

FILED
March 2, 2017
Data Center
Missouri Public
Service Commission

Exhibit No.: 232
Issue: Rate of Return
Witness: J. Randall Woolridge
Sponsoring Party: MoPSC Staff
Type of Exhibit: Rebuttal Testimony
Case No.: ER-2016-0285
Date Testimony Prepared: December 30, 2016

MISSOURI PUBLIC SERVICE COMMISSION
COMMISSION STAFF DIVISION

REBUTTAL TESTIMONY
OF
J. RANDALL WOOLRIDGE

KANSAS CITY POWER & LIGHT COMPANY

CASE NO. ER-2016-0285

Jefferson City, Missouri
December 2016

Staff Exhibit No. 232
Date 2.22.17 Reporter mm
File No. ER-2016-0285

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J. RANDALL WOOLRIDGE**

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1 witness Mr. Robert B. Hevert has recommended a ROE of 9.90% for the electric utility
2 operations of KCPL. KCPL's overall proposed ROR is 7.70%.

3 I reviewed KCPL's proposed capital structure and embedded costs of capital. I did not
4 use KCPL's proposed capital structure for purposes of my rate of return recommendation.
5 Instead, I used GPE's consolidated capital structure, consistent with Staff and KCPL's past
6 recommendations for KCPL rate cases. Staff witness David Murray sponsors rebuttal
7 testimony to provide more detail on the history and logic of using GPE's capital structure to
8 set KCPL's rates. The capital structure ratios, using the updated test year as of June 30, 2016,
9 are 50.8% long-term debt and 49.2% common equity. I applied an adjusted embedded cost of
10 debt of 5.42% to the debt ratio.

11 **Q. WHAT ARE THE PRIMARY ISSUES BETWEEN YOUR POSITION**
12 **AND KCPL'S WITH RESPECT TO THE COST OF CAPITAL?**

13 A. The primary significant areas of disagreement in measuring KCPL's cost of
14 capital are:

15 (1) KCPL's capital structure and debt cost rate. On the capital structure, the primary
16 issue is whether the appropriate capital structure for ratemaking purposes should be
17 the capitalization of GPE or KCPL. The rebuttal testimony on capital structure and
18 debt cost rate issues is provided by Staff witness, David Murray;

19 (2) Mr. Hevert's analyses and ROE results and recommendations are based on the
20 assumption of higher interest rates and capital costs. I review current market
21 conditions and conclude that interest rates, despite the increase since the U.S.
22 Presidential election, remain at low levels and are likely to remain low;

1 (3) Mr. Hevert's DCF equity cost rate estimates, and in particular the fact that: (a) He
2 has given very little weight if any to his DCF results; (b) In his constant-growth and
3 multi-stage growth DCF analyses, he has relied exclusively on the overly optimistic
4 and upwardly biased EPS growth rate forecasts of Wall Street analysts and *Value Line*;
5 and (c) In his multi-stage DCF model, he has employed a terminal growth rate of
6 5.28% which is about 100 basis points above the projected long-term growth in
7 U.S. GDP; and

8 (4) The projected long-term interest rate and market or equity risk premiums in
9 Mr. Hevert's CAPM and RP approaches are inflated and are not reflective of market
10 realities or expectations.

11 **Q. PLEASE INITIALLY ADDRESS THE DIFFERENCES BETWEEN THE**
12 **ALTERNATIVE ASSUMPTIONS REGARDING CAPITAL MARKET CONDITIONS**
13 **BETWEEN YOUR EQUITY COST RATE ANALYSES AND MR. HEVERT'S.**

14 A. Mr. Hevert and I have significantly different opinions regarding capital market
15 conditions. Mr. Hevert's analyses and ROE results and recommendations reflect the
16 assumption of higher interest rates and capital costs. These are the same assumptions and
17 results that he has used in past testimonies in recent years. I have reviewed current market
18 conditions and conclude that, despite predictions of rising interest rates over the past decade,
19 as well as the increase in interest rates since the U.S. Presidential election, long-term interest
20 rates remain at low levels and are likely to remain so.

21 **Q. WHAT ARE THE DIFFERENCES BETWEEN YOUR DCF MODEL**
22 **AND MR. HEVERT'S DCF MODEL?**

1 A. I have employed the traditional constant-growth DCF model. Mr. Hevert has
2 also used this model, as well as a multi-stage growth version of the model. There are several
3 errors in Mr. Hevert's DCF analyses: (1) He has given little to no weight to his constant-
4 growth DCF results; (2) In his constant-growth and multi-stage growth DCF analyses, he has
5 relied exclusively on the overly optimistic and upwardly biased EPS growth rate forecasts of
6 Wall Street analysts and *Value Line*; and (3) In his multi-stage DCF model, he has employed
7 a terminal growth rate of 5.28% which is excessive for a number of reasons, especially the
8 fact that it is not reflective of prospective economic growth in the U.S. and is about 100 basis
9 points above the projected long-term growth in U.S. Gross Domestic Product ("GDP"). On
10 the other hand, when developing the DCF growth rate that I have used in my analysis, I have
11 reviewed thirteen growth rate measures, including historical and projected growth rate
12 measures, and have evaluated growth in dividends, book value, and earnings per share.

13 **Q. PLEASE DISCUSS THE DIFFERENCES BETWEEN YOUR**
14 **APPLICATION OF THE CAPM AND THAT OF MR. HEVERT.**

15 A. The CAPM approach requires an estimate of the risk-free interest rate, beta,
16 and the market risk premium. The primary issue is Mr. Hevert's estimate of the market risk
17 premium. Mr. Hevert's market risk premium is excessive and does not reflect current market
18 fundamentals. As I highlight in my testimony, there are three methods for estimating a market
19 or equity risk premium – historical returns, surveys, and expected return models. Mr. Hevert
20 uses projected market risk premiums of 10.50% and 11.10%. Mr. Hevert's projected market
21 risk premiums use analysts' EPS growth rate projections to compute an expected market
22 return and market risk premium. These EPS growth rate projections and the resulting
23 expected market returns and risk premiums include unrealistic assumptions regarding future

1 economic and earnings growth and stock returns. I have used a market risk premium of 5.5%,
2 which: (1) employs three different approaches to estimating a market premium; and (2) uses
3 the results of many studies of the market risk premium. As I note, my market risk premium
4 reflects the market risk premiums: (1) determined in recent academic studies by leading
5 finance scholars; (2) employed by leading investment banks and management consulting
6 firms; and (3) found in surveys of companies, financial forecasters, financial analysts, and
7 corporate CFOs.

8 **Q. PLEASE DISCUSS THE ERRORS WITH MR. HEVERT'S RISK**
9 **PREMIUM MODEL.**

10 A. Mr. Hevert estimates an equity cost rate using an alternative risk premium
11 model. His risk premium is based on the historical relationship between the yields on
12 long-term Treasury bond yields and authorized returns on equity ("ROEs") for electric utility
13 companies. There are several issues with this approach. First and foremost, this approach is a
14 gauge of commission behavior and not investor behavior. Capital costs are determined in the
15 market place through the financial decisions of investors and are reflected in such
16 fundamental factors as dividend yields, expected growth rates, interest rates, and investors'
17 assessment of the risk and expected return of different investments. Regulatory commissions
18 evaluate not only capital market data in setting authorized ROEs, but also take into account
19 other utility- and rate case-specific information in setting ROEs. As such, Mr. Hevert's risk
20 premium approach and results reflect other factors used by utility commissions in authorizing
21 ROEs in addition to capital costs. This may especially be true when the authorized ROE data
22 includes the results of rate cases that are settled and not fully litigated. Second, Mr. Hevert's
23 methodology produces an inflated measure of the risk premium because his approach uses

1 historical authorized ROEs and Treasury yields, and the resulting risk premium is applied to
2 projected Treasury yields. Finally, the risk premium is inflated as a measure of investor's
3 required risk premium, since electric utility companies have been selling at market-to-book
4 ratios in excess of 1.0. This indicates that the authorized rates of return have been greater
5 than the return that investors require.

6 **Q. ARE THESE ERRORS REFLECTED IN THE DIFFERENCES**
7 **BETWEEN MR. HEVERT'S RP RESULTS AND THE AVERAGE STATE-LEVEL**
8 **AUTHORIZED ROEs FOR ELECTRIC UTILITY COMPANIES NATIONWIDE?**

9 A. Yes. Mr. Hevert's RP equity cost rate estimates for electric utility companies
10 range from 10.04% to 10.39%. These figures overstate actual state-level authorized ROEs;
11 the average authorized ROE for electric utilities was 9.64% in the first three quarters of 2016,
12 according to Regulatory Research Associates.¹

13 **Q. PLEASE REVIEW MR. HEVERT'S EQUITY COST RATE**
14 **APPROACHES AND RESULTS.**

15 A. Mr. Hevert has developed a proxy group of electric utility companies and
16 employs DCF, CAPM, and RP equity cost rate approaches. Mr. Hevert's equity cost rate
17 estimates for the Company are summarized on page 1 of Exhibit JRW-13. Based on these
18 figures, he concludes that the appropriate equity cost rate for the Company is 9.90%. As
19 I discuss below, there are a number of issues with the inputs, applications, and results of his
20 equity cost rate models.

¹ *Regulatory Focus*, Regulatory Research Associates, July, 2016. The electric utility authorized ROEs exclude the authorized ROEs in Virginia which include generation adders.

1 **A. The Company's DCF Approach**

2 **Q. PLEASE SUMMARIZE MR. HEVERT'S DCF ESTIMATES.**

3 A. On pages 16-33 of his testimony and in Schedules RBH-1 and RBH-2,
4 Mr. Hevert develops an equity cost rate by applying the DCF model to the Hevert Proxy
5 Group. Mr. Hevert's DCF results are summarized in Panel A of Exhibit JRW-13. He uses
6 constant-growth and multistage growth DCF models. Mr. Hevert uses three dividend yield
7 measures (30, 90, and 180 days) in his DCF models. In his constant-growth DCF models,
8 Mr. Hevert has relied on the forecasted EPS growth rates of Zacks, First Call, and *Value Line*.
9 His multi-stage DCF model uses analysts' EPS growth rate forecasts as a short-term growth
10 rate and his projection of GDP growth as the long-term growth rate. For all three models, he
11 reports Mean Low, Mean, and Mean High results. His DCF results are summarized in
12 Panel A of Exhibit JRW-13 and range from 8.25% to 10.36%.

13 **Q. WHAT ARE THE ERRORS IN MR. HEVERT'S DCF ANALYSES?**

14 A. The primary issues in Mr. Hevert's DCF analyses are: (1) the lack of weight
15 he gives to his constant-growth DCF results, (2) his exclusive use of the overly optimistic and
16 upwardly biased EPS growth rate forecasts of Wall Street analysts and *Value Line*, and (3) the
17 use of an inflated terminal growth rate of 5.28% in his multi-stage DCF model that it is not
18 reflective of prospective economic growth in the U.S. and is more than 100 basis points above
19 the projected long-term GDP growth;

20 **1. The Low Weight Given to the Constant-Growth DCF Results**

21 **Q. HOW MUCH WEIGHT HAS MR. HEVERT GIVEN HIS DCF**
22 **RESULTS IN ARRIVING AT AN EQUITY COST RATE FOR THE COMPANY?**

1 A. Apparently, very little, if any at all. The average of his mean constant-growth
2 stage DCF equity cost rates is only 8.9%. Had he given these results more weight, or even any
3 weight, he would have arrived at a much lower equity cost rate recommendation.

4 **Q. AT PAGE 24 OF HIS TESTIMONY, MR. HEVERT SUGGESTS THAT**
5 **EQUITY COST RATE RESULTS FROM THE CONSTANT-GROWTH DCF MODEL**
6 **ARE SUSPECT DUE, IN PART, TO THE RELATIVELY HIGH VALUATION**
7 **LEVELS OF UTILITY COMPANIES. PLEASE RESPOND.**

8 A. Mr. Hevert expresses concerns with the constant-growth DCF model results
9 because utility valuations have increased and are high on both an absolute and relative levels.
10 Mr. Hevert indicates that the relative high valuations of utilities and resulting low dividend
11 yields are not associated with high growth rates. However, as discussed in a recent Moody's
12 article, the higher valuation of utilities can be attributed to the reduced the risk of the utility
13 industry.²

14 As utilities increasingly secure more up-front assurance for cost
15 recovery in their rate proceedings, we think regulators will
16 increasingly view the sector as less risky. The combination of
17 low capital costs, high equity market valuation multiples (which
18 are better than or on par with the broader market despite the
19 regulated utilities' low risk profile), and a transparent assurance
20 of cost recovery tend to support the case for lower authorized
21 returns, although utilities will argue they should rise, or at least
22 stay unchanged.

23 Therefore, the high valuation of utilities reflects the low a cost of equity capital as well as the
24 lower risk of utilities.

² Moody's Investors Service, "Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles,"
March 10, 2015, p. 3.

1 **Q. PLEASE IDENTIFY THE ERRORS WITH MR. HEVERT'S**
2 **PROJECTED LONG-TERM GDP GROWTH RATE OF 5.28%.**

3 A. There are two major errors in this analysis. First, Mr. Hevert has not provided
4 any theoretical or empirical support that long-term GDP growth is a reasonable proxy for the
5 expected growth rate of the companies in his proxy group. Five-year and ten-year historic
6 measures of growth for earnings and dividends for electric utility companies, as shown on
7 page 3 of Exhibit JRW-10, suggest growth that is more than 100 basis points below
8 Mr. Hevert's 5.28% GDP growth rate. Mr. Hevert has provided no evidence as to why
9 investors would rely on his estimate of long-term GDP growth as the appropriate growth rate
10 for electric utility companies.

11 The second error is the magnitude of Mr. Hevert's long-term GDP growth rate
12 estimate of 5.28%. On page 1 of Exhibit JRW-14 of my testimony, I provide an analysis of
13 GDP growth since 1960. Since 1960, nominal GDP has grown at a compounded rate of
14 6.58%. Whereas GDP has grown at a compounded rate of 6.58% since 1960, economic
15 growth in the U.S. has slowed considerably in recent decades. Page 2 of Exhibit JRW-14
16 provides the nominal annual GDP growth rates over the 1961 to 2015 time period. Nominal
17 GDP growth grew from 6.0% to over 12% from the 1960s to the early 1980s due in large part
18 to inflation and higher prices. With the exception of an uptick during the mid-2000s, annual
19 nominal GDP growth rates have declined to the 3.5% to 4.0% range over the past five years.

20 The components of nominal GDP growth are real GDP growth and inflation. Page 3
21 of Exhibit JRW-14 shows the annual real GDP growth rate over the 1961 to 2015 time period.
22 Real GDP growth has gradually declined from the 5.0% to 6.0% range in the 1960s to the
23 2.0% to 3.0% during the most recent five-year period. The second component of nominal

1 GDP growth is inflation. Page 4 of Exhibit JRW-14 shows inflation as measured by the
2 annual growth rate in the Consumer Price Index ("CPI") over the 1961 to 2015 time period.
3 The large increase in prices from the late 1960s to the early 1980s is readily evident. Equally
4 evident is the rapid decline in inflation during the 1980s as inflation declined from above 10%
5 to about 4%. Since that time inflation has gradually declined and has been in the 2.0% range
6 or below over the past five years.

7 The graphs on pages 2, 3, and 4 of Exhibit JRW-14 provide very clear evidence of the
8 decline in nominal GDP as well as its components, real GDP and inflation, in recent decades.
9 To gauge the magnitude of the decline in nominal GDP growth, Table 1 provides the
10 compounded GDP growth rates for 10-, 20-, 30-, 40- and 50- years. Whereas the 50-year
11 compounded GDP growth rate is 6.65%, there has been a monotonic and significant decline in
12 nominal GDP growth over subsequent 10-year intervals. These figures clearly suggest that
13 nominal GDP growth in recent decades has slowed and that a growth rate in the range of 4.0%
14 to 5.0% is more appropriate today for the U.S. economy. Mr. Hevert's long-term GDP growth
15 rate of 5.28% is clearly inflated.

16 **Table 1**
17 **Historic GDP Growth Rates**

10-Year Average - 2006-2015	3.28%
20-Year Average - 1996-2015	4.36%
30-Year Average - 1986-2015	4.87%
40-Year Average - 1976-2015	6.19%
50-Year Average - 1966-2015	6.65%

18
19 **Q. ARE THE LOWER GDP GROWTH RATES OF RECENT DECADES**
20 **CONSISTENT WITH THE FORECASTS OF GDP GROWTH?**

1 A. Yes. A lower range is also consistent with long-term GDP forecasts. There are
2 several forecasts of annual GDP growth that are available from economists and government
3 agencies. These are listed on page 5 of Exhibit JRW-14. Economists, in the February 2016
4 *Survey of Professional Forecasters*, forecasted the mean 10-year nominal GDP growth rate to
5 be 4.5%.⁶ The U.S. Energy Information Administration (“EIA”), in its projections used in
6 preparing the *Annual Energy Outlook*, forecasted long-term GDP growth of 4.3% for the
7 period 2015-2040.⁷ The Congressional Budget Office (“CBO”), in its forecasts for the period
8 2016 to 2040, projected a nominal GDP growth rate of 4.1%.⁸ Finally, the Social Security
9 Administration (“SSA”), in its Annual OASDI Report, projected a nominal GDP growth rate
10 of 4.4% for the period 2016-2090.⁹ These four forecasts and projections of GDP growth from
11 economists and government agencies range from 4.1% to 4.5%.

12 **Q. DOES MR. HEVERT PROVIDE ANY REASONS WHY HE HAS**
13 **IGNORED THE WELL-KNOWN LONG-TERM REAL GDP FORECASTS OF THE**
14 **CBO, SSA, AND EIA?**

15 A. No.

16 **Q. WHAT IS WRONG WITH MR. HEVERT’S REAL GDP FORECAST**
17 **ON HISTORIC DATA AND IGNORING THE WELL-KNOWN LONG-TERM GDP**
18 **FORECASTS OF THE CBO AND EIA?**

⁶Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters* (Feb. 2016), <https://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/>.

⁷U.S. Energy Information Administration, *Table 20 of the Annual Energy Outlook 2016* (Sept. 15, 2016), http://www.eia.gov/forecasts/aeo/tables_ref.cfm.

⁸Congressional Budget Office, *The 2016 Long-term Budget Outlook* (July 2016), www.cbo.gov/publication/51129.

⁹ Social Security Administration, *2016 Annual Report of the Board of Trustees of the Old-Age, Survivors, and Disability Insurance (OASDI) Program* (June 22, 2016), http://www.ssa.gov/oact/tr/2016/X1_trLOT.html.

1 A. In developing a DCF growth rate for his constant-growth DCF analysis,
2 Mr. Hevert has totally ignored historic EPS, DPS, and BVPS data and relied solely on the
3 long-term EPS growth rate projections of Wall Street analysts and *Value Line*. However, in
4 developing a terminal DCF growth rate for his multi-stage growth DCF analysis, Mr. Hevert
5 has also totally ignored the well-known long-term real GDP growth rate forecasts of the CBO
6 and EIA and relied solely on historic data going back to 1929. Simply put, he is inconsistent
7 with his methodology.

8 **B. CAPM Approach**

9 **Q. PLEASE DISCUSS MR. HEVERT'S CAPM.**

10 A. On pages 33-38 of his testimony and in Schedules RBH-3 - RBH-5,
11 Mr. Hevert estimates an equity cost rate by applying a CAPM model to his proxy group. The
12 CAPM approach requires an estimate of the risk-free interest rate, beta, and the equity risk
13 premium. Mr. Hevert uses two different measures of the 30-Year Treasury bond yield
14 (a) current yield of 2.65% and a near-term projected yield of 3.08%; (b) two different Betas
15 (an average Bloomberg Beta of 0.616 and an average *Value Line* Beta of 0.769), and (c) two
16 market risk premium measures - a Bloomberg, DCF-derived market risk premium of 10.50%
17 and *Value Line* derived market risk premium of 11.10%. Based on these figures, he finds a
18 CAPM equity cost rate range from 9.11% to 11.62%. Mr. Hevert's CAPM results are
19 summarized in Panel B of page 1 of Exhibit JRW-13.

20 **1. Market Risk Premiums**

21 **Q. WHAT ARE THE ERRORS IN MR. HEVERT'S CAPM ANALYSES?**

1 A. The primary errors in Mr. Hevert's CAPM analysis are the market premiums
2 of 10.50% and 11.10% which are based on the upwardly-biased long-term EPS growth rate
3 estimates of Wall Street analysts.

4 **Q. PLEASE ASSESS MR. HEVERT'S MARKET RISK PREMIUMS**
5 **DERIVED FROM APPLYING THE DCF MODEL TO THE S&P 500 AND *VALUE***
6 ***LINE INVESTMENT SURVEY.***

7 A. For his Bloomberg and *Value Line* market risk premiums, Mr. Hevert
8 computes market risk premiums of 10.50% and 11.10% by: (1) calculating an expected
9 market return by applying the DCF model to the S&P 500; and then (2) subtracting the
10 current 30-year Treasury bond yield from the calculation. Mr. Hevert's estimated expected
11 market returns from these are 13.14% (using Bloomberg three- to five-year EPS growth rate
12 estimates) and of 13.75% (using *Value Line* three- to five-year EPS growth rate estimates).
13 Mr. Hevert also uses (1) a dividend yield of 2.2% and an expected DCF growth rate of
14 11.03% for Bloomberg and (2) a dividend yield of 2.04% and an expected DCF growth rate of
15 11.71% for *Value Line*. These results are not realistic in today's market.

16 **Q. HOW DID MR. HEVERT ERR WHEN ANALYZING MARKET**
17 **PREMIUMS?**

18 A. The primary error is that Mr. Hevert computed the expected market return
19 using the DCF model with the growth rate being the projected 5-year EPS growth rate from
20 Wall Street analysts. As explained below, this produces an overstated expected market return
21 and equity risk premium.

22 **Q. WHAT EVIDENCE CAN YOU PROVIDE THAT MR. HEVERT'S**
23 **GROWTH RATES ARE ERRONEOUS?**

1 The results are presented graphically on page 6 of Exhibit JRW-14. In sum, the historical
2 long-run growth rates for GDP, S&P EPS, and S&P DPS are in the 5% to 7% range.

3 **Q. DO MORE RECENT DATA SUGGEST THAT U.S. ECONOMIC**
4 **GROWTH IS FASTER OR SLOWER THAN THE LONG-TERM DATA?**

5 A. As previously discussed and presented in Table 1, the more recent trend
6 suggests lower future economic growth than the long-term historic GDP growth. The historic
7 GDP growth rates for 10-, 20-, 30-, 40- and 50- years clearly suggest that nominal GDP
8 growth in recent decades has slowed to the 4.0% to 5.0% area. By comparison, Mr. Hevert's
9 long-run growth rate projections of 11.03% and 11.71% are vastly overstated. These estimates
10 suggest that companies in the U.S. would be expected to: (1) increase their growth rate of EPS
11 by almost 100% in the future and (2) maintain that growth indefinitely in an economy that is
12 expected to grow at about one-half of his projected growth rates.

13 **Q. WHAT LEVEL OF GDP GROWTH IS FORECASTED BY**
14 **ECONOMISTS AND VARIOUS GOVERNMENT AGENCIES?**

15 A. As previously discussed, there are several forecasts of annual GDP growth that
16 are available from economists and government agencies. These are listed in page 5 of
17 Exhibit JRW-14. These forecasts suggest long-term GDP growth rate in the 4.1% - 4.5%
18 range.

19 **Q. WHY IS GDP GROWTH RELEVANT IN YOUR DISCUSSION OF**
20 **MR. HEVERT'S USE OF THE LONG-TERM EPS GROWTH RATES IN**
21 **DEVELOPING A MARKET RISK PREMIUM FOR HIS CAPM?**

22 A. Because, as indicated in recent research, the long-term earnings growth rates of
23 companies are on average limited to the growth rate in GDP.

1 **Q. PLEASE EXPLAIN THE LINK BETWEEN ECONOMIC AND**
2 **EARNINGS GROWTH AND EQUITY RETURNS.**

3 A. Brad Cornell of the California Institute of Technology recently published a
4 study on GDP growth, earnings growth, and equity returns. He finds that long-term EPS
5 growth in the U.S. is directly related to GDP growth, with GDP growth providing an upward
6 limit on EPS growth. In addition, he finds that long-term stock returns are determined by
7 long-term earnings growth. He concludes with the following observations:¹⁰

8 The long-run performance of equity investments is
9 fundamentally linked to growth in earnings. Earnings growth, in
10 turn, depends on growth in real GDP. This article demonstrates
11 that both theoretical research and empirical research in
12 development economics suggest relatively strict limits on future
13 growth. In particular, real GDP growth in excess of 3 percent in
14 the long run is highly unlikely in the developed world. In light
15 of ongoing dilution in earnings per share, this finding implies
16 that investors should anticipate real returns on U.S. common
17 stocks to average no more than about 4–5 percent in real terms.

18 Given current inflation in the 2% to 3% range and real returns in the 4% to 5% range, the
19 results imply nominal expected stock market returns in the 6% to 8% range. As such,
20 Mr. Hevert's projected earnings growth rates and implied expected stock market returns and
21 equity risk premiums are not indicative of the realities of the U.S. economy and stock market.
22 As such, his expected CAPM equity cost rate is significantly overstated.

23 **Q. PLEASE PROVIDE A SUMMARY ASSESSMENT OF MR. HEVERT'S**
24 **PROJECTED EQUITY RISK PREMIUM DERIVED FROM EXPECTED MARKET**
25 **RETURNS.**

¹⁰ Bradford Cornell, "Economic Growth and Equity Investing," *Financial Analysts Journal* (January-February, 2010), p. 63.

1 A. Mr. Hevert's market risk premium derived from his DCF application to the
2 S&P 500 is inflated due to errors and bias in his study. Investment banks, consulting firms,
3 and CFOs use the equity risk premium concept every day in making financing, investment,
4 and valuation decisions. On this issue, the opinions of CFOs and financial forecasters are
5 especially relevant. CFOs deal with capital markets on an ongoing basis since they must
6 continually assess and evaluate capital costs for their companies. They are well aware of the
7 historical stock and bond return studies of Ibbotson. The CFOs in the December 2016 *CFO*
8 *Magazine* – Duke University Survey of about 300 CFOs shows an expected return on the
9 S&P 500 of 5.70% over the next ten years. In addition, the financial forecasters in the
10 February 2016 Federal Reserve Bank of Philadelphia survey expect an annual nominal market
11 return of 5.34% over the next ten years. As such, with a more realistic equity or market risk
12 premium, the appropriate equity cost rate for a public utility should be in the 8.0% to 9.0%
13 range and not in the 10.0% to 11.0% range.

14 **C. Risk Premium Approach**

15 **Q. PLEASE REVIEW MR. HEVERT'S RP ANALYSIS.**

16 A. On pages 38-43 of his testimony and in Schedule RBH-6, Mr. Hevert estimates
17 an equity cost rate using a RP model. Mr. Hevert develops an equity cost rate by:
18 (1) regressing the authorized returns on equity for electric utility companies from the
19 January 1, 1980, to May, 2016, time period on the thirty-year Treasury Yield; and (2) adding
20 the appropriate risk premium established in step (1) to three different thirty-year Treasury
21 yields: (a) current yield of 2.65% and a near-term projected yield of 3.08%, and a long-term
22 projected yield of 4.45%. Mr. Hevert's RP results are provided in Panel C of
23 Exhibit JRW-13. He reports RP equity cost rates ranging from 10.04% to 10.39%.

1 **Q. WHAT ARE THE ERRORS IN MR. HEVERT'S RP ANALYSIS?**

2 A. The two issues are: (1) the long-term projected 30-Year Treasury yield of
3 4.45%; and (2) primarily, the excessive risk premium.

4 **1. Base Yield**

5 **Q. WHAT IS THE ISSUE WITH THE PROJECTED LONG-TERM**
6 **TREASURY RATE OF 4.45%?**

7 A. The 4.45% projected yield is more than 100 basis points above the current
8 30-year Treasury rate. This figure is simply not reasonable. Thirty-year Treasury bonds are
9 currently yielding about 3.20%. Institutional investors would not be buying bonds at this
10 yield if they expected interest rates to increase so dramatically in the coming years.
11 An increase in yields of 100 basis points on 30-year Treasury bonds in the next couple
12 years would result in significant capital losses for investors buying bonds today at current
13 market yields.

14 **2. Risk Premium**

15 **Q. WHAT ARE THE ISSUES WITH MR. HEVERT'S RISK PREMIUM?**

16 A. There are several problems with this approach. The methodology produces an
17 inflated measure of the risk premium because the approach uses historic authorized ROEs and
18 Treasury yields, and the resulting risk premium is applied to projected Treasury Yields. Since
19 Treasury yields are always forecasted to increase, the resulting risk premium would be
20 smaller if done correctly, which would be to use projected Treasury yields in the analysis
21 rather than historic Treasury yields.

1 In addition, Mr. Hevert's RP approach is a gauge of *commission* behavior and not
2 *investor* behavior. Capital costs are determined in the market place through the financial
3 decisions of investors and are reflected in such fundamental factors as dividend yields,
4 expected growth rates, interest rates, and investors' assessment of the risk and expected return
5 of different investments. Regulatory commissions evaluate capital market data in setting
6 authorized ROEs, but also take into account other utility- and rate case-specific information in
7 setting ROEs. As such, Mr. Hevert's approach and results reflect other factors such as capital
8 structure, credit ratings and other risk measures, service territory, capital expenditures, energy
9 supply issues, rate design, investment and expense trackers, and other factors used by utility
10 commissions in determining an appropriate ROE in addition to capital costs. This may
11 especially be true when the authorized ROE data includes the results of rate cases that are
12 settled and not fully litigated.

13 Finally, Mr. Hevert's methodology produces an inflated required rate of return since
14 utilities have been selling at market-to-book ratios in excess of 1.0 for many years. This
15 indicates that the authorized rates of return have been greater than the return that investors
16 require. The relationship between ROE, the equity cost rate, and market-to-book ratios was
17 explained earlier in this testimony. In short, a market-to-book ratio above 1.0 indicates a
18 company's ROE is above its equity cost rate. Therefore, the risk premium produced from the
19 study is overstated as a measure of investor return requirements and produced an inflated
20 equity cost rate.

21 **Q DOES THIS CONCLUDE YOUR TESTIMONY?**

22 **A. Yes, it does.**

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI


In the Matter of Kansas City Power & Light)
Company's Request for Authority to) Case No. ER-2016-0285
Implement A General Rate Increase for)
Electric Service)

AFFIDAVIT OF J. RANDALL WOOLRIDGE

COMMONWEALTH OF PENNSYLVANIA)
) ss.
COUNTY OF CENTRE)

COMES NOW J. RANDALL WOOLRIDGE and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Rebuttal; and that the same is true and correct according to his best knowledge and belief.

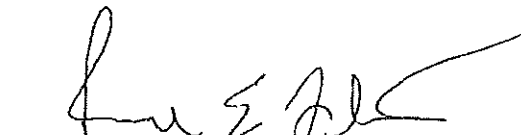
Further the Affiant sayeth not.



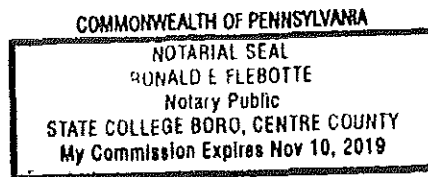
J. RANDALL WOOLRIDGE

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Centre, Commonwealth of Pennsylvania, at my office in State College, PA, on this 29th day of December, 2016.



Notary Public



ER-2016-0285

**Kansas City Power & Light Company
Summary of the Company's Proposed Cost of Capital**

Kansas City Power & Light Company

Company's Proposed Cost of Capital

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.12%	5.51%	2.76%
Common Equity	49.88%	9.90%	4.94%
Total	100.00%		7.70%

Kansas City Power & Light Company
 Kansas City Power & Light Company's ROE Results

Panel A

Summary of Mr. Hevert's Constant Growth DCF Results

	Mean Low	Mean	Mean High
30-Day Average	8.25%	8.76%	9.24%
90-Day Average	8.31%	8.82%	9.30%
180-Day Average	8.49%	9.00%	9.48%

Summary of Mr. Hevert's Multi-Stage Growth DCF Results

	Mean Low	Mean	Mean High
30-Day Average	9.15%	9.45%	9.73%
90-Day Average	9.30%	9.60%	9.88%
180-Day Average	9.78%	10.08%	10.36%

Panel B

Summary of Mr. Hevert's CAPM Results

	Bloomberg Derived Market Risk Premium 10.50%	Value Line Derived Market Risk Premium 11.10%
<i>Average Bloomberg Beta - 0.616</i>		
Current 30-Year Treasury - 2.65%	9.11%	9.49%
Near-Term Projected 30-Year Treasury (3.08%)	9.55%	9.92%
<i>Average Value Line Beta - 0.769</i>		
Current 30-Year Treasury - 2.65%	10.72%	11.18%
Near-Term Projected 30-Year Treasury (3.08%)	11.15%	11.62%

Panel C

Summary of Mr. Hevert's Bond Yield RP Results

	Low	Mid	High
Long-Term Treasury Yield	2.65%	3.08%	4.65%
Risk Premium	7.39%	6.97%	5.94%
Bond Yield Risk Premium	10.04%	10.05%	10.47%

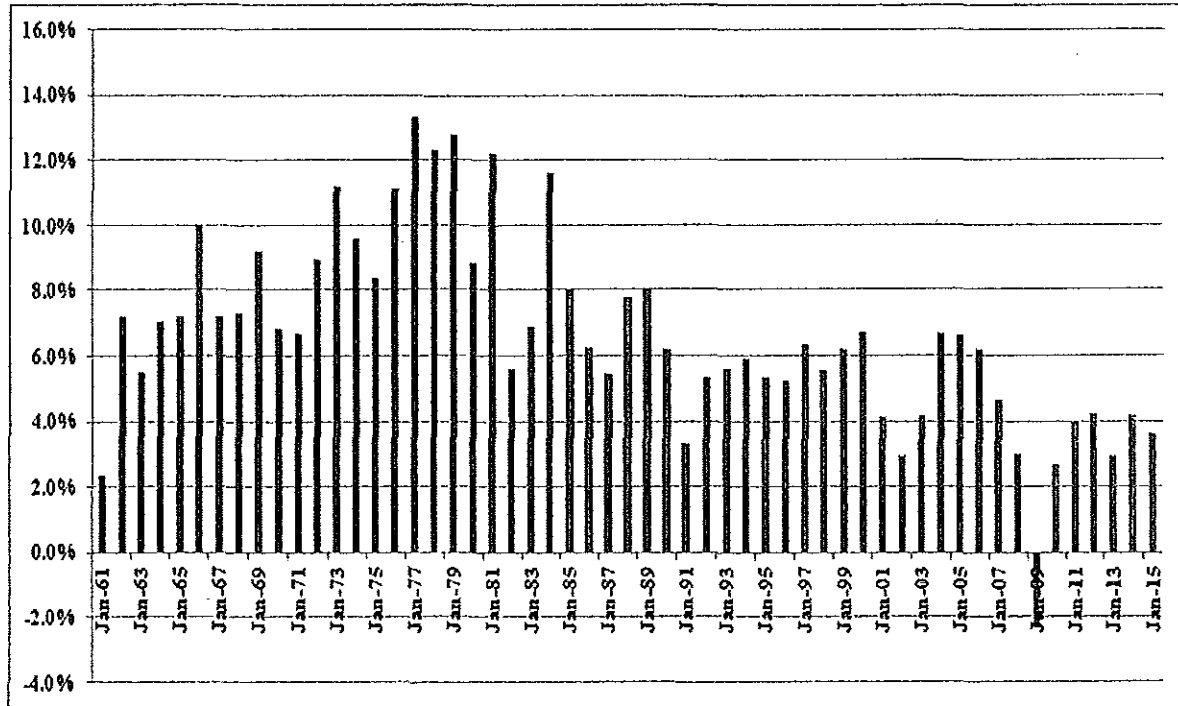
**Kansas City Power & Light Company
GDP and S&P 500 Growth Rates**

**Growth Rates
GDP, S&P 500 Price, EPS, and DPS**

	GDP	S&P 500	Earnings	Dividends	
1960	535.1	58.11	3.10	1.98	
1961	547.6	71.55	3.37	2.04	
1962	586.9	63.10	3.67	2.15	
1963	619.3	75.02	4.13	2.35	
1964	662.9	84.75	4.76	2.58	
1965	710.7	92.43	5.30	2.83	
1966	781.9	80.33	5.41	2.88	
1967	838.2	96.47	5.46	2.98	
1968	899.3	103.86	5.72	3.04	
1969	982.3	92.06	6.10	3.24	
1970	1049.1	92.15	5.51	3.19	
1971	1119.3	102.09	5.57	3.16	
1972	1219.5	118.05	6.17	3.19	
1973	1356.0	97.55	7.96	3.61	
1974	1486.2	68.56	9.35	3.72	
1975	1610.6	90.19	7.71	3.73	
1976	1790.3	107.46	9.75	4.22	
1977	2028.4	95.10	10.87	4.86	
1978	2278.2	96.11	11.64	5.18	
1979	2570.0	107.94	14.55	5.97	
1980	2796.8	135.76	14.99	6.44	
1981	3138.4	122.55	15.18	6.83	
1982	3313.9	140.64	13.82	6.93	
1983	3541.1	164.93	13.29	7.12	
1984	3952.8	167.24	16.84	7.83	
1985	4270.4	211.28	15.68	8.20	
1986	4536.1	242.17	14.43	8.19	
1987	4781.9	247.08	16.04	9.17	
1988	5155.1	277.72	24.12	10.22	
1989	5570.0	353.40	24.32	11.73	
1990	5914.6	330.22	22.65	12.35	
1991	6110.1	417.09	19.30	12.97	
1992	6434.7	435.71	20.87	12.64	
1993	6794.9	466.45	26.90	12.69	
1994	7197.8	459.27	31.75	13.36	
1995	7583.4	615.93	37.70	14.17	
1996	7978.3	740.74	40.63	14.89	
1997	8483.2	970.43	44.09	15.52	
1998	8954.8	1229.23	44.27	16.20	
1999	9510.5	1469.25	51.68	16.71	
2000	10148.2	1320.28	56.13	16.27	
2001	10564.6	1148.09	38.85	15.74	
2002	10876.9	879.82	46.04	16.08	
2003	11332.4	1111.91	54.69	17.88	
2004	12088.6	1211.92	67.68	19.41	
2005	12888.9	1248.29	76.45	22.38	
2006	13684.7	1418.30	87.72	25.05	
2007	14322.9	1468.36	82.54	27.73	
2008	14752.4	903.25	65.39	28.05	
2009	14414.6	1115.10	59.65	22.31	
2010	14798.5	1257.64	83.66	23.12	
2011	15379.2	1257.60	97.05	26.02	Average
2012	16027.2	1426.19	102.47	30.44	
2013	16498.1	1848.36	107.45	36.28	
2014	17183.5	2058.90	113.01	39.44	
2015	17803.4	2043.94	106.32	43.16	
Growth Rates	6.58	6.69	6.64	5.76	6.42

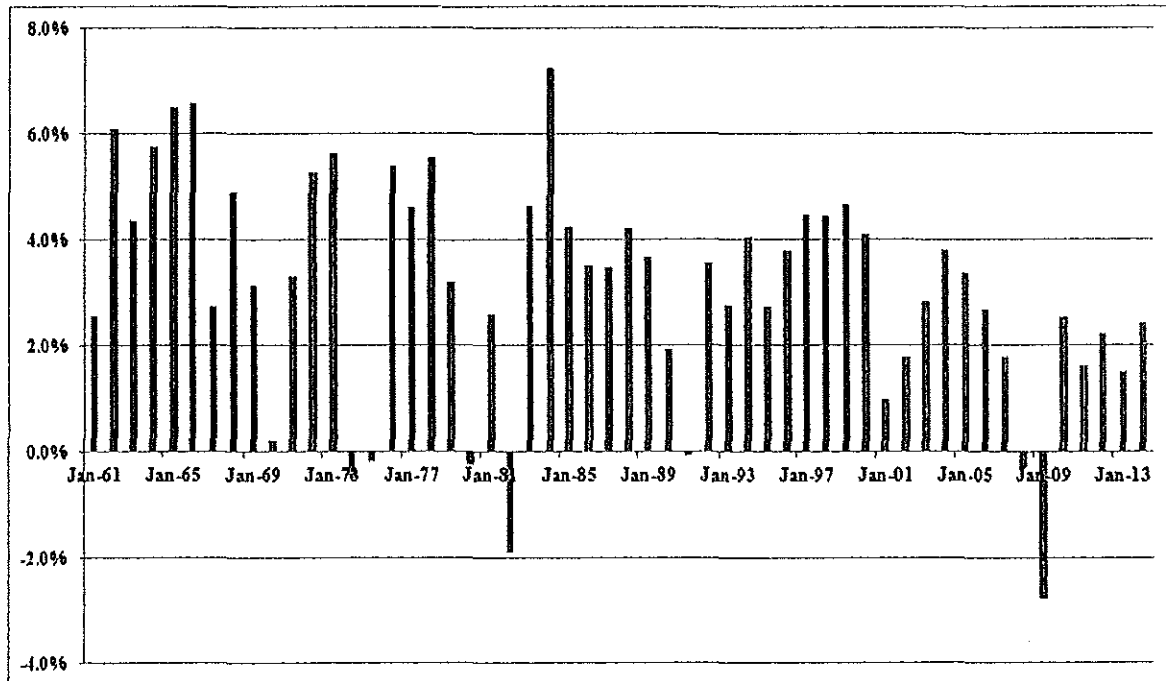
Data Sources: GDPA - <http://research.stlouisfed.org/fred2/series/GDPA/downloaddata>
S&P 500, EPS and DPS - <http://pages.stern.nyu.edu/~adamodar/>

Nominal GDP Growth Rates
Annual Growth Rates - 1961-2015



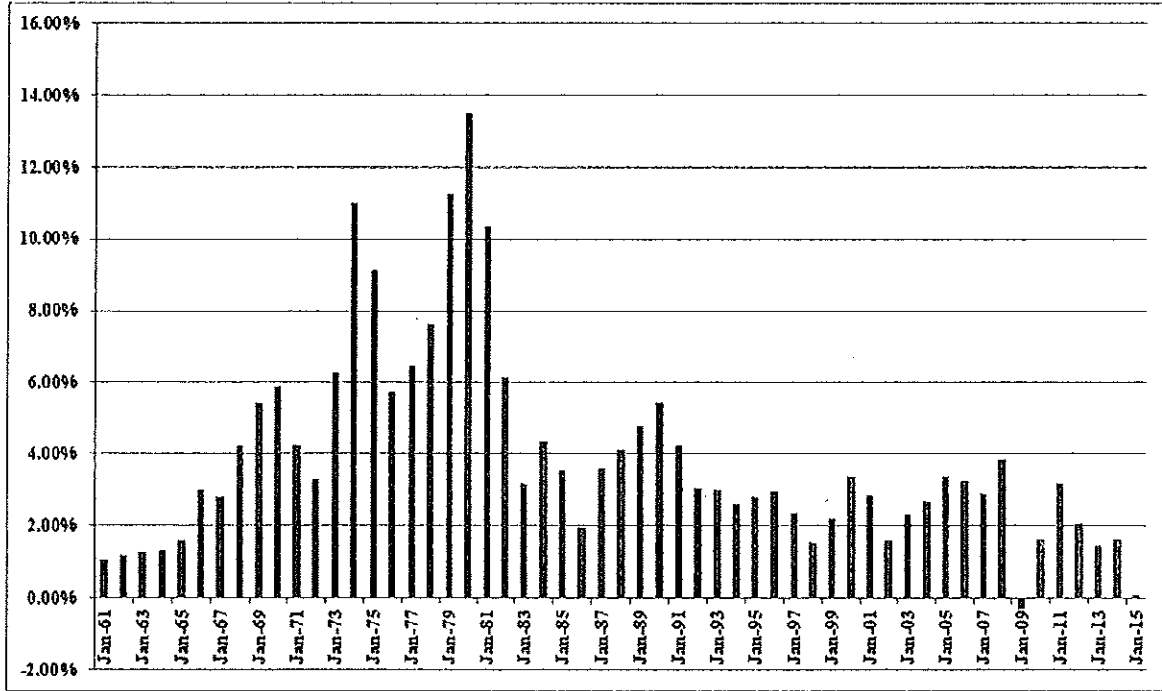
Data Sources: GDPA - <http://research.stlouisfed.org/fred2/series/GDPA/downloaddata>

Annual Real GDP Growth Rates
1961-2015



Data Sources: GDPC1 - <http://research.stlouisfed.org/fred2/series/GDPC1/downloaddata>

Annual Inflation Rates
1961-2015



Data Sources: CPIAUCSL - <http://research.stlouisfed.org/fred2/series/CPIAUCSL/downloaddata>

Panel A
Historic GDP Growth Rates

10-Year Average		3.28%
20-Year Average		4.36%
30-Year Average		4.87%
40-Year Average		6.19%
50-Year Average		6.65%

Calculated using GDP data on Page 1 of Exhibit JRW-14

Panel B
Projected GDP Growth Rates

	Time Frame	Projected Nominal GDP Growth Rate
Congressional Budget Office	2016-2026	4.1%
Survey of Financial Forecasters	Ten Year	4.5%
Social Security Administration	2016-2090	4.4%
Energy Information Administration	2015-2040	4.3%

Sources:

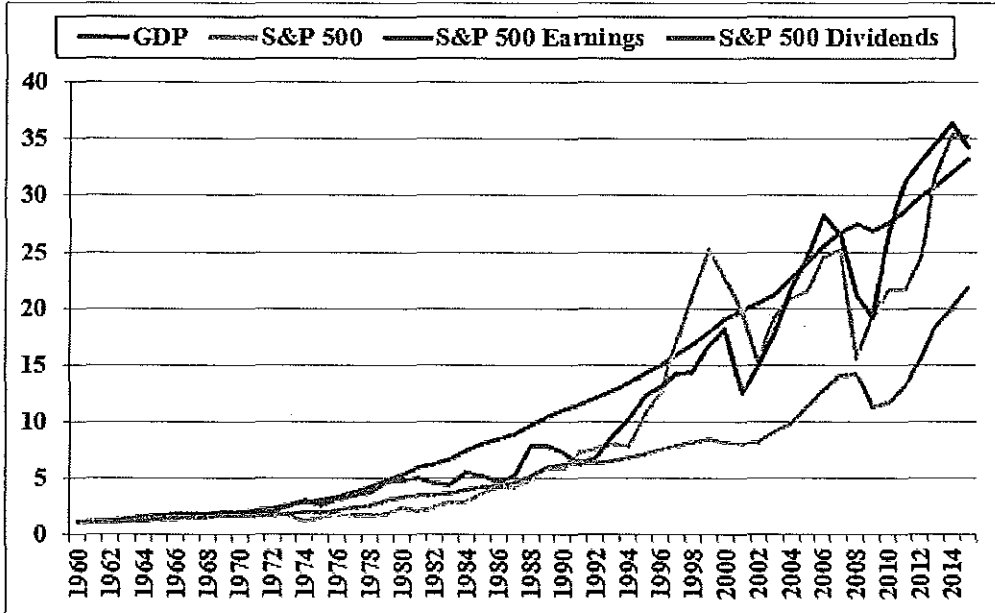
www.cbo.gov/publication/51129

http://www.eia.gov/forecasts/aeo/tables_ref.cfm Table 20

<http://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters>

http://www.ssa.gov/oact/tr/2016/X1_trLOT.html

Long-Term Growth of GDP, S&P 500, S&P 500 EPS, and S&P 500 DPS



	GDP	S&P 500	S&P 500 EPS	S&P 500 DPS
Growth Rates	6.58%	6.69%	6.64%	5.76%