPL issued during the same period.

This causes KCPL to incur higher debt costs and GMO to incur lower debt costs, even though KCPL has and is providing the credit support to allow GPE to issue this debt on behalf of GMO. Staff discusses this issue extensively in the Staff Report at page 32, line 9 through page 33, line 14 and at page 34, line 12 through page 37, line 11.

Q. What seems to be the most equitable means in which to rectify this situation?

A. Staff proposes the Commission authorize an embedded cost of debt for KCPL and GMO based on GPE's consolidated cost of debt, after making adjustments to the holding company debt issued on behalf of GMO.

Q. Did you make those adjustments in the Staff Report?

A. Yes.

Q. How did you make those adjustments?

A. I used the average bond yield for a 'BBB' rated bond for the month in which the GPE bond was issued. I matched the tenor of the GPE bond with the tenor of the average yield for the month in which GPE issued the bond.

Q. Have you received any information from the Company since the Staff Report was filed that provides an alternative means in which to adjust these yields?

A. Yes. In response to Staff Data Request No. 0454 in Case No. ER-2012-0174, KCPL provided a pricing sheet Scotia Capital provided to KCPL when KCPL was considering issuing $400 million of debt in 2011.

Q. What was Scotia Capital's indication of an expected coupon if KCPL issued 30-year unsecured debt?

A. 5.95%.

Q. What coupon did KCPL ultimately end up receiving on its 30-year unsecured debt?

A. 5.30%.

Q. When did KCPL issue the 30-year unsecured debt?

A. September 2011.

Q. When did GPE issue the two 10-year unsecured debt issuances you adjusted for purposes your consolidated cost of debt recommendation in the Staff Report?

A. May 2011 and March 2012 so these debt issuances shoulder the debt KCPL issued.

Q. What was the indicative coupon Scotia Capital provided to KCPL for a 10-year unsecured debt issuance?

A. 4.45%.

Q. If GMO were able to issue debt on its own and continued to have a 'BBB' credit rating as Aquila did before its non-regulated operations caused a deterioration in its credit rating, wouldn't it be reasonable to believe GMO could be realizing debt costs similar to that of KCPL?

A. Yes.

Q. Considering the fact that Scotia Capital overestimated the coupon for KCPL's 30-year unsecured debt by 65 basis points, isn't it safe to assume that its indicative coupon for 10-year unsecured debt was overestimated as well?

A. Yes. Although it is difficult to know that it would have been overestimated by the same amount as the 30-year note, it would seem to be safe to assume that if KCPL had issued 10-year unsecured debt, it would have been at a coupon close to 4.00%.

Q. If you assume these two GPE debt issues could have been issued by an entity with a credit rating proper for GMO's low business risk, then what would GPE's consolidated embedded cost of debt be based on the 4.00% coupons?

A. 6.142%.

Q. Does Staff support either adjustment mechanism?

A. Yes and Staff is open to suggestions to other methodologies for adjustment as long as there is some adjustment considered.

DEMAND-SIDE INVESTMENT MECHANISM PROGRAM CONSIDERATIONS

Q. Do Dr. Hadaway, Mr. Gorman or Mr. Kahal discuss any business risk effects of GMO's demand-side programs and Demand-Side Programs Investment Mechanism ("DSIM") proposed under the Missouri Energy Efficiency Investment Act ("MEEIA") in Case No. EO-2012-0009?

A. No.

Q. Does the Missouri Code of State Regulations require the Commission to consider the effect of the DSIM on GMO's business risk?

A. Yes. 4 CSR 240-20.093(2)(D) states, "In addition to any other changes in business risk experienced by the electric utility, the commission shall consider changes in the utility's business risk resulting from establishment... of the DSIM in setting the electric utility's allowed return on equity in general rate proceedings."

Q. If a DSIM is ultimately approved during the pendency of this rate case, how should it be considered?

A. Although the details of any possible final DSIM have not been approved yet, as Staff discussed in its rebuttal testimony in Case No. EO-2012-0009, Staff believes such

mechanism is likely to reduce business risk. Staff does not anticipate proposing the Commission make a specific quantitative adjustment to GMO's allowed return on equity for a DSIM, but rather consider the reduced business risk along with current capital market conditions in reducing the allowed ROE from its current level of 10%.

SUMMARY AND CONCLUSIONS

Q. Please summarize the conclusions of your Rebuttal Testimony.

A. My conclusions are:

1. There is no practical or empirical evidence that supports the use of GDP as a proxy for perpetual growth in electric utility industry;

2. Equity analysts' 5-year EPS growth estimates are not intended to be used as a proxy for constant-growth in a single-stage DCF analysis. This growth rate is a 5-year projected growth rate for EPS and historical experience has shown that it is highly unlikely that the current 5-year projections are achievable and/or sustainable into perpetuity;

3. GPE relies on the same sources Staff relied on for projected GDP information, it did not rely on Dr. Hadaway's projected economic information;

4. Both Dr. Hadaway's Risk Premium analysis and Mr. Gorman's Risk Premium and CAPM analysis inappropriately use projected bond yields;

5. Staff will further evaluate GPE's capital structure through the true-up period of August 31, 2012, as actual data becomes available;

6. The other ROR witnesses did not consider the effect GPE's debt financing decisions are having on the embedded cost of debt of each individual subsidiary, GMO and KCPL. This should be considered because this is causing inequitable cost of debt differences between KCPL and GMO. Additionally, if GMO had been able to issue debt on its own behalf and at costs consistent with its low-risk regulated utility assets, the consolidated embedded cost of debt would have been lower.

Q. Does this conclude your Rebuttal Testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement General Rate Increase for Electric Service	))))	Case No. ER-2012-0175

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

David Murray, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 31 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

David Murray

Subscribed and sworn to before me this 12th day of September, 2012.

Notary Public

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 08, 2012
Commission Number: 08412071