FILED
March 20, 2015
Data Center
Missouri Public
Service Commission

Exhibit No.:
Witness: Michael Gorman
Type of Exhibit: Direct Testimony
Issue: Return on Equity
Sponsoring Parties: Missouri Industrial Energy Consumers
Case No.: ER-2007-0002

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area	)))))	**Case No. ER-2007-0002**

FILED[2]
DEC 15 2006
Missouri Public
Service Commission

Direct Testimony of

Michael Gorman

On Behalf of

Missouri Industrial Energy Consumers

UE Exhibit No. 59
Date 3-02-15 Reporter KF
File No ER-2014-0258

December 15, 2006

BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

Project 8632

Q **WHY DO YOU BELIEVE YOUR DCF REFLECTS CONSERVATIVE GROWTH PROJECTIONS?**

A The consensus analysts' growth rate for my electric proxy group is 5.16%. This growth rate is a reasonable long-term growth rate, appropriate for a constant growth DCF model for several reasons. First, a growth rate for my proxy group is reasonably consistent with the five-year and ten-year projected GDP growth of 5.1%, and considerably higher than the five-year and ten-year projected GDP inflation growth of 2.4%.[2]

Utilities' dividend growth cannot sustain a growth rate that exceeds the growth rate of the overall economy. The growth rate of the utility's service territory is the proxy for the sustainable long-term growth rate of earnings. Utilities invest in plant to meet sales growth, and sales growth in turn is tied to economic activity. Hence, nominal GDP growth is a proxy for the highest sustainable long-term growth rate of the utility.

However, growth of utility companies has historically been tied to the rate of inflation. This is because utilities typically pay out a very high percentage of earnings as dividends, thus limiting the reinvestment of earnings and the growth to their companies' business platforms. The growth rate used in my DCF analysis is much higher than expected inflation rates, and nears the maximum sustainable growth estimate as proxied by the GDP growth factor. The fact that my growth rate is bracketed in this manner by high and low reasonable growth rate proxies clearly indicates a very strong and relatively high growth rate used in my DCF estimate.

[2] Blue Chip Economic Forecasts, October 10, 2006, at 15.

AmerenUE

Growth Rate Estimates

Line	Electric Utility	Zacks Estimated Growth %[1] (1)	Zacks Number of Estimates[1] (2)	Reuters Estimated Growth %[2] (3)	Reuters Number of Estimates[2] (4)	Thomson Estimated Growth %[3] (5)	Thomson Number of Estimates[3] (6)	AVG of Growth Rates (7)
1	Alliant Energy	4.00%	2	N/A	N/A	5.00%	1	4.50%
2	Ameren Corp.	6.10%	5	N/A	N/A	3.75%	4	4.93%
3	DTE Energy	4.33%	3	5.25%	4	4.50%	2	4.69%
4	FirstEnergy Corp.	5.67%	6	6.17%	6	6.40%	5	6.08%
5	IDACORP, Inc.	4.67%	3	4.67%	3	4.67%	3	4.67%
6	NiSource Inc.	3.33%	6	3.50%	8	3.33%	6	3.39%
7	OGE Energy	5.00%	1	N/A	N/A	6.17%	2	5.59%
8	Pinnacle West Capital	6.75%	4	6.10%	6	5.00%	3	5.95%
9	Puget Energy Inc.	7.00%	1	5.14%	7	4.83%	3	5.66%
10	SCANA Corp.	4.67%	6	4.35%	6	4.35%	6	4.46%
11	Southern Co.	4.67%	9	4.70%	10	4.78%	9	4.72%
12	Wisconsin Energy	7.40%	5	N/A	N/A	7.79%	6	7.60%
13	Xcel Energy Inc.	4.33%	5	5.14%	7	5.27%	6	4.91%
14	**Average**	**5.22%**	**4**	**5.00%**	**6**	**5.06%**	**4**	**5.16%**

Sources:

[1] www.zacksadvisor.com, Detailed Research on November 13, 2006.

[2] www.investor.reuters.com, Earnings Estimates on November 13, 2006.

[3] http://ec.thomsonfn.com, Earnings Estimates on November 13, 2006.

Michael Gorman
Schedule MPG-2

Exhibit No.:
Witness: Michael Gorman
Type of Exhibit: Direct Testimony
Issues: Rate of Return
Sponsoring Party: Missouri Industrial Energy Consumers
Case No.: ER-2008-0318

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area	)))))	**Case No. ER-2008-0318**

Direct Testimony and Schedules of

Michael Gorman

On behalf of

Missouri Industrial Energy Consumers

BRUBAKER & ASSOCIATES, INC.
ST. LOUIS, MO 63141-2000

Project 8983
August 28, 2008

Each consensus growth rate projection is based on a survey of security analysts. The consensus estimate is a simple arithmetic average, or mean, of surveyed analysts' earnings growth forecasts. A simple average of the growth forecasts gives equal weight to all surveyed analysts' projections. It is problematic as to whether any particular analyst's forecast is most representative of general market expectations. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations. The growth rates I used in my DCF analysis are shown on Schedule MPG-4.

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

A As shown on Schedule MPG-5, the constant growth DCF return results are as follows:

Group	Return
Comparable Risk Proxy Group	11.34%
S&P Integrated Electric Utility Proxy Group	11.85%
Moody's Electric Utility Proxy Group	12.40%
Average	**11.86%**

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

A Yes. The constant growth DCF return is not reasonable and represents an inflated return for AmerenUE at this time. The average 3-5 year growth rates for the proxy groups are 6.80%, 7.25% and 8.03%, respectively (shown on Schedule MPG-5). These growth rates are far too high to be a rational estimate of the proxy groups' long-term sustainable growth. Because the current 3-5 year growth rates are too high

to be reasonable long-term sustainable growth rate estimates, the constant growth DCF model is currently producing an inflated DCF return and should not be used in the calculation of AmerenUE's return on equity.

Q WHY DO YOU BELIEVE THE PROXY GROUPS' 3-5 YEAR GROWTH RATES ARE IN EXCESS OF A RATIONAL ESTIMATE OF LONG-TERM SUSTAINABLE GROWTH?

A The 3-5 year growth rate of the proxy groups exceeds the growth rate of the overall U.S. economy. Based on consensus economic projections, as published by *Blue Chip Economic Indicators*, the nominal 5-year and 10-year Gross Domestic Product (GDP) growth rate estimate is 5.0% and 4.8%, respectively.[7] A company cannot grow, indefinitely, at a faster rate than the market in which it sells its products. The U.S. economy, or GDP, growth projection represents a ceiling, or high-end, sustainable growth rate for a utility over an indefinite period of time.

Q WHY IS THE GDP GROWTH PROJECTION CONSIDERED A CEILING GROWTH RATE FOR A UTILITY?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the overall economy. Utilities' earnings/dividend growth is created by increased utility investment or rate base. Utility plant investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth, and sales growth in turn is tied to economic growth in their service areas. The Energy Information Administration (EIA) has observed that utility sales growth is less than U.S. economic growth, as shown on

[7] *Blue Chip Economic Indicators*, March 10, 2008 at 15.

Schedule MPG-6. Utility sales growth has lagged the GDP growth. Hence, nominal GDP growth is a very conservative, albeit overstated, proxy for electric utility sales growth, rate base growth, and earnings growth. Therefore, GDP growth is a reasonable proxy for the highest sustainable long-term growth rate of a utility.

Q HOW HAVE THE PROXY GROUPS' HISTORICAL GROWTH RATES COMPARED TO HISTORICAL NOMINAL GDP GROWTH RATES?

A As shown on Schedule MPG-7, the historical growth of the proxy groups' dividend is substantially lower than the nominal GDP growth. Indeed, over the last 5 and 10 years, each proxy group's dividend growth has tracked inflation growth much more closely than nominal GDP growth. Therefore, the proxy groups' 3-5 year projected growth rate estimates are considerably higher than historical growth in relation to nominal GDP growth inflation, and are thus unreasonable.

Q IS THERE REASON TO BELIEVE THAT THE PROXY GROUP'S GROWTH COULD BE HIGHER GOING FORWARD THAN IT HAS BEEN HISTORICALLY?

A Yes. As shown on Schedule MPG-8, the Comparable Risk Proxy Group's payout ratio has been decreasing considerably over the last few years, and is projected to decrease from approximately 68% in 2007 down to 58% over the next 3-5 years. *Value* Line data for the S&P Integrated Electric Utility Proxy Group and Moody's Electric Utility Proxy Group also show a declining dividend payout ratio. This reduction in the dividend payout ratio corresponds to an increase in the earnings retention ratio which fuels stronger growth because more earnings are retained to invest in utility plant and grow earnings and dividends.

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

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

> The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[8]

Also, Morningstar's Stocks, Bonds, Bills and Inflation 2008 Yearbook Valuation Edition tracked dividends of the stock market in comparison to GDP growth over the period 1929 through the end of 2006.[9] Based on that study, the authors found that earnings and dividends for the market have historically grown in tandem with the overall economy. It is important to note that the growth of companies included in the overall market will normally be higher than that of utility companies. These non-utility companies achieve a higher level of growth because they retain a larger percentage of their earnings and pay out a much smaller percentage of their earnings as dividends. Retaining higher percentages of total earnings fuels stronger growth for these non-utility companies. Since the market in general grows at the overall GDP growth rate, it is very conservative to assume that utility companies could achieve this same level of sustained growth without a material reduction in their dividend payout ratios. As such, using the GDP as a maximum sustainable growth

[8] "Fundamentals of Financial Management," Eugene F. Grigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298.

[9] *Stocks, Bonds, Bills and Inflation 2008 Yearbook Valuation Edition* (Morningstar, Inc.) at 92-93.

rate is a very conservative and high-end estimate for utility companies.

Q WHY DO YOU BELIEVE GROWTH RATES FOR ELECTRIC UTILITY COMPANIES ARE PROJECTED TO BE HIGHER OVER THE NEXT 3-5 YEARS?

A Electric utility companies are in the midst of major construction programs, which are significantly increasing their outstanding capital and net plant investment. In the fourth quarter 2007, EEI published a stock performance assessment for electric utility stocks. EEI stated the following concerning rate base growth:

> **Accelerating Regulated Rate Base Growth**
>
> U.S. electricity demand is growing slowly but steadily and reserve margins are shrinking in many power markets nationwide. The utility industry is in the early stages of a sizeable long-term capital investment cycle that includes rising spending on emissions control equipment, transmission and distribution upgrades and, over the longer term, a new round of baseload generation. Much of this will likely be built in regulated rate base.
>
> EEI's spring 2007 study of industry capital spending based on 10-K data and discussions with companies indicated that the industry is projecting $73.1 billion of capital expenditures in 2007 – a 21.1% rise from the $60.3 billion spent in 2006 and 51.1% above the $48.4 billion in 2005. Based on current projections, industry capex should reach at least $75 billion in 2008 and $75.5 billion in 2009. And Wall Street analysts forecast strong investment by the industry beyond the end of the decade. The prospect of carbon regulation adds to the potential longevity of the current build cycle, should carbon capture and sequestration become the most economically viable way of complying with likely future carbon limits.

EEI's assessment indicates that annual capital spending will increase through 2009. After that date, the amount of capital expenditures by utilities may stay at a relatively constant rate, albeit one that is significantly higher than it had been in prior years. This elevated capital spending level may continue over a relatively long period of time. This indicates that rate base growth will drive earnings growth over the next 3-5 years. Afterward, the relatively high level of capital expenditures and related

increases in rate base and earnings will slow, but stay at an historically high level, near the GDP growth.

Q IS THERE A WAY OF TESTING WHETHER IT IS RATIONAL TO EXPECT THAT THE ANALYSTS' 3-5 YEAR EARNINGS GROWTH OUTLOOKS CAN BE A REASONABLE ESTIMATE OF SUSTAINABLE LONG-TERM GROWTH?

A Yes. This can be tested using an internal growth rate calculation for the companies included in the proxy groups using *Value Line*'s 3-5 year earnings and dividends projections, and estimated earned return on equity. An internal growth rate methodology estimates the sustainable growth rate based on the percentage of the utility's earnings that are retained in the company and reinvested in utility plant and equipment. These reinvested earnings then increase the earnings base, and will increase the earned return on equity as those additional earnings are put into service and the company is allowed to earn its authorized return on the additional investment.

As shown on Schedule MPG-9, the average sustainable growth rate for the Comparable Risk Proxy Group using this internal growth rate model is approximately 4.95%. This sustainable growth rate could be increased/decreased slightly by reflecting the issuance of additional shares at prices above/below book value, but that should only modestly increase/decrease this growth rate estimate to 4.95%. Similarly, the sustainable growth rates for the S&P Integrated Electric Utility Proxy Group and Moody's Electric Utility Proxy Group are 4.57% and 5.65%, respectively, as shown on pages 2 and 3 of Schedule MPG-9.

In comparison, using the Comparable Risk Proxy Group average growth rate of 6.80%, and a 3-5 year dividend payout ratio of 58%, would require an earned return on book equity of 16.19%. In comparison, *Value Line* is projecting a group

average return on book equity of 11.20%, and 10.31% excluding Exelon. I conclude from this estimate of a sustainable growth estimate, and a book return on equity needed to support the analysts' 3-5 year growth rate estimate, as evidence that the 3-5 year earnings growth rate estimates are much higher than a reasonable estimate of long-term sustainable growth for these companies. As such, an expansion of the traditional constant growth DCF model is appropriate in order to produce a reasonable and reliable DCF return estimate in this proceeding.

Q DO *VALUE LINE*'S OVERALL GROWTH PROJECTIONS SUPPORT YOUR CONCLUSION THAT A UTILITY'S GROWTH RATES ARE NOT CURRENTLY IN A LONG-TERM SUSTAINABLE GROWTH RATE PERIOD?

A Yes. In a constant growth model construct, a utility's earnings, dividends and book value will all grow at approximately the same rate. However, *Value Line*'s projected growth rates for earnings, dividends and book value exhibit significant divergence from this constant growth rate outlook. Specifically, my Schedule MPG-10 shows the earnings, dividends and book value growth for each of the three proxy groups. As shown on each one of these schedules, the earnings outlook for each proxy group of companies is considerably stronger than the expected growth in dividends and book value. This significant divergence in projected growth in earnings, dividends and book value is another a strong indication that the market does not expect these utilities to grow at the current 3-5 year consensus projections over a long-term sustained period of time.

Q SINCE YOU HAVE CONCLUDED THAT THE GROWTH RATES USED IN YOUR CONSTANT GROWTH DCF MODEL ARE HIGHER THAN THE LONG-TERM SUSTAINABLE GROWTH, DO YOU BELIEVE THAT YOUR CONSTANT GROWTH DCF RESULT IS REASONABLE?

A No. My constant growth DCF is based on consensus analysts' growth rate projections, so it is a reasonable reflection of rational investment expectations over the next 3-5 years. The limitation on the constant growth DCF model is that it cannot reflect a rational expectation that a period of high/low short-term growth can be followed by a change in growth to a rate that is more reflective of long-term sustainable growth. Hence, I performed two-stage and multi-stage DCF analyses to reflect this outlook of changing growth expectations.

Two-Stage DCF Model

Q PLEASE DESCRIBE YOUR TWO-STAGE DCF MODEL.

A The two-stage DCF growth model reflects the possibility of non-constant growth for a company over time. The two-stage model reflects two growth periods: (1) a short-term growth period, which consists of the first 5 years; and (2) a long-term growth period, which consists of each year starting in year six through perpetuity. For the short-term growth period, I relied on the consensus analysts' growth projections described above in relationship to my constant growth DCF model. For the long-term growth period, I assumed each company's growth would converge on the maximum sustainable growth rate for a utility company as proxied by the consensus analysts' projected growth for the U.S. GDP.

Q WHAT STOCK PRICE AND DIVIDEND DID YOU USE IN YOUR TWO-STAGE DCF ANALYSIS?

A I relied on the same 13-week stock price, the most recent quarterly dividend payment, and consensus analysts' growth rate projections discussed above in my constant growth DCF model. For the long-term sustainable growth rate starting in year six, I used 4.9%, the average of the consensus economists' 5-10 year projected nominal GDP growth rate (5.0% to 4.8%).

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

A As shown on Schedule MPG-11, the two-stage DCF return on equity results are as follows:

Group	Return
Comparable Risk Proxy Group	9.70%
S&P Integrated Electric Utility Proxy Group	9.82%
Moody's Electric Utility Proxy Group	9.66%
Average	**9.73%**

Multi-Stage DCF Model

Q PLEASE DESCRIBE YOUR MULTI-STAGE DCF MODEL.

A Similar, to the two-stage DCF, the multi-stage DCF growth model reflects the possibility of non-constant growth for a company over time. The multi-stage model reflects three growth periods: (1) a short-term growth period, which consists of the first 5 years; (2) a transition period, which consists of the next 5 years (6 through 10); and (3) a long-term growth period, which consists of each year starting in year 11 through perpetuity. This multi-stage DCF model differs from the two-stage growth

model by allowing for a longer period of abnormally high growth and a more gradual decline from the abnormally high short-term growth rate to a lower long-term sustainable growth rate.

For the short-term growth period, I relied on the consensus analysts' growth projections described above in relationship to my constant growth DCF model. For the transition period the growth rates were reduced or increased by an equal factor, which reflects the difference between the analysts' growth rates and the GDP growth rate. For the long-term growth period, I assumed each company's growth would converge to the maximum sustainable growth rate for a utility company as proxied by the consensus analysts' projected growth for the U.S. GDP of 4.9%.

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

A I relied on the same 13-week average stock price and the most recent annualized quarterly dividend payment.

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

A As shown on Schedule MPG-12, the multi-stage DCF return on equity results are as follows:

Group	Return
Comparable Risk Proxy Group	9.83%
S&P Integrated Electric Utility Proxy Group	9.98%
Moody's Electric Utility Proxy Group	9.87%
Average	**9.89%**

Exhibit No.:
Witness: Michael Gorman
Type of Exhibit: Direct Testimony
Issues: Revenue Requirement
Sponsoring Party: Missouri Industrial Energy Consumers
Case No.: ER-2010-0036

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company, d/b/a AmerenUE's Tariffs to Increase Its Annual Revenues for Electric Service	)))))	**Case No. ER-2010-0036** Tariff Nos. YE-2010-0054 and YE-2010-0055

Direct Testimony and Schedules of

Michael Gorman

On behalf of

Missouri Industrial Energy Consumers

December 18, 2009

BRUBAKER & ASSOCIATES, INC.
CHESTERFIELD, MO 63017

Project 9187

For my constant growth DCF analyses, I have relied on two types of forward-looking growth estimates. First, I relied on a consensus, or mean, of professional security analysts' earnings growth estimates as a proxy for the investor consensus dividend growth rate expectations. I used the average of three sources of analysts' growth rate estimates: Zacks, SNL Financial, and Reuters. All consensus analysts' projections used were available on November 23, 2009, as reported online.

Each consensus growth rate projection is based on a survey of security analysts. The consensus estimate is a simple arithmetic average, or mean, of surveyed analysts' earnings growth forecasts. A simple average of the growth forecasts gives equal weight to all surveyed analysts' projections. Whether any particular analyst's forecast is more representative of general market expectations is problematic. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations.

Second, I relied on a sustainable growth rate methodology to drive a long-term sustainable forward-looking growth rate.

Q WHAT IS THE GROWTH RATE YOU USED IN YOUR CONSTANT GROWTH DCF MODEL BASED ON ANALYST GROWTH RATES?

A The growth rates I used in my DCF analysis are shown on Schedule MPG-5. The average growth rate for my Integrated Electric Utilities Proxy Group is 6.74%. However, this average growth rate contains significant outliers. For example, Empire District has a growth rate of 34%, which is significantly higher than the growth projections for the other utilities. Therefore, I will rely on the median growth rate estimate of 5.50%, which more accurately captures the group central tendency. The

median growth rate for my S&P Electric Utilities Proxy Group is 5.83%. The midpoint of these growth rate estimates is 5.67%.

Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL USING CONSENSUS ANALYSTS' GROWTH RATES?

A As shown on Schedule MPG-6, the median constant growth DCF return for my Integrated Electric Utilities Proxy Group and S&P Electric Utilities Proxy Group are 11.03% and 11.01%, respectively, with a midpoint of 11.02%.

Q DO YOU HAVE ANY COMMENTS CONCERNING THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS USING CONSENSUS ANALYSTS' GROWTH RATES?

A Yes. The constant growth DCF return is not reasonable and represents an overstated return for AmerenUE at this time. The constant growth DCF result is overstated because it is based on a dividend yield of approximately 5.25%,[11] which has increased significantly due to current constrained market conditions; and a median growth rate of approximately 5.67%,[12] which is not sustainable indefinitely as required by this DCF model.

I believe the dividend and growth components of the constant growth model are producing irrational results because they appear to reflect completely contradictory outlooks for the utility industry. Specifically, the dividend yield for utility stocks has been higher recently, caused by drops in the stock price. These utility stock price declines have been caused by concerns about the economy, utility sales,

[11]The midpoint of the dividend yields for the two proxy groups: (5.34% + 5.15%)/2 = 5.25%.
[12]The midpoint of the median growth rate for the two proxy groups: (5.50% + 5.83%)/2 = 5.67%.

and reductions to capital programs that will slow rate base growth. These factors would limit future earnings and dividend growth. In contrast, the growth component in the DCF result still reflects extraordinarily robust growth outlooks. Therefore, the current market assessments for growth for utilities appear to contradict those growth outlooks reflected in security analysts' projections.

Further, the growth rate included in the DCF model is also not sustainable over an indefinite period of time. Therefore, the reliability of the constant growth DCF model is at very best, problematic. Therefore, I do not recommend relying on the results of the constant growth DCF study in this case.

Q WHY DO YOU BELIEVE THAT THE CURRENT DIVIDEND YIELD IS ABNORMALLY HIGH RELATIVE TO HISTORICAL STANDARDS?

A As shown on Schedule MPG-7, the historical dividend yield over the last five years for my Integrated Electric Utilities and S&P Electric Utilities Proxy Groups has been approximately 3.74%.[13] This is significantly lower than the current dividend yield of 5.25% (4.92%[14] unadjusted).

The current dividend yield is driven by the current market uncertainty. The stock prices of the proxy group companies have decreased recently. Those stock price declines in turn have increased the proxy group dividend yield. Part of the cause for the decline in utility stock price relates to the expectation of reduced growth, or more uncertain future growth. Future growth is affected by the current economic environment, which has affected customer sales growth and caused many utilities to reduce capital programs to conserve cash. For example, the Edison Electric Institute has projected that the current economic recession will cause utilities to reduce capital

[13](3.89% + 3.59%)/2 = 3.74%.
[14](4.94% + 4.89%)/2 = 4.92%.

expenditure budgets over at least the next two years by as much as 10%.[15] These factors result in a reduction to growth in rate base and the related growth in earnings and dividends.

Indeed, *Value Line* observed this in a recent comment on the electric utility industry. *Value Line* recognized utility stocks' deterioration based on economic conditions as follows:

> Since our last review, electric utility stocks as a whole have continued to struggle, based on share-price performance. Many utilities have been hampered by higher capital costs and weaker generation margins stemming from lower demand and a sharp decline in energy prices. Within the Eastern utility group, top losers included *Central Vermont* (-32%), Washington, DC.-based *Pepco Holdings* (-26%), and Ohio-based *First Energy Group* (-22%). Notable gainers included Florida-based *FPL Group* (15%) and New Jersey-based *Public Service Enterprise Group* (10%).[16]

Value Line also has recognized that dividend growth will likely slow after the rather robust pace that took place through calendar year 2008. *Value Line* also stated as follows:

> Dividends have been increasing at a rapid pace since 2002, reflecting relatively healthy balance sheets throughout the industry. In fact, last year 61% of electric utilities raised their dividend, 33% reported no change, 2% reinstated theirs, 2% lowered them, and only 2% are not paying them at all. In any industry these statistics would be viewed as quite favorable. <u>But, 2008 actually marked the slowing of a trend for the electric utility industry, in which the percentage of dividend increases declined. The reversal is attributable to deteriorating economic conditions, elevated capital spending, and higher debt-to-capitalization ratios</u>. Despite this, many utilities are still sporting attractive yields.[17]

[15] Edison Electric Institute, "Electricity: Power The Change That America Needs," February 12, 2009.

[16] *The Value Line Investment Survey Ratings & Reports*, "Electric Utility (East) Industry," May 29, 2009, at 148.

[17] *Id.* (emphasis added).

Q HOW DO THE PROXY GROUPS' PROJECTED GROWTH RATES COMPARE TO HISTORICAL ACTUAL GROWTH AND CONTEMPORARY PROJECTED NOMINAL GROSS DOMESTIC PRODUCT (GDP) GROWTH AND INFLATION RATES?

A As shown on Schedule MPG-8, the historical growth of the proxy groups' dividend (columns 1 and 2) is lower than or comparable to the historical nominal GDP growth (columns 7 and 8).

This historical perspective confirms that the outlook for earnings growth over the next three to five years continues to be unusually robust, and it supports my contention that current three- to five-year earnings growth projections are not reasonable estimates of sustainable long-term growth.

Q WHY DO YOU BELIEVE THE PROXY GROUPS' THREE- TO FIVE-YEAR GROWTH RATE IS IN EXCESS OF A LONG-TERM SUSTAINABLE GROWTH?

A The three- to five-year growth rate of the proxy groups exceeds the growth rate of the overall U.S. economy. As developed below, the consensus of published economists projects that the U.S. GDP will grow at a rate of no more than 4.7% over the next 10 years. A company cannot grow, indefinitely, at a faster rate than the market in which it sells its products. The U.S. economy, or GDP, growth projection represents a ceiling, or high-end, sustainable growth rate for a utility over an indefinite period of time.

Q WHY IS THE GDP GROWTH PROJECTION CONSIDERED A CEILING GROWTH RATE FOR A UTILITY?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the overall economy. Utilities' earnings/dividend growth is created by increased utility investment or rate base. Utility plant investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth, and sales growth in turn is tied to economic growth in their service areas. The Energy Information Administration (EIA) has observed that utility sales growth is less than U.S. GDP growth, as shown on Schedule MPG-9. Utility sales growth has lagged behind GDP growth. Hence, nominal GDP growth is a very conservative, albeit overstated, proxy for electric utility sales growth, rate base growth, and earnings growth. Therefore, GDP growth is a reasonable proxy for the highest sustainable long-term growth rate of a utility.

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

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

> The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[18]

[18] *Fundamentals of Financial Management* Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation, at 298.

Also, Morningstar's *Stocks, Bonds, Bills and Inflation 2009 Yearbook Valuation Edition* tracked dividends of the stock market in comparison to GDP growth over the period 1926 through the end of 2008.[19] Based on that study, the authors found that earnings and dividends for the market have historically grown in tandem with the overall economy. It is important to note that the growth of companies included in the overall market will normally be higher than that of utility companies. These non-utility companies achieve a higher level of growth because they retain a larger percentage of their earnings and pay out a much smaller percentage of their earnings as dividends. Retaining higher percentages of total earnings fuels stronger growth for these non-utility companies. Since the market in general grows at the overall GDP growth rate, it is very conservative (favorable to utilities) to assume that utility companies could achieve this same level of sustained growth without a material reduction in their dividend payout ratios. As such, using the GDP as a maximum sustainable growth rate is a very conservative and high-end estimate for utility companies.

Sustainable Growth Constant DCF

Q IS THERE A WAY OF DEVELOPING A DCF ESTIMATE USING A SUSTAINABLE LONG-TERM GROWTH RATE?

A Yes. This can be developed using an internal growth rate, or sustainable growth, for the companies included in the proxy groups using *Value Line*'s three- to five-year earnings and dividends projections and estimated earned return on equity. An internal growth rate methodology estimates the sustainable growth rate based on the percentage of the utility's earnings that are retained in the company and reinvested in

[19]Morningstar, Inc.: *Stocks, Bonds, Bills and Inflation 2009 Yearbook Valuation Edition* at 67.

utility plant and equipment. These reinvested earnings increase the earnings base and will increase the earned return on equity when those additional earnings are put into service, and the company is allowed to earn its authorized return on the additional investment.

The internal growth methodology is tied to the percentage of earnings retained in the company and not paid out as dividends. The earnings retention ratio is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings retention ratio increases. An increased earnings retention ratio will fuel stronger growth because the business funds more investments with retained earnings. As shown on Schedule MPG-10, *Value Line* projects the proxy group to have a declining dividend payout ratio over the next three to five years. These dividend payout ratios and earnings retention ratios can then be used to develop a sustainable long-term earnings retention growth rate to help gauge whether analysts' current three- to five-year growth rate projections can be sustained over an indefinite period of time.

As shown on Schedule MPG-11, the median sustainable growth rate for my Integrated Electric Utilities and S&P Electric Utilities Proxy Groups using this internal growth rate model is 4.88% and 7.29%, respectively, with a midpoint of approximately 6.09%.

Using the proxy groups' midpoint growth rate of 5.67% and a three- to five-year projected dividend payout ratio of approximately 55%[20] would require an earned return on book equity of 12.60%[21] to support a long-term sustainable growth rate of 5.67%. In comparison, *Value Line* is projecting a group average return on book equity of 11.79%.[22] This information supports my conclusion that current analysts'

[20](57.06% + 53.06%)/2 = 55.06%.
[21]5.67% ÷ (1 – 55%).
[22]Schedule MPG-11, pages 1 and 3, column 4: (11.49% + 12.08%)/2 = 11.79%.

three- to five-year earnings growth projections are not sustainable and will decline over time.

Q WHAT IS THE DCF ESTIMATE USING THIS SUSTAINABLE LONG-TERM GROWTH RATE DCF MODEL?

A The DCF estimate based on this sustainable growth rate is developed on Schedule MPG-12. As shown there, my Integrated Electric Utilities and S&P Electric Utilities Proxy Groups' median sustainable growth DCF return is 10.20% and 11.50%, respectively. The sustainable growth DCF result is based on the dividend and price data used in my constant growth DCF study (analyst growth) and the sustainable growth rate discussed above and developed on Schedule MPG-11.

Q WHAT IS THE DCF ESTIMATED RETURN BASED ON YOUR SUSTAINABLE LONG-TERM GROWTH RATE DCF MODEL?

A I recommend a median DCF return of 10.2% based on the median growth rate from my Integrated Electric Utilities Proxy Group. The median DCF return of the S&P Electric Utilities Proxy Group is derived from sustainable growth rates which still continue to be far too high to be reliable estimates of long-term sustainable growth. For example, as shown on my Schedule MPG-11, page 2, the non-utility companies continue to exhibit unusually high earned returns on equity, which reflect growth rate estimates too high to be sustainable indefinitely, and are, therefore, at very best problematic.

In significant contrast, the sustainable growth rate estimate from the Integrated Electric Utilities Proxy Group appears relatively constant across all samples, with one exception, and produces a much more reasonable and reliable

result. For example, the Integrated Electric Utilities Proxy Group average return is 10.68%. However, that average includes an unusually high result for DPL Inc. on line 8 of 22.07%, which is far above all other estimates. Excluding that result from the sample, would lower the average proxy group return down to 10.27%. The median of the proxy sample is 10.2%. Hence, excluding this clear outlier from the results for the comparable group produces a consistent and reliable DCF return estimate of 10.2%.

Multi-Stage Growth DCF Model

Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

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

Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

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

For the short-term growth period (years 1-5), I relied on the consensus analysts' growth projections described above in relationship to my constant growth

DCF model. In the third stage starting in the year 11, I used the long-term GDP forecast as a long-term sustainable growth rate. In the Transition growth stage (years 6-10), I used an annual linear change from the short-term growth to the long-term growth.

Q WHAT DO YOU BELIEVE IS A REASONABLE SUSTAINABLE LONG-TERM GROWTH RATE?

A A reasonable growth rate that can be sustained in the long run should be based on consensus analysts' projections. *Blue Chip Economic Indicators* publishes consensus GDP growth projections twice a year. Based on its latest issue, the consensus economists published a GDP growth rate of 4.7% projected for 10 years out.[23]

Therefore, I use the consensus economists' projected 10-year outlook on the GDP growth rate of 4.7%, as published by *Blue Chip Economic Indicators,* as an estimate of sustainable long-term growth starting six years out. This consensus GDP growth forecast represents the most likely views of market participants because it is based on published economist projections.

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

A I relied on the same 13-week stock price and the most recent quarterly dividend payment discussed above. For stage one growth, I used the consensus analysts' earnings growth rate projections discussed above in my constant growth DCF model. The transition period begins in year 6 and ends in year 10. In this transition growth

[23] *Blue Chip Economic Indicators*, October 10, 2009, at 15.

Exhibit No.:	
Issue:	Revenue Requirement
Witness:	Michael Gorman
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Missouri Industrial Energy Consumers
Case No.:	ER-2011-0028
Date Testimony Prepared:	February 8, 2011

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company, d/b/a Ameren Missouri's Tariff to Increase Its Annual Revenues for Electric Service	)	**Case No. ER-2011-0028** Tariff No. YE-2011-0116

Direct Testimony and Schedules of

Michael Gorman

Revenue Requirement

On behalf of

Missouri Industrial Energy Consumers

February 8, 2011

BRUBAKER & ASSOCIATES, INC.
CHESTERFIELD, MO 63017

Project 9371

Q ARE ANALYSTS' GROWTH RATE PROJECTIONS INTENDED TO REPRESENT LONG-TERM SUSTAINABLE GROWTH FOR THE UNDERLYING SECURITY?

A No. Analysts' growth rate projections are intended to represent a period of three to five years. These growth rates reflect the analysts' assessments of the growth outlooks for these companies during this time period. This is significant, because the constant growth DCF model requires a growth rate that can be sustained over a long-term indefinite period. Since analysts' three- to five-year growth rate estimates may or may not be reasonable estimates of long-term sustainable growth, I will test the reasonableness of assuming these growth rate outlooks can be sustained over the long-term period later in this testimony.

Q WHAT IS THE GROWTH RATE YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A The growth rates I used in my DCF analysis are shown in Schedule MPG-3. The average and median growth rates for the proxy group are 5.59% and 5.13%, respectively.

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

A As shown in Schedule MPG-4, the average and median constant growth DCF returns for the proxy group are 10.31% and 10.17%, respectively.

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

A Yes. The three- to five-year growth rate exceeds a sustainable long-term growth rate, which is a required input for the constant growth DCF model.

Q WHY DO YOU BELIEVE THE PROXY GROUP'S THREE- TO FIVE-YEAR GROWTH RATE IS IN EXCESS OF A LONG-TERM SUSTAINABLE GROWTH RATE?

A The three- to five-year growth rate of the proxy group exceeds the growth rate of the overall U.S. economy. As developed below, the consensus of published economists projects that the U.S. Gross Domestic Product ("GDP") will grow at a rate of no more than 4.8% and 4.7% over the next 5 and 10 years, respectively. A company cannot grow, indefinitely, at a faster rate than the market in which it sells its products. The U.S. economy, or GDP, growth projection represents a ceiling, or high-end, sustainable growth rate for a utility over an indefinite period of time.

Q WHY IS THE GDP GROWTH PROJECTION CONSIDERED A CEILING GROWTH RATE FOR A UTILITY?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the overall economy. The utilities' earnings/dividend growth is created by increased utility investment or rate base. Utility plant investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth, and sales growth in turn is tied to economic growth in their service areas. The Energy Information Administration ("EIA") has observed that utility sales growth is less than U.S. GDP growth, as shown in Schedule MPG-5. Utility sales growth has lagged behind GDP growth. Hence, nominal GDP growth is a very conservative, albeit overstated, proxy for electric utility sales growth, rate base growth and earnings growth. Therefore, GDP growth is a reasonable proxy for the highest sustainable long-term growth rate of a utility.

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

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

> The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[11]

Also, Morningstar's *Stocks, Bonds, Bills and Inflation 2009 Yearbook Valuation Edition* tracked dividends of the stock market in comparison to GDP growth over the period 1926 through the end of 2008.[12] Based on that study, the authors found that earnings and dividends for the market have historically grown in tandem with the overall economy. It is important to note that the growth of companies included in the overall market will normally be higher than that of utility companies. These non-utility companies achieve a higher level of growth because they retain a larger percentage of their earnings and pay out a much smaller percentage of their earnings as dividends. Retaining higher percentages of total earnings fuels stronger growth for these non-utility companies, however, it also implies significantly lower dividend yield compared to utility stock investments. Since the market in general grows at the overall GDP growth rate, it is very conservative to assume that utility companies could achieve this same level of sustained growth without a material reduction in their dividend payout ratios and associated dividend yields. As such,

[11] "Fundamentals of Financial Management," Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298.
[12] *Stocks, Bonds, Bills and Inflation 2009 Yearbook Valuation Edition* (Morningstar, Inc.) at 67.

using the GDP as a maximum sustainable growth rate is very conservative and will produce a high-end DCF estimate for utility securities.

Q HAVE ANALYSTS RECOGNIZED THAT SHORT-TERM GROWTH OUTLOOKS WILL SLOW OVER TIME?

A Yes. *Value Line* recognized that dividend growth will likely slow from short-term growth patterns. *Value Line* stated as follows:

> Dividends have been increasing at a rapid pace since 2002, reflecting relatively healthy balance sheets throughout the industry. In fact, last year 61% of electric utilities raised their dividend, 33% reported no change, 2% reinstated theirs, 2% lowered them, and only 2% are not paying them at all. In any industry these statistics would be viewed as quite favorable. But, 2008 actually marked the slowing of a trend for the electric utility industry, in which the percentage of dividend increases declined. The reversal is attributable to deteriorating economic conditions, elevated capital spending, and higher debt-to-capitalization ratios. Despite this, many utilities are still sporting attractive yields.[13]

B. Sustainable Growth DCF

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

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

[13] *Value Line Investment Survey*, May 29, 2009, emphasis added.

The internal growth methodology is tied to the percentage of earnings retained in the company and not paid out as dividends. The earnings retention ratio is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings retention ratio increases. An increased earnings retention ratio will fuel stronger growth because the business funds more investments with retained earnings. As shown in Schedule MPG-6, *Value Line* projects the proxy group to have a declining dividend payout ratio over the next three to five years. These dividend payout ratios and earnings retention ratios can then be used to develop a sustainable long-term earnings retention growth rate to help gauge whether analysts' current three- to five-year growth rate projections can be sustained over an indefinite period of time.

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

As shown in Schedule MPG-7, page 1 of 2, the average and median sustainable growth rates for the proxy group using this internal growth rate model are 5.42% and 4.76%, respectively.

Q WHAT IS THE CONSTANT GROWTH DCF ESTIMATE USING THIS SUSTAINABLE LONG-TERM GROWTH RATE?

A A DCF estimate based on this sustainable growth rate is developed in Schedule MPG-8. As shown there, a sustainable growth DCF analysis produces group average and median DCF results of 10.26% and 9.67%, respectively.

The average result is skewed due to a significant outlier – DPL, Inc., which produces a return on equity of 17.93%. Excluding DPL, Inc., the proxy group's

average DCF would be 9.49%. Therefore, I conclude that the median result of 9.67% better represents the central tendency of the proxy group. Hence, I will rely on the median DCF result.

The sustainable growth DCF result is based on the dividend and price data used in my constant growth DCF study (using analyst growth rates) and the sustainable growth rate discussed above and developed in Schedule MPG-7.

C. Multi-Stage Growth DCF Model

Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

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

Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

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

For the short-term growth period, I relied on the consensus analysts' growth projections described above in relationship to my constant growth DCF model. For

the transition period, the growth rates were reduced or increased by an equal annual factor, that transitioned the analysts' growth rates up/down to a long-term sustainable growth (GDP growth) rate by the start of the sustainable growth period (year 11). For the long-term growth period, I assumed each company's growth would converge to the maximum sustainable growth rate for a utility company as proxied by the consensus analysts' projected growth for the U.S. GDP of 4.7%.

Q WHAT DO YOU BELIEVE IS A REASONABLE SUSTAINABLE LONG-TERM GROWTH RATE?

A A reasonable growth rate that can be sustained in the long run should be based on consensus analysts' projections. *Blue Chip Economic Indicators* publishes consensus GDP growth projections twice a year. Based on its latest issue, the consensus economists' published GDP growth rate outlook is 4.8% to 4.7% over the next 5 to 10 years, respectively.[14]

Therefore, I propose to use the consensus economists' projected 10-year GDP consensus growth rate of 4.7%, as published by *Blue Chip Economic Indicators,* as an estimate of sustainable long-term growth. This consensus GDP growth forecast represents the most likely views of market participants because it is based on published economist projections.

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

A I relied on the same 13-week stock price and the most recent quarterly dividend payment discussed above. For stage one growth, I used the consensus analysts'

[14] *Blue Chip Economic Indicators*, October 10, 2010 at 15.

growth rate projections discussed above in my constant growth DCF model. The transition period begins in year 6 and ends in year 10. For the long-term sustainable growth rate starting in year 11, I used 4.7%, the consensus economists' 10-year projected nominal GDP growth rate.

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

A As shown in Schedule MPG-9, the average and median multi-stage growth DCF returns on equity for the proxy group are 9.65% and 9.86%, respectively.

Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

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

TABLE 2

Summary of DCF Results

Description	Proxy Group Median
Constant Growth DCF Model (Analysts' Growth)	10.17%
Constant Growth DCF Model (Sustainable Growth)	9.67%
Multi-Stage Growth DCF Model	9.86%
Average	9.90%

For reasons set forth above, I believe my constant growth DCF model based on analysts' growth is inflated because short-term analyst growth rate projections are not reasonable estimates of long-term sustainable growth. Therefore, it would be justified to give minimal weight to the results of the constant growth DCF model based on inflated analysts' growth rate estimates. However, I will give equal weight to all three of my DCF estimates. Therefore, based on my DCF studies, I conclude a return

Exhibit No.:	
Issues:	Revenue Requirement and Missouri Regulatory Framework
Witness:	Michael P. Gorman
Type of Exhibit:	Direct Testimony
Sponsoring Party:	Missouri Industrial Energy Consumers
Case No.:	ER-2012-0166
Date Testimony Prepared:	July 6, 2012

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company, d/b/a Ameren Missouri's Tariff to Increase Its Annual Revenues for Electric Service	))))	**Case No. ER-2012-0166** Tariff No. YE-2012-0370

Direct Testimony and Schedules of

Michael P. Gorman

Revenue Requirement

On behalf of

Missouri Industrial Energy Consumers

HIGHLY CONFIDENTIAL VERSION

July 6, 2012

BAI
BRUBAKER & ASSOCIATES, INC.

Project 9553

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

A The growth rates I used in my DCF analysis are shown in Schedule MPG-3. The average growth rate for my proxy group is 4.84%.

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

A As shown in Schedule MPG-4, the average and median constant growth DCF returns for my proxy group are 9.30% and 9.90%, respectively.

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

A Yes. The three- to five-year growth rates are in line with the long-term sustainable growth rate. Therefore, I believe my constant growth DCF analysis using analysts' three- to five-year growth rates reflects reasonable growth outlooks and the DCF results are also reasonable. Nevertheless, I consider other DCF methodologies in order to enhance the information available to accurately estimate Ameren Missouri's current market return on common equity.

Sustainable Growth DCF

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

A A sustainable growth rate is based on the percentage of the utility's earnings that is retained and reinvested in utility plant and equipment. These reinvested earnings increase the earnings base (rate base). Earnings grow when plant funded by

reinvested earnings is put into service, and the utility is allowed to earn its authorized return on such additional rate base investment.

The internal growth methodology is tied to the percentage of earnings retained in the company and not paid out as dividends. The earnings retention ratio is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings retention ratio increases. An increased earnings retention ratio will fuel stronger growth because the business funds more investments with retained earnings. The payout ratios of the proxy group are shown on my Schedule MPG-5. These dividend payout ratios and earnings retention ratios then can be used to develop a sustainable long-term earnings retention growth rate. A sustainable long-term retention ratio will help gauge whether analysts' current three- to five-year growth rate projections can be sustained over an indefinite period of time.

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

As shown in Schedule MPG-6, page 1, the average sustainable growth rate for the proxy group using this internal growth rate model is 4.20%.

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

A A DCF estimate based on these sustainable growth rates is developed in Schedule MPG-7. As shown there, a sustainable growth DCF analysis produces proxy group average and median DCF results of 8.63% and 8.47%, respectively.

Multi-Stage Growth DCF Model

Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

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

Q WHEN DO YOU BELIEVE SHORT-TERM GROWTH RATES CHANGE OVER TIME?

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

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

considers the current market environment, the industry, and whether the three- to five-year growth outlook is sustainable.

Q CAN A UTILITY'S ELEVATED THREE- TO FIVE-YEAR GROWTH RATE CONTINUE INDEFINITELY IF ITS CAPITAL PROGRAM CONTINUES OVER AN INDEFINITE PERIOD OF TIME?

A No. Because the growth rate will slow over time, even if the utility's capital program remains at an elevated level. This is illustrated in Table 3 below. Consider a hypothetical company with a beginning plant-in-service of $1 million and an elevated capital expenditure program of $100,000 (10% of total capital). Capital expenditures stay elevated but also grow at the rate of inflation of 2% over the next 10 years. This company has depreciation expense based on a rate of gross plant of 3.0%.

In this example, the first year, the capital expenditures less depreciation expense will grow plant-in-service from $1 million up to $1,070,000 – a 7% plant growth. In this example, earnings in the year would begin at an assumed 10% rate of return on investment, or $103,500. This represents a 10% return on average plant investment for the year. Now assume that the capital improvement program continues, and plant-in-service increases from the initial $1 million up to $1,139,900 by the end of year 2. In this second year, earnings would increase to $110,495, a 6.8% growth in earnings relative to year 1. Each year, the embedded plant-in-service increases by capital improvements less depreciation expense. As a result, the growth in earnings slows because a percent change in plant-in-service starts to slow as the beginning of the year plant-in-service number increases. That is, the denominator in the growth equation increases with a relatively flat but elevated level of capital improvements resulting in a decreasing growth in earnings. With this continued level

of elevated capital improvement offset by depreciation expense, the growth rate of earnings starts at around 6.8% in the beginning of the growth period, declines to around 5.3% after five years of growth, and further declines to around 4.2% after 10 years of elevated capital investment spending. Hence, while the company maintains an elevated level of capital spending throughout the forecast period, the earnings growth rate nevertheless declines from 6.8% at the beginning of the spending period, down to 4.2% after 10 years of elevated capital spending. Again, this occurs because the denominator in the growth equation increases as plant investment is made and plant-in-service increases. As a result, elevated capital expenditures have a lower growth impact on a larger capital base after years of elevated capital spending relative to the beginning of the capital spending program.

TABLE 3

Growth in Plant In-Service and Earnings

Year	Beginning of Year Plant-in-Service (1)	Capital Improvement (2)	Depreciation Expense (3)	End of Year Plant-in-Service (4)	Avg Year Plant (5)	ROE (6)	Earnings (7)	Annual Earnings Growth Rate (8)
0	$1,000,000	$100,000	$30,000	$1,070,000	$1,035,000	10.0%	$103,500	
1	$1,070,000	$102,000	$32,100	$1,139,900	$1,104,950	10.0%	$110,495	6.8%
2	$1,139,900	$104,040	$34,197	$1,209,743	$1,174,822	10.0%	$117,482	6.3%
3	$1,209,743	$106,121	$36,292	$1,279,572	$1,244,657	10.0%	$124,466	5.9%
4	$1,279,572	$108,243	$38,387	$1,349,428	$1,314,500	10.0%	$131,450	5.6%
5	$1,349,428	$110,408	$40,483	$1,419,353	$1,384,390	10.0%	$138,439	5.3%
6	$1,419,353	$112,616	$42,581	$1,489,388	$1,454,371	10.0%	$145,437	5.1%
7	$1,489,388	$114,869	$44,682	$1,559,575	$1,524,482	10.0%	$152,448	4.8%
8	$1,559,575	$117,166	$46,787	$1,629,954	$1,594,765	10.0%	$159,476	4.6%
9	$1,629,954	$119,509	$48,899	$1,700,565	$1,665,259	10.0%	$166,526	4.4%
10	$1,700,565	$121,899	$51,017	$1,771,447	$1,736,006	10.0%	$173,601	4.2%

Notes:
Column 2: Escalation Rate 2.00%.
Column 3: Depr Rate 3.00%.
Column 4 = Column 1 plus Column 2 less Column 3.
Column 5 = (Column 1 + Column 4)/2.
Column 7 = Column 5 * Column 6.
Column 8 = Column 7 N ÷ Column 7 N-1 (N is the Year) less 1.

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

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

> Dividends need not be, and probably are not, constant from period to period. Moreover, there are circumstances where the standard DCF model cannot be used to assess investor return requirements. For example, if a utility company is in the process of altering its dividend payout policy and dividends are not expected to grow at the same rate as earnings during the transition period, the standard DCF model is inapplicable. This is because the expected growth in stock price has to be different from that of dividends, earnings, and book value if the market price is to converge toward book value.

* * *

A Non-Constant Growth DCF model is appropriate whenever the growth rate is expected to change, and the only way to produce a change in the forecast payout ratio is by introducing an intermediate growth rate that is different from the long-term growth rate, as in the previous example.[11]

Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

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

For the short-term growth period, I relied on the consensus analysts' growth projections described above in relationship to my constant growth DCF model. For the transition period, the growth rates were reduced or increased by an equal factor, which reflects the difference between the analysts' growth rates and the United States Gross Domestic Product ("U.S. GDP") growth rate. For the long-term growth period, I assumed each company's growth would converge to the maximum sustainable growth rate for a utility company as proxied by the consensus analysts' projected growth for the U.S. GDP of 4.9%.

Q WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE MAXIMUM SUSTAINABLE GROWTH RATE FOR A UTILITY?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the overall economy. Utilities' earnings/dividend growth is created by increased utility investment or rate base. Such investment, in turn, is driven by service area economic

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

growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth, and sales growth, in turn, is tied to economic growth in their service areas. The Energy Information Administration ("EIA") has observed that utility sales growth is less than U.S. GDP growth, as shown in Schedule MPG-8. Utility sales growth has lagged behind GDP growth for more than a decade. As a result, nominal GDP growth is a very conservative, albeit overstated, proxy for electric utility sales growth, rate base growth, and earnings growth. Therefore, GDP growth is a conservative proxy for the highest sustainable long-term growth rate of a utility.

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

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

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

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

A I relied on the consensus analysts' projections of long-term GDP growth. *The Blue Chip Financial Forecasts* publishes consensus economists' GDP growth projections twice a year. These consensus analysts' GDP growth outlooks are the best available

[12] "Fundamentals of Financial Management," Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298.

measure of the market's assessment of long-term GDP growth. These analyst projections reflect all current outlooks for GDP, as reflected in analyst projections, and are likely the most influential on investors' expectations of future growth outlooks. The consensus economists' published GDP growth rate outlook is 5.1% to 4.7% over the next 10 years.[13]

Therefore, I propose to use the consensus economists' projected 5- and 10-year average GDP consensus growth rate of 4.9%, as published by *Blue Chip Financial Forecasts,* as an estimate of long-term sustainable growth. *Blue Chip Financial Forecasts'* projections provide real GDP growth projections of 2.8% and 2.5%, and GDP inflation of 2.2% and 2.1%[14] over the 5-year and 10-year projection periods, respectively. This consensus GDP growth forecast represents the most likely views of market participants because it is based on published consensus economist projections.

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

A Yes, and these sources corroborate my consensus analysts' projections. The U.S. EIA in its Annual Energy Outlook projects real GDP out until 2035. In its 2011 Annual Report, the EIA projects real GDP through 2035 to be in the range of 2.1% to 3.2%, with a midpoint or reference case of 2.7%.[15]

Also, the Congressional Budget Office ("CBO") makes long-term economic projections. The CBO is projecting real GDP growth of 3.3% to 2.4% during the next

[13] *Blue Chip Financial Forecasts*, June 1, 2012 at 14.
[14] GDP growth is the product of real and inflation GDP growth.
[15] *DOE/EIA Annual Energy Outlook 2011 With Projections to 2035*, April 2011 at 58.