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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

DAVID MURRAY

Great Plains Energy, Incorporated
KCP&L Greater Missouri Operations

FILE NO. ER-2010-0356

Jefferson City, Missouri
December 2010

** 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?

A. Yes, I am. I filed rate-of-return testimony on November 17, 2010. I also filed rate-of-return testimony in the Kansas City Power & Light Company ("KCPL") case, File No. ER-2010-0355, on November 10, 2010.

Q. What is the purpose of your Rebuttal Testimony?

A. The purpose of my Rebuttal Testimony is to respond to the Direct Testimony of Samuel C. Hadaway and the Direct Testimony of Michael Gorman. Dr. Hadaway sponsors rate-of-return testimony on behalf of KCP&L Greater Missouri Operations ("GMO"). Mr. Gorman sponsors rate-of-return testimony on behalf of Ag Processing, Inc., Sedalia Industrial Energy Users Association, and the Federal Executive Agencies. I will address the issues surrounding GMO's cost of common equity, the appropriate capital structure to use for ratemaking purposes, the cost of equity units, 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 and Mr. Gorman.

A. Model inputs. All of the experts in this case use multiple methodologies to evaluate the estimated cost of GMO's common equity; Staff gives primary weight to its multi-stage discounted cash flow ("DCF") analysis, Dr. Hadaway appears to give primary weight to his DCF analyses, and Mr. Gorman gives weight to his DCF, Capital Asset Pricing Model ("CAPM") and Risk Premium analyses. It is clear from a comparison of the commonly-used DCF methodology that Staff's lower cost of equity estimate is primarily driven by Staff's position that investors do not project perpetual electric utility dividend growth based on 5-year earnings per share ("EPS") estimates or gross domestic product ("GDP") growth, but rather expect growth rates consistent with past industry performance and that of an industry expected to maintain relatively high dividend payout ratios due to lack of sustainable growth prospects. Staff's perpetual growth rates closely reflect those that are used by investors, financial advisors and equity analysts for purposes of determining a fair price to pay for an equity investment in regulated electric utility properties.

Each rate-of-return ("ROR") witness in this case performed a multi-stage DCF analysis. The main driver behind the results obtained from any multi-stage DCF analysis is the perpetual growth rate. Consequently, to the extent the Missouri Public Service Commission ("Commission") continues to accept the multi-stage DCF methodology, as it did in the recent Union Electric Company d/b/a AmerenUE ("AmerenUE") rate case, Case No. ER-2010-0036, the main issue before the Commission is the determination of a reasonable perpetual growth rate.

Dr. Hadaway uses a perpetual growth rate of 6.0 percent, based on his self-determined calculation of historical nominal GDP growth. Mr. Gorman relies upon a perpetual growth rate of 4.75 percent, which is based upon the projected nominal GDP growth rate provided in the October 10, 2010 edition of *Blue Chip Economic Indicators*. Staff used a perpetual growth rate range of 3.0 percent to 4.0 percent, based upon long-term realized growth rates for the electric utility industry and Staff's knowledge of perpetual growth rates used by independent investment analysts. Staff believes that this 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. Is there currently a difference in the capital structure recommendations of the ROR experts? If so, what are they?

A. Yes, there is currently a difference in recommended capital structures. Staff uses Great Plains Energy, Inc.'s ("GPE") actual capital structure as of June 30, 2010, exclusive of KCPL's preferred stock. Dr. Hadaway recommends the use of a pro-forma capital structure based on projected data through December 31, 2010, inclusive of KCPL's preferred stock. Mr. Gorman adopts Dr. Hadaway's proposed capital structure. Staff advises the Commission to wait until actual true-up information is available before deciding if the December 31, 2010 capital structure should be adopted.

Q. Are there any differences in opinion on the proper cost of equity units to include in the ROR applied to GMO's rate base?

A. Yes. Staff believes the cost of these equity units was higher as a result of the additional financial risk GPE absorbed when it acquired Aquila, Inc.'s ("Aquila") Missouri electric operations[1] on July 14, 2008. Consequently, Staff recommends a downward

[1] Now referred to as "the GMO properties".

adjustment to the cost of the equity units to ensure that GMO's ratepayers do not pay higher capital costs caused by GPE's strained credit quality due to Aquila's legacy debt.

Q. What are the issues surrounding GMO's embedded cost of debt?

A. The Company proposes using an allocated cost of debt based on hypothetical debt issued at hypothetical costs. Because the Company's methodology requires many assumptions about the timing and the need for debt capital and the cost that this debt capital *could have been* if Aquila had maintained an investment grade credit rating, Staff believes it is more appropriate to estimate a cost of debt for GMO based on a proxy of true third-party debt issuances. In specific, Staff believes it is appropriate to use an aggregate proxy based on The Empire District Electric Company's ("Empire") embedded cost of debt of 6.52 percent as of June 30, 2010[2].

STAFF RESPONSE TO DR. HADAWAY'S RECOMMENDED COST OF COMMON EQUITY FOR GMO

SUMMARY

Q. Please summarize Dr. Hadaway's cost of common equity estimates and final recommended ROE.

A. Dr. Hadaway estimates GMO's cost of common equity at 10.75 percent, but ultimately recommends an ROE of 11.00 percent to include an additional 25 basis points for GMO's "reliability and customer satisfaction achievements." (*See* Staff witness Lisa Kremer's Rebuttal Testimony filed in response to GMO's request for this additional increase). Dr. Hadaway's DCF estimates range from 10.50 percent to 11.00 percent and his Risk Premium estimates range from 10.61 percent to 10.82 percent. (*See* Table 6 on page 43 of Dr. Hadaway's Direct Testimony).

[2] Provided in Empire's rate case, Case No. ER-2011-0004.

Although the timing of Dr. Hadaway's analysis for purposes of his recommended cost of common equity was not under his control, it is very important to note that the market data analyzed by Dr. Hadaway does not account for the significant decrease in utility bond yields that has occurred since he filed his Direct Testimony. Staff is under the impression that Dr. Hadaway plans on updating his cost of common equity recommendation. Consequently, I will not dwell on Dr. Hadaway's overall estimate of 10.75 percent. Instead, I will evaluate the assumptions that he uses in his methodologies in order to explain why those assumptions are not consistent with investor valuation methodologies for electric utility investments and, therefore, not consistent with a return required by investors.

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 cost-of-common-equity DCF estimates are very sensitive to the reasonableness of this growth rate.

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 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 (explained in further detail in proceeding sections).

Q. Why should the Commission dismiss 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 6.0 percent?

A. Dr. Hadaway's assumption that electric utility companies will grow at the same rate of the economy is flawed. Staff will provide in a following section of this testimony a simple example to show why this assumption defies logic regarding basic risk/return principles. Even assuming *arguendo* that the expected nominal GDP growth is a reasonable proxy for the perpetual growth rate of an electric utility company, his self-calculated growth rate of 6.0 percent does not represent investors' expectations of future domestic economic growth.

Q. Why should the Commission dismiss 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 6.0 percent?

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 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" cost of equity estimate is unreliable?

A. Dr. Hadaway assumes that his proxy group can grow into perpetuity at an unsustainable annual growth rate of 5.69 percent. It is not logical to expect electric utilities' DPS

to grow at a constant rate of 5.69 percent 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")[3] have not grown anywhere near the same rate of 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.

GDP AS A PROXY FOR ELECTRIC UTILITY INDUSTRY GROWTH

Q. Both the "GDP constant-growth DCF" and the "GDP multi-stage DCF" assume that Dr. Hadaway's 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 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 would seem to imply that the growth rate for

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

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 6.0 percent to the current S&P 500 dividend yield of 2.08 percent[4], results in a cost of common equity of 8.08 percent. Dr. Hadaway's "GDP constant-growth DCF" analysis of the electric utility industry results in an estimated cost of equity of 11.0 percent. Considering that electric utilities stocks are approximately 30 percent less volatile than the S&P 500, these illogical results illustrate the problem with using a generic GDP growth rate for specific industries rather than the aggregate market.

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

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.[5] However, this assumption is not generally made for companies or industries that have reached maturity, such as the regulated electric industry, unless the overall industry growth rate is similar to that of the overall economy. Schedule 14 of Appendix 2 provided with Staff's Cost of Service Report shows that the electric utility industry's growth rate has been approximately *half* of the growth of the overall economy for the period 1948 through 2000. Although the average EPS, DPS and BVPS growth rates for the electric utility industry were approximately half of the growth in GDP

[4] http://www.standardandpoors.com/indices/sp-500/en/us/?indexId=spusa-500-usduf--p-us-l-- (Index Earnings)
[5] 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.

over this period, this is due to much higher growth rates in the early part of this period. Schedule 1 attached to this testimony shows that per share growth rate data for the electric utility industry have been steadily declining in relation to GDP growth rates. Schedule 2 shows that except for a brief upswing between the 1970s and 1980s, the growth in the electric utility per share data has been steadily declining when compared to GDP growth. Consequently, an assumption that electric utilities will grow at half of the economic growth rate may even be too optimistic.

Information provided by the Energy Information Administration's ("EIA") regarding historical electricity demand growth explains the declining growth in electric utilities over the last half of the 20th century (*see* Schedule 3). Not only does this data support the historical trend for declining growth rates in the electric utility industry, but it also projects continued low growth for electricity consumption through 2035. Unless the electric utility industry can achieve growth through significant investments in rate base for reasons other than to support demand growth, then it would seem illogical for investors to project perpetual growth for the electric utility industry much if any higher than inflationary growth.

PERPETUAL GROWTH RATES USED IN VALUATION ANALYSIS

Q. In the Staff's Cost of Service Report you indicated that you would pursue the assumed perpetual growth rates of certain DCF analyses performed by other financial consultants hired by GPE and Aquila to provide "Fairness Opinions" on the proposed acquisition price for the current GMO properties. Has KCPL or GMO provided this information to you?

A. Yes. In response to Staff Data Request No. 0514 in the pending KCPL rate case, File No. ER-2010-0355, KCPL provided the perpetual growth rates used by Sagent Advisors, Inc. ("Sagent") and Credit Suisse Securities (USA), LLC ("Credit Suisse"). Sagent assumed a

perpetual growth rate of 1.79 percent and Credit Suisse assumed a perpetual growth rate range of 1.0 percent to 1.7 percent.

Q. These perpetual growth rates seem rather low. Do you know why these investment firms would assume such low perpetual growth rates when estimating the fair value of the GMO properties?

A. No. Staff has not had a chance to review the specifics of Sagent's and Credit Suisse's analysis, but it has been Staff's general experience that investment analysts project discrete cash flows over the first five to ten years and then a terminal value for the final cash flow. This terminal value is often estimated based on the constant-growth DCF formula. The constant-growth stage assumes that the company is in a steady-state, i.e. neither growing nor contracting. Consequently, it is rare for a perpetual growth rate to be much higher than the expected inflation rate.

Q. Does a "Fairness Opinion" discount dividends to estimate a fair value of the equity invested in the company?

A. No. Free cash flows are discounted.

Q. If dividends are not discounted, why would the assumptions used in this type of DCF analysis be relevant to the discounting of dividends for purposes of estimating a utility's cost of common equity?

A. The amount of free cash flow produced by the company's operations determines the amount of cash that can be distributed as dividends and the ability to grow the dividends.

Q. Would this mean that a projected perpetual growth rate contained in a "Fairness Opinion" may be indicative of a reasonable perpetual growth rate for DPS?

A. Yes.

Q. How would these lower perpetual growth rates impact your cost of common equity estimate using the multi-stage DCF approach?

A. It would reduce it considerably. If Staff used the low end of Credit Suisse's perpetual growth rate range, Staff's cost of equity estimate would be 7.26 percent. If Staff used Sagent's 1.79 percent perpetual growth rate, Staff's cost of equity estimate would be 7.81 percent.

Q. Is it possible that required returns on utility stocks are this low?

A. Yes. This is possible because current low bond yields imply a fairly low cost of capital environment.

Q. Are there any assumptions that could have been made by the financial advisors that would cause the need to assume a different perpetual growth rate for purposes of discounting dividends?

A. Yes. It is possible that their models make assumptions about the timing and amounts of cash flows that may impact their assumed perpetual growth rates.

Q. Would this type of information help further the debate on a fair and reasonable estimate of the cost of common equity?

A. Absolutely. Valuation analyses are done for the purpose of determining a fair market price of an asset or a business enterprise. In fact, after determining the fair value of a business enterprise, the amount of debt outstanding is subtracted from the total business enterprise value to estimate the equity value. Common equity investors perform the same type of analysis, except on a per share basis. Whether a company is being valued on an aggregate or a per share basis, the financial fundamentals are the same and require using a cost of equity discount rate commensurate with the risks of expected cash flows. Considering that an allowed

ROE is supposed to be a fair and objective estimate of the cost of common equity, it would seem worthwhile to delve into information that estimates the cost of equity for purposes other than requesting an increase in rates.

Q. Has Staff requested GMO or KCPL provide additional information regarding the analysis in which these perpetual growth rates were used?

A. Yes. Staff has submitted the necessary data request and will update the Commission on its findings in its surrebuttal testimony.

Q. Are you aware of any other information that supports the use of lower perpetual growth rates when estimating the value of electric utility assets?

A. Yes. In addition to the "Fair Opinions" discussed above, Staff recently became aware of a valuation analysis performed by PriceWaterhouseCoopers ("PwC") on November 3, 2008. This valuation analysis was conducted for the purpose of estimating the Fair Value of the then newly-acquired Aquila assets. This analysis was made in order to allocate the total purchase price among the various assets and liabilities for purposes of ensuring compliance with financial statement reporting requirements set forth in Statement of Financial Accounting Standards No. 141, which is now contained under ASC 805. In this analysis PwC used a long-term growth rate of ** __ ** percent to project GPE's pre-tax income through 2026. While Staff is not sure of how PwC developed this ** __ ** percent growth rate, this assumed growth rate in income over the long-term certainly supports the reasonableness of Staff's assumed perpetual growth rate.

Q. What is pre-tax income?

A. Pre-tax income is defined exactly as it is titled. It is income before the payment of taxes.

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Q. Is there any logical reason why the growth in after-tax income would be greater than pre-tax income over the long-term?

A. No.

Q. How is the Fair Value opinion rendered by PwC relevant to the estimation of GMO's cost of common equity?

A. It is at the very least proof that independent experts conducting valuation analyses do not assume that EPS can grow at a 5-year projected rate in the long-term, as does Dr. Hadaway in his "equity-analyst constant-growth DCF." In addition, this long-term earnings growth rate is less than ** __ ** percent of the 6.0 percent perpetual growth rate assumed by Dr. Hadaway in his "GDP constant-growth DCF" and "GDP multi-stage DCF and is less than ** __ ** of the 5-year EPS growth rate assumed to grow in perpetuity in Dr. Hadaway's "equity-analyst constant-growth DCF."

Q. If Staff used a ** __ ** percent perpetual growth rate in its multi-stage DCF analysis, what cost of equity would be implied in Staff's methodology?

A. ** __ ** percent.

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 6.0 percent for the long-term?

A. No. Several sources relied upon by investors indicate that the expected long-term growth in nominal GDP is in the 4 to 5 percent range.

According to the Congressional Budget Office's August 2010 *The Budget and Economic Outlook: Fiscal Years 2010-2020*, the projected compound annual growth in nominal GDP for

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2010 to 2020 is expected to be approximately 4.60 percent.[6] According to the Energy Information Administration ("EIA"), based on the "reference case," the expected compound annual growth in real GDP is expected to be 2.4 percent for the period from 2008 through 2035. After factoring in EIA's expected GDP inflation factor of 1.9 percent, the expected nominal GDP growth rate is approximately 4.3 percent.[7] According to the Federal Reserve's minutes from its meeting on November 2-3, 2010, the Federal Open Market Committee's ("FOMC") participants' central tendency long-run projections for growth in real GDP is expected to be 2.5 to 2.8 percent. If you add the FOMC's expected inflation of 1.7 to 2.0 percent over the long-run to expected real GDP growth, the expected nominal GDP growth rate is expected to be approximately 4.2 to 4.8 percent. However, it is important to note that the inflation projection provided by the FOMC is not based directly on expected inflation in GDP, but that of the personal consumption expenditures ("PCE") index. Most projected GDP inflation factors are fairly similar to the projected inflation for the PCE index. According to Mr. Gorman's Direct Testimony, private economists surveyed by *Blue Chip Economic Indicators* project GDP growth rates to be approximately 4.80 percent over the period 2012 through 2016 and 4.70 percent for the period 2017 through 2021. Consequently, no source is expecting long-run nominal GDP growth to exceed 4.80 percent for periods greater than 5 years, which is typically at least the transition period of a multi-stage DCF analysis.

Q. Would the use of the lower growth rate in nominal GDP affect Dr. Hadaway's estimate of GMO's cost of equity in this case?

[6] http://www.cbo.gov/doc.cfm?index=11705
[7] http://www.eia.doe.gov/oiaf/aeo/aeoref_tab.html

A. Yes. If Dr. Hadaway had relied on a more realistic projected nominal GDP growth rate—in the 4 to 5 percent range—his mid-point cost of common equity estimate would have been approximately 9.5 percent.

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

A. Yes. GPE's own 2009 goodwill impairment analysis, which requires an estimate of the "fair value" of utility assets, used Congressional Budget Office ("CBO") projected inflation data as a proxy for perpetual growth in its own internal DCF analysis.

Q. Why did GPE use this source for purposes of its own internal valuation analysis?

A. Because they considered the CBO information to be "...one of the best published views of go forward growth and inflation."[8]

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?

A. No. In a deposition taken of Mr. Darren Ives, KCPL's Assistant Controller, 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.[9]

Q. What source does GPE plan to use for its 2010 goodwill impairment test?

[8] Darren Ives' September 27, 2010 Deposition, p. 69, ll. 9-11.
[9] Ives Deposition, p. 82, ll. 5-6.

A. CBO.

Q. Why is this information pertinent to the estimation of the cost of common equity 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 his DCF analysis rather than relying on the previously mentioned sources. This assumption has a major impact on his cost of equity estimate. If Dr. Hadaway relied on the same sources that GPE used for its own internal DCF analyses, then his cost of equity estimate would have been approximately 9.5 percent for both his "GDP constant-growth DCF" and his "GDP multi-stage DCF" analysis.

Q. What if Dr. Hadaway had used the *Blue Chip Economic Indicator* consensus economic forecast of 4.7 percent?

A. His "GDP constant-growth DCF" cost of equity would have been 9.7 percent and his "GDP multi-stage DCF" estimated cost of equity would have been 9.63 percent.

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 rates used by GPE were ** __ ** percent in 2008 and ** __ ** percent in 2009.

Q. What was the basis for these growth rates?

A. Projected inflation rates from the two sources Staff mentioned previously.

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

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inflation in perpetuity. In fact, in a document provided by KCPL at the time of Staff's deposition of Mr. Ives, PwC indicated the following about the reasonableness of perpetual growth rates:

> 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.[10]

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 3 times that of expected inflation rates and Dr. Hadaway's only support for this assumption are some generic academic references. Staff has provided many examples of practical investment analysis that demonstrate that this assumption is not made in practice when discounting electric utility cash flows.

Q. What cost of equity did GPE use in its 2008 and 2009 goodwill impairment analysis?

A. GPE used a cost of capital consistent with ** _____ ** for its utility properties.

Q. Is this consistent with how GPE's financial consultants have estimated the cost of capital when estimating the fair value of its utility properties, whether for purposes of testing goodwill for impairment or providing a "fairness opinion" for purposes of advising the GPE Board of Directors on the acquisition of the Aquila Missouri electric utility properties?

A. No. In GMO's last rate case, Case No. ER-2009-0090, in the Staff Cost of Service Report, Staff discussed the fact that GPE hired two financial advisors and

[10] 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).*

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Aquila hired three financial advisors to provide "fairness opinions" on the proposed acquisition price of the Aquila Missouri electric utility properties. While the SEC Form S4 Filing (prospectus) filed on June 26, 2007, revealed only one of the advisor's cost of equity estimate of 9 to 10 percent, this cost of equity estimate ** _____ _____ _____ **

Additionally, in the November 3, 2008 PwC valuation analysis mentioned above, PwC estimated a cost of common equity of ** __ ** percent for purposes of discounting anticipated cash flows from the Aquila Missouri electric utility properties. PwC estimated this cost of equity in spite of assuming an ** _____ ** percent in the projected cash flows. Clearly PwC did not equate ** _____ ** it used for purposes of discounting cash flows in its DCF analysis.

Q. Considering that the financial consultants provided these cost of equity estimates prior to the financial crisis that occurred in late 2008 through early 2009, is this information helpful for determining the reasonableness of an estimated cost of common equity for KCPL in the current capital market environment?

A. Absolutely. As Staff discussed in the Staff Cost of Service Report, utility bond yields are at levels not experienced in at least 40 years. While utility bond yields did spike during the financial crisis, they are now approximately 100 basis points lower than they were before the financial crisis. This clearly indicates that the cost of capital is lower than it was at the time these financial consultants provided their estimates of the fair value of the Aquila electric utility properties.

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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 allowed ROE's represent market-determined costs of equity for electric utility companies. He compounds the problem with this assumption by suggesting that the cost of equity 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 consistent with *required* ROEs over the same period.[11] Fama and French arrived at this conclusion by using the DCF method to compare the cost of equity to the return on equity over the same period. Fama and French's conclusions are very similar to that 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 rate of return 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

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

bond yields and an unadjusted risk premium to estimate an "allowed ROE risk premium" cost of equity estimate.

STAFF RESPONSE TO MR. GORMAN'S RECOMMENDED COST OF COMMON EQUITY FOR GMO

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

A. His ROE recommendation in this case is 9.50 percent.

Q. How did Mr. Gorman arrive at a recommended ROE of 9.50 percent?

A. Mr. Gorman calculated a simple average of his indicated cost of equity using three different methodologies; the DCF, the CAPM, and the Risk Premium. His DCF indicated cost of common equity was 9.82 percent; his Risk Premium indicated cost of common equity was 9.58 percent; and his CAPM cost of common equity was 9.20 percent.

Q. Did Mr. Gorman recommend a range of cost of common equity based on his methodologies?

A. Yes. He recommended a cost of equity range of 9.20 percent to 9.80 percent, which partially overlaps the high end of my estimated cost of equity range.

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

A. Mr. Gorman gives weight to his CAPM and risk premium methodologies, whereas I used these methods to test the reasonableness of my DCF cost of equity estimate. All of Mr. Gorman's methodologies indicate a cost of equity estimate that is higher than my estimated cost of equity. Consequently, it is not the methodologies in and of themselves that cause the difference in our estimates, it is the assumptions we use in those methodologies.

Q. What are the primary reasons for the differences in your DCF estimated cost of equity?

A. With respect to Mr. Gorman's constant-growth DCF estimate of 10.33 percent, assumed equity analysts' 5-year EPS growth rate projections are applied to DPS in perpetuity to determine an expected return. This accounts for the high end of Mr. Gorman's range of DCF cost of equity estimates. Staff has reviewed equity analyst reports and discovered that equity analysts' that use the DCF method for purposes of providing investment recommendations do not use their EPS forecasts to estimate the growth in DPS in the short-term, let alone in perpetuity. Consequently, Staff is convinced that because investment advice is not based on the assumption that 5-year EPS growth rate forecasts are representative of long-term sustainable DPS growth, stock prices do not reflect this assumption. Consequently, a constant-growth DCF estimated cost of equity that is based on this simplifying assumption is not reliable, unless the 5-year EPS growth rate forecasts are consistent with long-term expected DPS growth.

Q. What are your concerns regarding Mr. Gorman's constant-growth DCF analysis using his estimate of a sustainable growth rate?

A. Although Mr. Gorman's estimated sustainable growth rates are more reasonable for purposes of the constant-growth DCF than that of equity analysts' 5-year EPS growth rate projections, they are still above what investors would reasonably expect for long-term perpetual growth for the electric utility industry. The sustainable growth rates Mr. Gorman calculated are fairly similar to long-term projected economic growth rates. The information that Staff provided in Schedule 14 attached to the Cost of Service Report shows that electric utilities' EPS, DPS and BVPS growth rates for the period 1948 through 2000 were approximately *half* that of the GDP growth rate for this period and were steadily declining below 50% of GDP growth in the last 25 years. Therefore, there is no plausible reason to believe that investors expect electric utilities to grow at the same rate as GDP.

Q. What is the primary reason for the difference in results between your multi-stage DCF analysis and Mr. Gorman's multi-stage DCF analysis?

A. The assumed perpetual growth rate causes the difference in results. Although Mr. Gorman uses the same proxy group selected by Dr. Hadaway, the main cause for Mr. Gorman's higher cost of equity estimate of 9.80 percent compared to my estimate of 9.00 percent is his assumed perpetual growth rate of 4.75 percent compared to my assumed perpetual growth rate of 3.50 percent. As I indicated earlier, Schedule 14 attached to the Staff's Cost of Service Report shows that the electric utility industry has not been growing anywhere near the rate of the overall economy. Furthermore, because projected demand growth for electricity is expected to remain low, there is no plausible reason to expect electric utility companies to be able to achieve growth rates similar to such growth rates. However, Staff does note that certain policy changes that may allow electric utility companies to tie their earnings to investments in demand response programs and environmental upgrades may cause some disconnect in the correlation of electric utility companies' earnings to that of usage.

Q. What are the primary reasons for the differences in the results between your CAPM analysis and Mr. Gorman's CAPM analysis?

A. Approximately 65 basis points can be attributed to Mr. Gorman's use of projected 30-year Treasury bond (T-bond) yields rather than current 30-year T-bond yields. This is inappropriate because it is akin to using projected stock prices in a DCF analysis. A rate of return witness should not attempt to estimate what he thinks stock prices and bond prices will be in the future because then he or she is substituting his or her judgment for that of the market.

An additional 70 basis points can be attributed to Mr. Gorman's decision to rely on the high-end of his estimated equity risk premiums, which was 6.70 percent. Mr. Gorman relied on

this high-end estimate even though he indicated that Morningstar indicated that this higher risk premium was based on an "abnormal expansion of price-to-earnings ("P/E") ratios relative to earnings and dividend growth during the period 1980 through 2001."[12] Consequently, although Mr. Gorman qualifies his concerns with this higher risk premium estimate, he still used it in his analysis, increasing his cost of equity estimate by an additional 70 basis points.

Taken together, these two decisions in and of themselves increase Mr. Gorman's CAPM cost of equity estimate by 135 basis points. Mr. Gorman admits that he chose the high-end estimate of his CAPM analysis even though the mid-point was 8.65 percent.

Q. What are your primary concerns regarding Mr. Gorman's risk premium analyses?

A. Mr. Gorman's risk premium analyses assume allowed ROE's represent market-determined costs of equity for electric utility companies. Based on my review and understanding of capital markets, I do not believe that allowed ROE's have been consistent with market-based costs of common equity. However, to the extent that the Commission may believe that a fair rate of return should be something higher than the cost of equity, then this methodology may have appeal. If the Commission decides to consider this 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. This would reduce Mr. Gorman's risk premium estimate using 30-year T-bonds by approximately 60 basis points, which would lower his cost of equity estimate to 9.14 percent.

Mr. Gorman's second risk premium analysis compares allowed ROEs to 'A' rated utility bond yields for the period 1986 through 2010. However, Mr. Gorman then adds this risk premium to a 'Baa' bond yield to estimate the cost of equity. When performing a risk premium

[12] Gorman Direct Testimony, p. 36, ll. 16-17.

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 percent to 4.36 percent, with a mid-point of 3.54 percent. Adding this risk premium to the current 'Baa' bond yield of 5.60 percent, results in a cost of equity estimate of 9.14 percent.

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

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

A. Dr. Hadaway's recommended capital structure is based on GPE's projected capital structure as of December 31, 2010, inclusive of preferred stock. Mr. Gorman also adopts this recommendation. Because a true-up is planned for this case through the period ending December 31, 2010, the Commission should wait until the true-up date to determine the appropriate capital structure in this case.

STAFF RESPONSE TO DR. HADAWAY'S AND MR. GORMAN'S RECOMMENDED COST OF EQUITY UNITS

Q. Did Dr. Hadaway or Mr. Gorman make any adjustments to the embedded cost of the equity units issued by GPE?

A. No.

Q. Has GPE's and/or KCPL's credit rating been downgraded since GPE acquired the GMO properties?

A. Yes. Moody's downgraded GPE's and KCPL's credit rating on March 11, 2009.

Q. Have GPE's credit metrics been impacted by the acquisition of the GMO properties?

A. Yes. GPE's consolidated credit rating metrics are weaker than KCPL's stand-alone credit metrics due to GMO's weaker credit metrics.

Q. Could GPE have had a better credit rating if the GPE consolidated credit metrics had not been strained by the GMO credit metrics?

A. Yes, assuming S&P used its published benchmarks to determine its credit rating and GPE's credit metrics were consistent with that of KCPL's.

Q. How much lower could the cost of the GPE equity units had been if GPE's credit quality had not been suppressed by the Aquila legacy debt held by GMO?

A. It is difficult to quantify this value with absolute certainty, but in the Staff's Cost of Service Report I estimated it could have been 2.42 percent lower. However, because Aquila had a 'BBB' credit rating before its failed non-regulated investments caused a precipitous slide in its credit ratings, Staff assumed that the cost of GPE's equity units for GMO ratepayers should be estimated consistent with the 'BBB' rating rather the 'BBB+' rating assumed for KCPL's ratepayers. Consequently, Staff made a lesser adjustment of 1.21 percent (3.63/3) to the cost of equity units for GMO due to the fact that Aquila's credit rating was a 'BBB' before it started to decline because of Aquila's failed non-regulated investments.

COST OF LONG-TERM DEBT

Q. What is Dr. Hadaway's recommended cost of debt for GMO's MPS and L&P divisions?

A. Dr. Hadaway recommends an adjusted cost of debt of 6.73 percent for both divisions.

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

A. Dr. Hadaway's cost of debt recommendation is based on historical debt issued by Aquila, UtilitiCorp United, Inc., St. Joseph Light & Power Company and Missouri Public Service Company. Aquila has not issued any debt since July 2002 due to financial difficulties caused by its failed non-regulated investments. Although Aquila has not issued debt since 2002, it assigned debt capital to its regulated divisions based on an internal capital assignment process. Because there are no arms-length debt transactions to provide a market-driven cost of debt capital, Aquila used a debt cost imputation process. This imputation process had been used by Aquila in order to assume that MPS and L&P continued to raise capital as a going concern utility with a 'BBB-' credit rating. Staff specifically takes issue with Aquila's assumption that the debt cost imputation process should be based on an assumed 'BBB-' credit rating due to the fact that Aquila had a 'BBB' credit rating before its failed non-regulated investments began to impact its credit rating.

Q. What cost of debt did Staff recommend for GMO in the Staff's Cost of Service Report?

A. 6.52 percent.

Q. What was the basis for Staff's cost of debt recommendation of 6.52 percent?

A. Staff used Empire's June 30, 2010 embedded cost of debt as a proxy for GMO. Staff obtained Empire's debt cost from information filed in Empire's rate case, Case No. ER-2011-0004.

Q. Why did Staff use Empire's cost of debt as a proxy for GMO's cost of debt?

A. Because GMO's debt assignment and cost of debt estimation process is not based on market-driven, arms-length transactions. Because Empire is a Missouri electric utility with a

similar risk profile to that of GMO and Empire's cost of debt is based on market-driven, arms-length transactions, Staff considers Empire's cost to be a fair proxy for GMO.

Q. Although Staff believes the process of using Empire's cost of debt as a proxy for GMO's cost of debt is better than that of GMO's debt imputation process, does Staff consider the current assumed cost of debt for GMO to be unreasonable?

A. No. Considering that Dr. Hadaway's recommended cost of debt for GMO is lower than his recommended cost of debt for KCPL, Staff does not consider the cost recommended for GMO to be unreasonable.

Q. Does this mean that Staff agrees with the process by which GMO's cost of debt was determined?

A. No.

SUMMARY AND CONCLUSIONS

Q. Please summarize the conclusions of your Rebuttal Testimony.

A. My conclusions are:

1. There is no practical information 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. Financial consultants hired by GPE for purposes other than recommending a ROR for a rate case do not use inputs that are consistent with Dr. Hadaway's assumptions;

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

5. Neither Dr. Hadaway nor Mr. Gorman give consideration to higher capital costs embedded in GMO's requested ROR due to GPE's acquisition of the GMO properties.

6. GMO's cost of debt should be based on an aggregate proxy rather than hypothetical issuances and adjustments.

Q. Have you attached to this testimony all of the reports and external documents referenced herein?

A. No, I have not, due mainly to large amount and highly confidential nature of the material referenced. Staff would be happy to provide these additional documents upon request by the Commission or any individual Commissioner.

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 the Application of KCP&L Greater Missouri Operations Company for Approval to Make Certain Changes in its Charges for Electric Service	))))	File No. ER-2010-0356

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

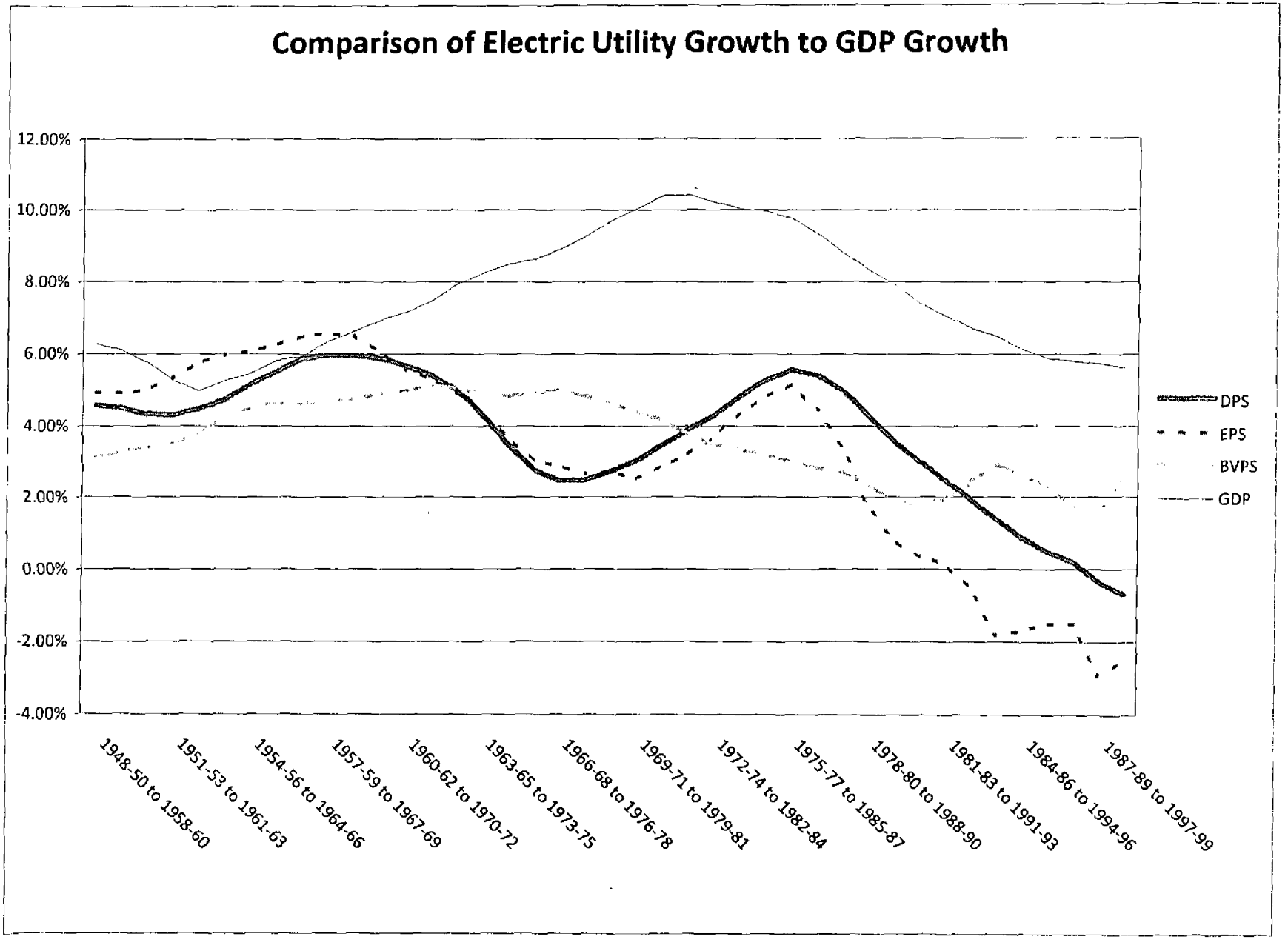
David Murray, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 28 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge 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 15th day of December, 2010.

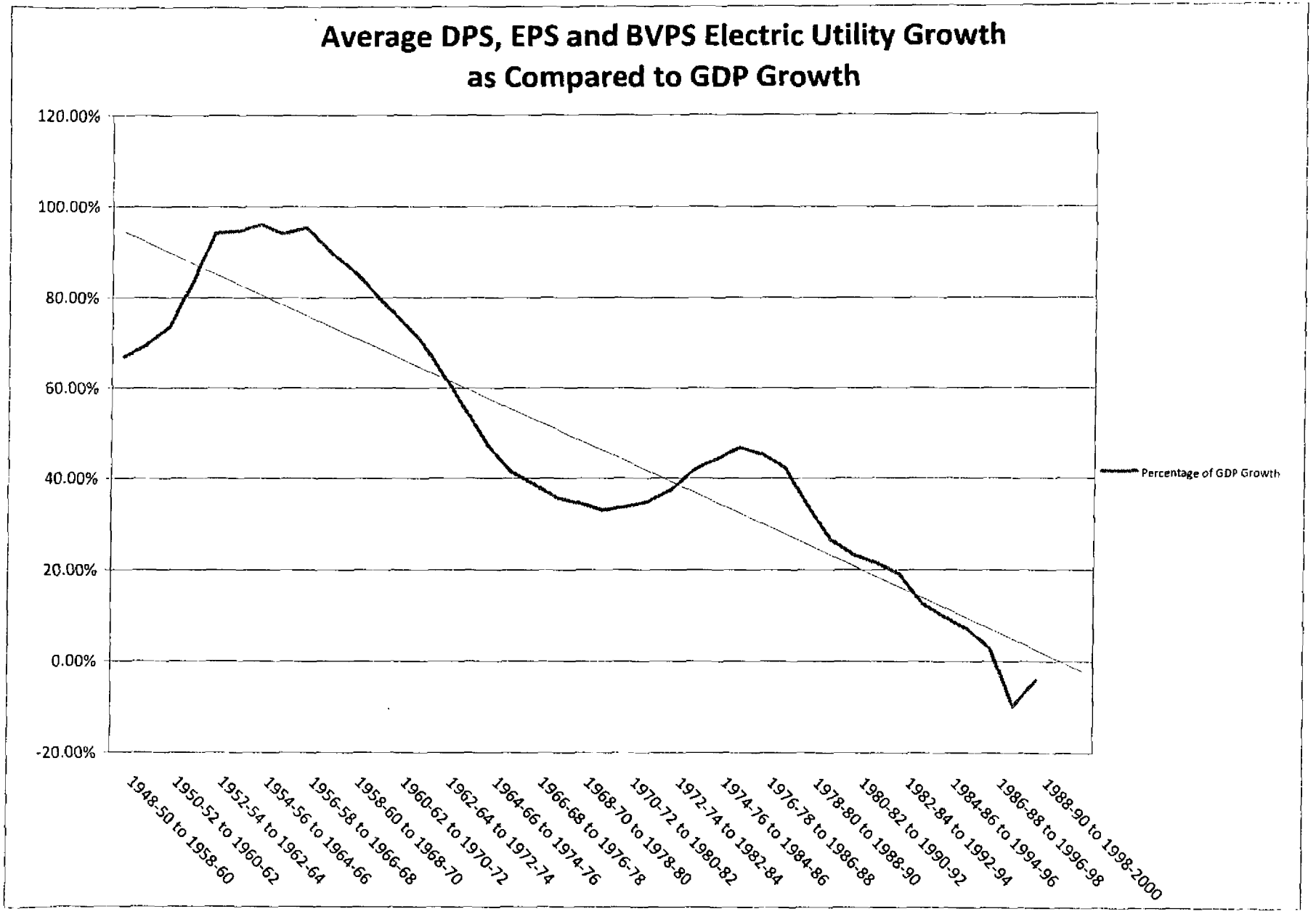
Notary Public

NIKKI SENN
Notary Public - Notary Seal
State of Missouri
Commissioned for Osage County
My Commission Expires: October 01, 2011
Commission Number: 07287016


Comparison of Electric Utility Growth to GDP Growth
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
-2.00%
-4.00%
1948-50 to 1958-60
1951-53 to 1961-63
1954-56 to 1964-66
1957-59 to 1967-69
1960-62 to 1970-72
1963-65 to 1973-75
1966-68 to 1976-78
1969-71 to 1979-81
1972-74 to 1982-84
1975-77 to 1985-87
1978-80 to 1988-90
1981-83 to 1991-93
1984-86 to 1994-96
1987-89 to 1997-99
DPS
EPS
BVPS
GDP

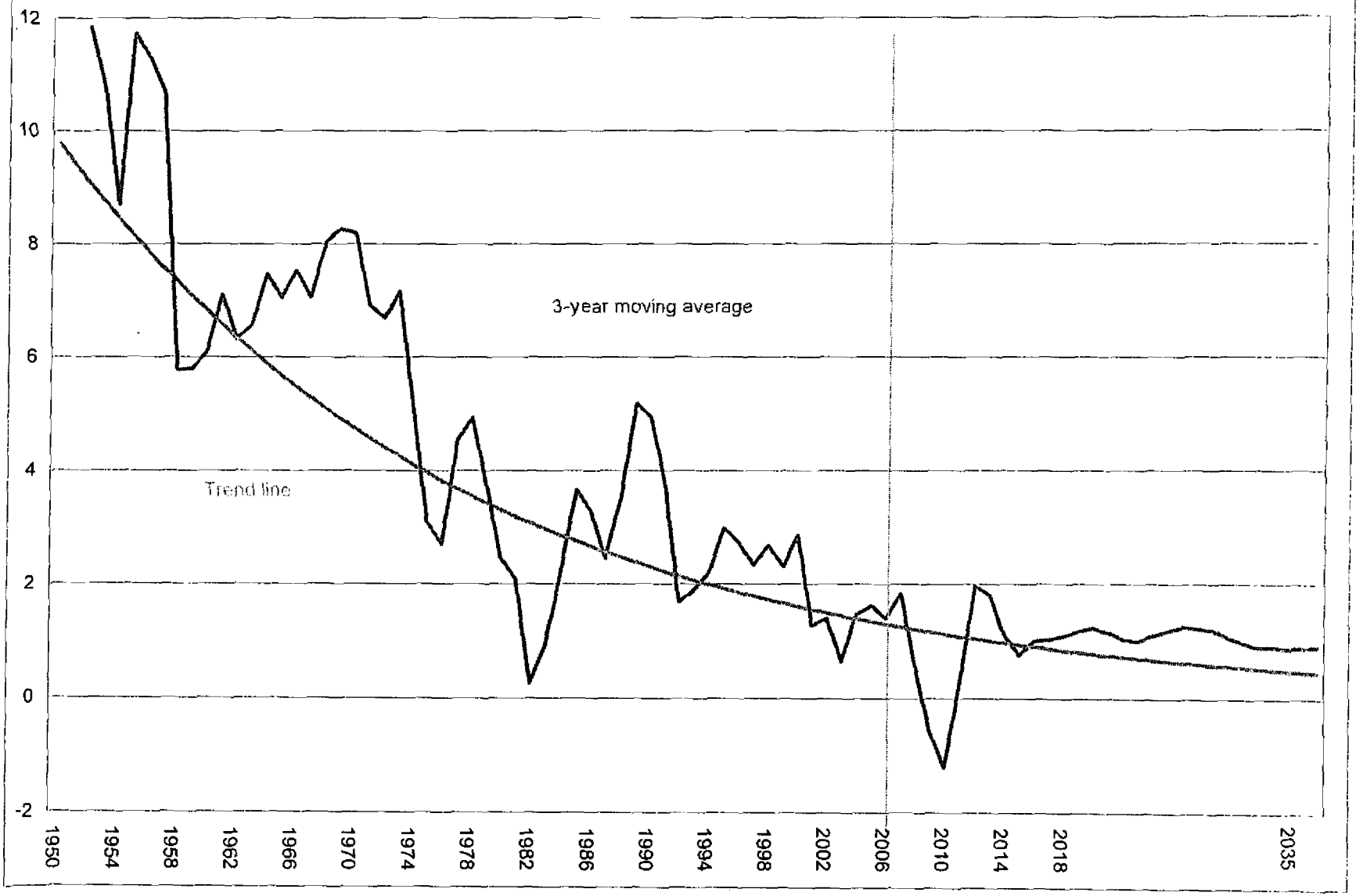
SCHEDULE 1

KCP&L Greater Missouri Operations Company
File No. ER-2010-0356



SCHEDULE 2

Figure 59. U.S. elecricity demand growth 1950-2035
percent, 3-year moving average



Source: EIA 2010 Annual Energy Outlook