

**BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

In the Matter of:

**APPLICATION OF KENTUCKY UTILITIES)
COMPANY FOR AN ADJUSTMENT OF) CASE NO. 2014-00371
ITS ELECTRIC RATES)**

In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

<p>DIRECT TESTIMONY AND EXHIBITS OF RICHARD A. BAUDINO</p>

**ON BEHALF OF
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.
J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

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DIRECT TESTIMONY OF RICHARD A. BAUDINO

I. QUALIFICATIONS AND SUMMARY

1 **Q. Please state your name and business address.**

2 A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates,
3 Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell,
4 Georgia 30075.

5 **Q. What is your occupation and by whom are you employed?**

6 A. I am a consultant with Kennedy and Associates.

7 **Q. Please describe your education and professional experience.**

8 A. I received my Master of Arts degree with a major in Economics and a minor in
9 Statistics from New Mexico State University in 1982. I also received my Bachelor
10 of Arts Degree with majors in Economics and English from New Mexico State in
11 1979.

12

1 I began my professional career with the New Mexico Public Service Commission
2 Staff in October 1982 and was employed there as a Utility Economist. During my
3 employment with the Staff, my responsibilities included the analysis of a broad range
4 of issues in the ratemaking field. Areas in which I testified included cost of service,
5 rate of return, rate design, revenue requirements, analysis of sale/leasebacks of
6 generating plants, utility finance issues, and generating plant phase-ins.

7
8 In October 1989, I joined the utility consulting firm of Kennedy and Associates as a
9 Senior Consultant where my duties and responsibilities covered substantially the
10 same areas as those during my tenure with the New Mexico Public Service
11 Commission Staff. I became Manager in July 1992 and was named Director of
12 Consulting in January 1995. Currently, I am a consultant with Kennedy and
13 Associates.

14
15 Exhibit No. ___(RAB-1) summarizes my expert testimony experience.

16 **Q. On whose behalf are you testifying?**

17 A. I am testifying on behalf of the Kentucky Industrial Utility Customers, Inc.
18 ("KIUC").

19 **Q. What is the purpose of your Direct Testimony?**

20 A. The purpose of my Direct Testimony is to address the allowed return on equity for
21 regulated electric operations for Louisville Gas and Electric Company and Kentucky
22 Utilities ("LGE", "KU", or "Companies"). I will also address the cost of debt, the
23 appropriate capital structure, and the resulting overall weighted cost of capital for

1 LGE and KU. Finally, I will respond to the Direct Testimony of Dr. William Avera
2 and Mr. Adrien McKenzie, witnesses for the Companies.

3 **Q. Please summarize your conclusions and recommendations.**

4 A. Based on current financial market conditions, I recommend that the Kentucky Public
5 Service Commission ("KPSC" or "Commission") adopt an 8.60% return on equity
6 for LGE and KU in this proceeding. My recommendation is based on the results of a
7 Discounted Cash Flow ("DCF") model analysis. My DCF analysis incorporates my
8 standard approach to estimating the investor required return on equity and includes a
9 group of 18 comparison companies and dividend and earnings growth forecasts from
10 the Value Line Investment Survey, IBES, and Zacks.

11
12 I also included two Capital Asset Pricing Model ("CAPM") analyses for additional
13 information. I did not incorporate the results of the CAPM in my recommendation,
14 however the results from the CAPM support my 8.60% ROE recommendation for
15 LGE and KU. In fact, my CAPM results are somewhat lower than my DCF results.

16
17 In Section IV, I respond to the testimony and ROE recommendation of the
18 Companies' witnesses Avera/McKenzie. I will demonstrate that their recommended
19 ROE of 10.64% significantly overstates the current investor required return. The
20 current financial environment of low interest rates has been deliberately and
21 methodically supported by Federal Reserve policy actions since 2009 and is ongoing.
22 A 10.64% ROE for regulated electric utilities such as LGE and KU simply cannot be
23 supported at this time and would contribute to a burdensome rate increase for

1 Kentucky ratepayers. Although the Companies are requesting a 10.50% ROE in this
2 case, I strongly recommend that the KPSC reject the Companies' requested ROE in
3 this proceeding.

4

II. REVIEW OF ECONOMIC AND FINANCIAL CONDITIONS

1
2 **Q. Mr. Baudino, what has the trend been in long-term capital costs over the last**
3 **few years?**

4 A. Generally speaking, interest rates have declined over the last 10 years. Exhibit No.
5 ___(RAB-2) presents a graphic depiction of the trend in interest rates from January
6 2005 through December 2014. The interest rates shown in this exhibit are for the 20-
7 year U.S. Treasury Bond and the average public utility bond from the Mergent Bond
8 Record. In January 2005, the average public utility bond yield was 5.80% and the 20-
9 year Treasury Bond yield was 4.77%. As of December 2014 the average public
10 utility bond yield was 4.18%, representing a decline of 162 basis points, or 1.62%
11 from January 2005. Likewise, the 20-year Treasury bond declined to 2.55% in
12 December 2014, a decline of 2.22% (222 basis points) from January 2005.

13 **Q. Was there a significant change in Federal Reserve policy during the historical**
14 **period shown in Exhibit No. ___(RAB-2)?**

15 A. Yes. In response to the 2007 financial crisis and severe recession that followed in
16 December 2007, the Federal Reserve ("Fed") undertook a series of steps to stabilize
17 the economy, ease credit conditions, and lower unemployment and interest rates.
18 These steps are commonly known as Quantitative Easing ("QE") and were
19 implemented in three distinct stages: QE1, QE2, and QE3. The Fed's stated purpose
20 of QE was "to support the liquidity of financial institutions and foster improved
21 conditions in financial markets."¹

¹ http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm

1 QE1 was implemented from November 2008 through approximately March 2010.
2 During this time, the Fed cut its key Federal Funds Rate to nearly 0% and purchased
3 \$1.25 trillion of mortgage-backed securities and \$175 billion of agency debt
4 purchases.

5
6 QE2 was implemented in November 2010 with the Fed announcing that it would
7 purchase an additional \$600 billion of Treasury securities by the second quarter of
8 2011.²

9
10 Beginning in September 2011, the Federal Reserve initiated a "maturity extension
11 program" in which it sold or redeemed \$667 billion of shorter-term Treasury
12 securities and used the proceeds to buy longer-term Treasury securities. This
13 program, also known as "Operation Twist" was designed by the Federal Reserve to
14 lower long-term interest rates and support the economic recovery.

15
16 QE3 began in September 2012 with the Fed announcing an additional bond
17 purchasing program of \$40 billion per month of agency mortgage backed securities.
18 On June 19, 2013, the Federal Open Market Committee ("FOMC") issued a press
19 release indicating that it intended to extend "Operation Twist." In its press release,
20 the Federal Reserve stated:

21 To support a stronger economic recovery and to help ensure
22 that inflation, over time, is at the rate most consistent with its

² <http://www.federalreserve.gov/newsevents/press/monetary/20101103a.htm>

1 dual mandate, the Committee decided to continue purchasing
2 additional agency mortgage-backed securities at a pace of \$40
3 billion per month and longer-term Treasury securities at a pace
4 of \$45 billion per month. The Committee is maintaining its
5 existing policy of reinvesting principal payments from its
6 holdings of agency debt and agency mortgage-backed
7 securities in agency mortgage-backed securities and of rolling
8 over maturing Treasury securities at auction. Taken together,
9 these actions should maintain downward pressure on longer-
10 term interest rates, support mortgage markets, and help to
11 make broader financial conditions more accommodative.

12 More recently, the Federal Reserve began to pare back its purchases of securities.
13 For example, on January 29, 2014 the Federal Reserve stated that beginning in
14 February 2014 it would reduce its purchases of long-term Treasury securities to \$35
15 billion per month. The Federal Reserve continued to reduce these purchases
16 throughout the year and in a press release issued October 29, 2014 announced that it
17 decided to close this asset purchase program in October.³

18 **Q. Since the Federal Reserve's announcements of scaling back and finally ending**
19 **its purchases of long-term Treasury securities, what has the trend been in long-**
20 **term Treasury yields so far in 2014?**

21 **A.** The yield on the 20-year Treasury bond has actually declined since the beginning of
22 2014. The January 2014 yield on the 20-year Treasury bond was 3.52%. The
23 closing yield for the week ending February 27, 2015 was 2.39%, a decline of 113
24 basis points since January 2014. Average utility bond yields have followed a similar
25 trend, starting January at 4.72% and declining to 3.69% as of February 27, 2015.

³ <http://www.federalreserve.gov/newsevents/press/monetary/20141029a.htm>

1 **Q. Mr. Baudino, why is it important to understand the Fed's actions with respect**
2 **to monetary policy since 2007?**

3 A. The Fed's monetary policy actions since 2007 were deliberately undertaken to lower
4 interest rates and support economic recovery. The Fed's actions have been quite
5 successful in lowering interest rates given that the 20-year Treasury Bond yield in
6 June 2007 was 5.29% and the public utility bond yield was 6.34%. The U.S.
7 economy is currently in a low interest rate environment that, in my opinion, will
8 continue at least through this year. As I will demonstrate later in my testimony, low
9 interest rates have also significantly lowered investors' required return on equity for
10 the stocks of regulated utilities.

11 **Q. Has the Fed recently signaled that it is considering raising interest rates?**

12 A. Yes. In the Fed's Semiannual Monetary Policy Report to Congress on February 24,
13 2015 Chair Janet Yellen stated the following:

14 "The FOMC's assessment that it can be patient in beginning to normalize policy
15 means that the Committee considers it unlikely that economic conditions will
16 warrant an increase in the target range for the federal funds rate for at least the next
17 couple of FOMC meetings. If economic conditions continue to improve, as the
18 Committee anticipates, the Committee will at some point begin considering an
19 increase in the target range for the federal funds rate on a meeting-by-meeting
20 basis."⁴
21

22 Chair Yellen also stated "the Committee judges that a high degree of policy
23 accommodation remains appropriate to foster further improvement in labor market
24 conditions and to promote a return of inflation toward 2 percent over the medium
25 term. Accordingly, the FOMC has continued to maintain the target range for the

⁴ <http://www.federalreserve.gov/newsevents/testimony/yellen20150224a.htm>

1 federal funds rate at 0 to 1/4 percent and to keep the Federal Reserve's holdings of
2 longer-term securities at their current elevated level to help maintain accommodative
3 financial conditions."

4
5 It appears that for the time being, the Fed will not raise its Federal Funds Rate.

6 **Q. Are current interest rates indicative of investor expectations regarding future**
7 **policy actions by the Federal Reserve?**

8 A. Yes. Securities markets are efficient and most likely reflect investors' expectations
9 about future interest rates. As Dr. Roger Morin pointed out in *New Regulatory*
10 *Finance*:

11 "A considerable body of empirical evidence indicates that U.S. capital
12 markets are efficient with respect to a broad set of information, including
13 historical and publicly available information."⁵
14

15 I acknowledge that the U.S. economy is operating in a low interest rate environment.
16 It is likely at some point in the near future that the Federal Reserve will begin to raise
17 short-term interest rates. However, the timing and the level of any such move are not
18 known at this time. It is important to realize that investor expectations of higher
19 interest rates, if any, are already embodied in current securities prices, which include
20 debt securities and stock prices.
21

22 It would not be advisable for utility regulators to raise ROEs in anticipation of higher
23 interest rates that may or may not occur.

⁵ Morin, Roger A., *New Regulatory Finance*, Public Utilities Reports, Inc. (2006) at 279.

1 **Q. How does the investment community regard the electric utility industry as a**
2 **whole?**

3 A. The Value Line Investment Survey's February 20, 2015 summary report on the
4 Electric Utility (East) Industry noted the following regarding interest rates and utility
5 stocks.

6 "Like fixed-income securities, utility stocks are sensitive to interest rates. (This is
7 true for all utilities, not just electrics.) The environment of low interest rates in the
8 past several years has been a boon for utility equities. This was evident in 2014,
9 when a decline in rates from an already-low level allowed EEI's index of stocks
10 to produce a 29% total return.

11 * * *

12 Low interest rates have lasted longer than most people expected, but few expect
13 rates to stay this low permanently. The previous section discussed the risk that
14 utility investors face when rates start to rise. Of course, things won't necessarily
15 unfold this way—these stocks are also affected by other factors, including
16 company-specific events—but utility investors must be cognizant of this.

17
18 So far in 2015, most electric utility stocks have either risen or fallen very little.
19 The industry's average dividend yield is 3.4%. We continue to believe that most
20 of these equities are expensively priced."

21
22 Edison Electric Institute ("EEI") recently reported that the utility industry's
23 average credit rating was BBB+ by the third quarter of 2014.⁶ EEI reported that
24 credit outlooks remained stable to positive due to "derisking of business models
25 through renewed focus on regulated activities and improved industry regulation."

26
27 The *2014 Ibbotson SBBI Classic Yearbook* published by Morningstar stated the
28 following with respect to the outlook for utilities in 2014:

29 Adding to the sector's attractiveness going into 2014 is its average 4
30 percent dividend yield, nearly double the average S&P 500 dividend yield
31 and more than 1 percentage point higher than 10-year U.S Treasuries. Our

⁶ *EEI Q3 2014 Financial Update, Credit Ratings*, page 1.

1 analysis of returns going back 20 years suggests that 10-year U.S.
2 Treasuries could climb to 4 percent from 3 percent today, with little
3 impact on utilities' total returns. We think utilities with 3 percent to 5
4 percent earnings growth prospects during the next few years offer a
5 compelling risk-adjusted total-return package for any investor.⁷

6 **Q. What do you conclude from the aforementioned quotes?**

7 A. Utilities continue to be safe, solid stock choices for investors. Even with uncertainty
8 regarding the Federal Reserve's decision on when to raise interest rates, utilities'
9 prices have made solid gains since the beginning of 2014. For example, the Dow
10 Jones utility average opened January 2014 at 490.31 and closed at 594.17 at the end
11 of February 2015. This represents a gain of 21.2%. Morningstar indicated that
12 interest rates could rise 100 basis points with little effect on utilities' overall return.
13 The current low interest rate environment continues to favor utility stocks.

14
15 It appears that the Fed will continue a relatively accommodating stance with respect
16 to monetary policy and has signaled that it does not intend to raise short-term interest
17 rates at this time. The volatile economic conditions that were present in the 2008 -
18 2009 period are over and the U.S. economy continues to slowly recover from the
19 recession that began in 2007.

20 **Q. What are the current credit ratings and bond ratings for LGE and KU?**

⁷ 2014 Ibbotson SBBI Classic Yearbook, Morningstar, page 31.

1 A. Standard and Poor's ("S&P") current credit rating for the Companies is BBB and
2 their first mortgage bond rating is A-. Moody's current long-term issuer rating for
3 the Companies is A3, with a rating of A1 for their first mortgage bonds.

4 **Q. Has LGE's and KU's parent company, PPL Corporation, made recent**
5 **statements regarding the operations and risks of its Kentucky electric utility**
6 **companies?**

7 A. Yes. In a February 25, 2015 presentation to the Credit Suisse 20th Annual Energy
8 Summit, PPL noted that Kentucky has a "constructive regulatory environment that
9 provides a timely return on a substantial amount of planned capex over the next 5
10 years." PPL Corp. also cited other supportive recovery mechanisms that include
11 construction work in progress, fuel adjustment clauses, gas supply clause adjustment
12 and Demand Side Management recovery. Please refer to Exhibit No. ___(RAB-3)
13 for an excerpt from this presentation. These mechanisms tend to lower the
14 Companies' business risk and, correspondingly, their cost of equity.

15

III. DETERMINATION OF FAIR RATE OF RETURN

1
2 **Q. Please describe the methods you employed in estimating a fair rate of return for**
3 **the electric operations of LGE and KU.**

4 A. I employed a Discounted Cash Flow (“DCF”) analysis using a group of regulated
5 electric utilities. My DCF analysis is my standard constant growth form of the
6 model that employs four different growth rate forecasts from the Value Line
7 Investment Survey, IBES, and Zacks. I also employed Capital Asset Pricing Model
8 (“CAPM”) analyses using both historical and forward-looking data. Although I did
9 not rely on the CAPM for my recommended 8.60% ROE for LGE and KU, the
10 results from the CAPM tend to support this recommendation.

11 **Q. What are the main guidelines to which you adhere in estimating the cost of**
12 **equity for a firm?**

13 A. Generally speaking, the estimated cost of equity should be comparable to the returns
14 of other firms with similar risk structures and should be sufficient for the firm to
15 attract capital. These are the basic standards set out by the United States Supreme
16 Court in *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) and
17 *Bluefield W.W. & Improv. Co. v. Public Service Comm'n*, 262 U.S. 679 (1922).

18
19 From an economist’s perspective, the notion of “opportunity cost” plays a vital role
20 in estimating the return on equity. One measures the opportunity cost of an
21 investment equal to what one would have obtained in the next best alternative. For
22 example, let us suppose that an investor decides to purchase the stock of a publicly
23 traded electric utility. That investor made the decision based on the expectation of
24 dividend payments and perhaps some appreciation in the stock’s value over time;

1 however, that investor's opportunity cost is measured by what she or he could have
2 invested in as the next best alternative. That alternative could have been another
3 utility stock, a utility bond, a mutual fund, a money market fund, or any other
4 number of investment vehicles.

5
6 The key determinant in deciding whether to invest, however, is based on
7 comparative levels of risk. Our hypothetical investor would not invest in a particular
8 electric company stock if it offered a return lower than other investments of similar
9 risk. The opportunity cost simply would not justify such an investment. Thus, the
10 task for the rate of return analyst is to estimate a return that is equal to the return
11 being offered by other risk-comparable firms.

12 **Q. What are the major types of risk faced by utility companies?**

13 A. In general, risk associated with the holding of common stock can be separated into
14 three major categories: business risk, financial risk, and liquidity risk. Business risk
15 refers to risks inherent in the operation of the business. Volatility of the firm's sales,
16 long-term demand for its product(s), the amount of operating leverage, and quality of
17 management are all factors that affect business risk. The quality of regulation at the
18 state and federal levels also plays an important role in business risk for regulated
19 utility companies.

20
21 Financial risk refers to the impact on a firm's future cash flows from the use of debt
22 in the capital structure. Interest payments to bondholders represent a prior call on the
23 firm's cash flows and must be met before income is available to the common

1 shareholders. Additional debt means additional variability in the firm's earnings,
2 leading to additional risk.

3
4 Liquidity risk refers to the ability of an investor to quickly sell an investment without
5 a substantial price concession. The easier it is for an investor to sell an investment
6 for cash, the lower the liquidity risk will be. Stock markets, such as the New York
7 and American Stock Exchanges, help ease liquidity risk substantially. Investors who
8 own stocks that are traded in these markets know on a daily basis what the market
9 prices of their investments are and that they can sell these investments fairly quickly.
10 Many electric utility stocks are traded on the New York Stock Exchange and are
11 considered liquid investments.

12 **Q. Are there any sources available to investors that quantify the total risk of a**
13 **company?**

14 A. Bond and credit ratings are tools that investors use to assess the risk comparability of
15 firms. Bond rating agencies such as Moody's and Standard and Poor's perform
16 detailed analyses of factors that contribute to the risk of a particular investment. The
17 end result of their analyses is a bond and/or credit rating that reflect these risks.

18 **Discounted Cash Flow ("DCF") Model**

19 **Q. Please describe the basic DCF approach.**

20 A. The basic DCF approach is rooted in valuation theory. It is based on the premise that
21 the value of a financial asset is determined by its ability to generate future net cash
22 flows. In the case of a common stock, those future cash flows generally take the
23 form of dividends and appreciation in stock price. The value of the stock to

1 investors is the discounted present value of future cash flows. The general equation
 2 then is:

$$V = \frac{R}{(1+r)} + \frac{R}{(1+r)^2} + \frac{R}{(1+r)^3} + \dots + \frac{R}{(1+r)^n}$$

3 Where: *V* = asset value
 4 *R* = yearly cash flows
 5 *r* = discount rate

6 This is no different from determining the value of any asset from an economic point
 7 of view; however, the commonly employed DCF model makes certain simplifying
 8 assumptions. One is that the stream of income from the equity share is assumed to
 9 be perpetual; that is, there is no salvage or residual value at the end of some maturity
 10 date (as is the case with a bond). Another important assumption is that financial
 11 markets are reasonably efficient; that is, they correctly evaluate the cash flows
 12 relative to the appropriate discount rate, thus rendering the stock price efficient
 13 relative to other alternatives. Finally, the model I typically employ also assumes a
 14 constant growth rate in dividends. The fundamental relationship employed in the
 15 DCF method is described by the formula:

$$k = \frac{D_1}{P_0} + g$$

16 Where: *D*₁ = the next period dividend
 17 *P*₀ = current stock price
 18 *g* = expected growth rate
 19 *k* = investor-required return

20 Under the formula, it is apparent that “k” must reflect the investors’ expected return.
 21 Use of the DCF method to determine an investor-required return is complicated by
 22 the need to express investors’ expectations relative to dividends, earnings, and book
 23 value over an infinite time horizon. Financial theory suggests that stockholders

1 purchase common stock on the assumption that there will be some change in the rate
2 of dividend payments over time. We assume that the rate of growth in dividends is
3 constant over the assumed time horizon, but the model could easily handle varying
4 growth rates if we knew what they were. Finally, the relevant time frame is
5 prospective rather than retrospective.

6 **Q. What was your first step in conducting your DCF analysis for LGE and KU?**

7 A. My first step was to construct a comparison group of companies with a risk profile
8 that is reasonably similar to the Companies. Since LGE and KU are subsidiaries of
9 PPL Corp., they do not have publicly traded stock. Thus, one cannot estimate a DCF
10 cost of equity on the Companies directly. It is necessary to use a group of companies
11 that are similarly situated and have reasonably similar risk profiles to LGE and KU.

12 **Q. Please describe your approach for selecting a comparison group of electric**
13 **companies.**

14 A. I used several criteria to select a comparison group. First, using the February 2015
15 issue of AUS Utility Reports, I selected electric and combination electric and gas
16 companies whose bonds were rated A by either Moody's or Standard and Poor's.
17 LGE and KU currently carry senior secured bond ratings of A- from S&P and A1
18 from Moody's, so using the either/or criterion for a A rating assures that the
19 companies in the comparison group carry bond ratings that are similar to or slightly
20 below the Companies' senior bond ratings.

21

1 From that group, I then selected companies that derived at least 50% of total revenue
2 from regulated electric operations, according to AUS Utility Reports, and that had
3 long-term earnings growth forecasts from Value Line and either Zacks or IBES.

4
5 From this group, I then eliminated companies that had recently cut or eliminated
6 dividends, were recently or currently involved in merger activities, or had recent
7 experience with significant earnings fluctuations. Companies that did not pass these
8 screens are not appropriate candidates to which one can apply the DCF formula
9 because of unrepresentative market prices (in terms of companies that are merger
10 candidates) or non-constant growth in earnings or dividends. I also eliminated any
11 companies that had recently been or were currently being restructured in a significant
12 way. These screens eliminated the following companies:

- 13
- 14 • NextEra Energy - acquisition of Hawaiian Electric.
 - 15 • Pepco Holdings, Inc. - being acquired by Exelon.
 - 16 • PG&E Corp. - uncertainties of effect on earnings from San Bruno gas
17 pipeline explosion.
 - 18 • PPL Holdings - spin-off of unregulated energy supply business.
 - 19 • TECO Energy - pending acquisition of New Mexico Gas Company.
 - 20 • Wisconsin Energy Corp. - acquisition of Integrys, Inc.
- 21

1 The resulting comparison group of 18 electric companies that I used in my analysis
 2 is shown in the table below.⁸

<u>Company</u>	<u>S&P Bond Rating</u>	<u>Moody's Bond Rating</u>
1 ALLETE, Inc.	A-	A3
2 Alliant Energy Corporation	A-	A2/A3
3 Avista Corporation	A-	Baa1
4 CMS Energy Corporation	BBB+/BBB	A3/Baa1
5 Consolidated Edison, Inc.	A-/BBB+	A3
6 Dominion Resources, Inc.	A-	A3/Baa1
7 Duke Energy Corporation	BBB+	A3
8 Edison International	BBB+	A2/A3
9 Empire District Electric Co.	A-	Baa1
10 Eversource Energy	A-	A3/Baa1
11 IDACORP, Inc.	A-	A3
12 NorthWestern Corp.	NR	A3
13 OGE Energy	BBB+	A3
14 Pinnacle West Capital Corp.	BBB	A3/Baa1
15 Portland General Electric Company	A-	A3
16 Southern Company	A	A3/Baa1
17 Westar Energy, Inc.	A-	A3/Baa1
18 Xcel Energy Inc.	A-	A3

Source: AUS Monthly Utility Report, February 2015

3

4 **Q. What was your first step in determining the DCF return on equity for the**
 5 **comparison group?**

6 A. I first determined the current dividend yield, D_1/P_0 , from the basic equation. My
 7 general practice is to use six months as the most reasonable period over which to
 8 estimate the dividend yield. The six-month period I used covered the months from
 9 September 2014 through February 2015. I obtained historical prices and dividends

⁸ Northeast Utilities changed its name to Eversource Energy during February. As such, I made this name change in Table 1 and in my attached exhibits.

1 from Yahoo! Finance. The annualized dividend divided by the average monthly
2 price represents the average dividend yield for each month in the period.

3
4 The resulting average dividend yield for the comparison group is 3.42%. These
5 calculations are shown in Exhibit No. ____ (RAB-4).

6 **Q. Having established the average dividend yield, how did you determine the**
7 **investors' expected growth rate for the electric comparison group?**

8 A. The investors' expected growth rate, in theory, correctly forecasts the constant rate
9 of growth in dividends. The dividend growth rate is a function of earnings growth
10 and the payout ratio, neither of which is known precisely for the future. We refer to
11 a perpetual growth rate since the DCF model has no arbitrary cut-off point. We must
12 estimate the investors' expected growth rate because there is no way to know with
13 absolute certainty what investors expect the growth rate to be in the short term, much
14 less in perpetuity.

15
16 For my analysis in this proceeding, I used three major sources of analysts' forecasts
17 for growth. These sources are The Value Line Investment Survey, Zacks, and IBES.
18 This is the method I typically use for estimating growth for my DCF calculations.

19 **Q. Please briefly describe Value Line, Zacks, and IBES.**

20 A. The Value Line Investment Survey is a widely used and respected source of investor
21 information that covers approximately 1,700 companies in its Standard Edition and
22 several thousand in its Plus Edition. It is updated quarterly and probably represents
23 the most comprehensive of all investment information services. It provides both

1 historical and forecasted information on a number of important data elements. Value
2 Line neither participates in financial markets as a broker nor works for the utility
3 industry in any capacity of which I am aware.

4
5 Zacks gathers opinions from a variety of analysts on earnings growth forecasts for
6 numerous firms including regulated electric utilities. The estimates of the analysts
7 responding are combined to produce consensus average estimates of earnings
8 growth. I obtained Zacks' earnings growth forecasts from its web site.

9
10 Like Zacks, IBES also compiles and reports consensus analysts' forecasts of
11 earnings growth. I obtained these forecasts from Yahoo! Finance.

12 **Q. Why did you rely on analysts' forecasts in your analysis?**

13 A. Return on equity analysis is a forward-looking process. Five-year or ten-year
14 historical growth rates may not accurately represent investor expectations for
15 dividend growth. Analysts' forecasts for earnings and dividend growth provide
16 better proxies for the expected growth component in the DCF model than historical
17 growth rates. Analysts' forecasts are also widely available to investors and one can
18 reasonably assume that they influence investor expectations.

19 **Q. Please explain how you used analysts' dividend and earnings growth forecasts in**
20 **your constant growth DCF analysis.**

21 Q. Page 1, Columns (1) through (5) of Exhibit No. ____ (RAB-5) shows the forecasted
22 dividend, earnings, and retention growth rates from Value Line and the earnings
23 growth forecasts from IBES and Zacks. In my analysis I used four of these growth

1 rates: dividend and earnings growth from Value Line and earnings growth from
2 Zacks and IBES. It is important to include dividend growth forecasts in the DCF
3 model since the model calls for forecasted cash flows. Value Line is the only
4 sources of which I am aware that forecasts dividend growth and my approach gives
5 this forecast equal weight with the three earnings growth forecasts.

6 **Q. How did you proceed to determine the DCF return of equity for the comparison**
7 **group?**

8 A. To estimate the expected dividend yield (D_1), the current dividend yield must be
9 moved forward in time to account for dividend increases over the next twelve
10 months. I estimated the expected dividend yield by multiplying the current dividend
11 yield by one plus one-half the expected growth rate.

12
13 Page 2 of Exhibit No. ___(RAB-5) presents my standard method of calculating
14 dividend yields, growth rates, and return on equity for the comparison group of
15 companies. The DCF Return on Equity Calculation section shows the application of
16 each of four growth rates I used in my analysis to the current group dividend yield of
17 3.42% to calculate the expected dividend yield. I then added the expected growth
18 rates to the expected dividend yield. In evaluating investor expected growth rates, I
19 use both the average and the median values for the group under consideration. The
20 calculations of the resulting DCF returns on equity for both methods are presented on
21 page 2 of Exhibit No. ___(RAB-5). Please note that Zacks did not have earnings
22 growth rate estimates for ALLETE and Avista Corp. For these companies I
23 substituted the corresponding IBES growth rates.

1 **Q. What are the results of your constant growth DCF model?**

2 A. The DCF results for the constant growth DCF approach are shown on page 2 of
3 Exhibit No. ____ (RAB-5). For the average growth rates, the results range from
4 8.24% to 8.82%, with the average of these results being 8.57%. Using the median
5 growth rates, the results range from 8.00% to 9.02%, with the average of these
6 results being 8.44%.

7 **Capital Asset Pricing Model**

8 **Q. Briefly summarize the Capital Asset Pricing Model ("CAPM") approach.**

9 A. The theory underlying the CAPM approach is that investors, through diversified
10 portfolios, may combine assets to minimize the total risk of the portfolio.
11 Diversification allows investors to diversify away all risks specific to a particular
12 company and be left only with market risk that affects all companies. Thus, the
13 CAPM theory identifies two types of risks for a security: company-specific risk and
14 market risk. Company-specific risk includes such events as strikes, management
15 errors, marketing failures, lawsuits, and other events that are unique to a particular
16 firm. Market risk includes inflation, business cycles, war, variations in interest rates,
17 and changes in consumer confidence. Market risk tends to affect all stocks and
18 cannot be diversified away. The idea behind the CAPM is that diversified investors
19 are rewarded with returns based on market risk.

20

21 Within the CAPM framework, the expected return on a security is equal to the risk-
22 free rate of return plus a risk premium that is proportional to the security's market, or
23 non-diversifiable, risk. Beta is the factor that reflects the inherent market risk of a

1 security and measures the volatility of a particular security relative to the overall
2 market for securities. For example, a stock with a beta of 1.0 indicates that if the
3 market rises by 15%, that stock will also rise by 15%. This stock moves in tandem
4 with movements in the overall market. Stocks with a beta of 0.5 will only rise or fall
5 50% as much as the overall market. So with an increase in the market of 15%, this
6 stock will only rise 7.5%. Stocks with betas greater than 1.0 will rise and fall more
7 than the overall market. Thus, beta is the measure of the relative risk of individual
8 securities vis-à-vis the market.

9
10 Based on the foregoing discussion, the equation for determining the return for a
11 security in the CAPM framework is:

$$K = R_f + \beta(MRP)$$

12
13 *Where:* K = *Required Return on equity*
14 R_f = *Risk-free rate*
15 MRP = *Market risk premium*
16 β = *Beta*

17
18 This equation tells us about the risk/return relationship posited by the CAPM.
19 Investors are risk averse and will only accept higher risk if they expect to receive
20 higher returns. These returns can be determined in relation to a stock's beta and the
21 market risk premium. The general level of risk aversion in the economy determines
22 the market risk premium. If the risk-free rate of return is 3.0% and the required
23 return on the total market is 15%, then the risk premium is 12%. Any stock's
24 required return can be determined by multiplying its beta by the market risk

1 premium. Stocks with betas greater than 1.0 are considered riskier than the overall
2 market and will have higher required returns. Conversely, stocks with betas less than
3 1.0 will have required returns lower than the market as a whole.

4 **Q. In general, are there concerns regarding the use of the CAPM in estimating the**
5 **return on equity?**

6 A. Yes. There is some controversy surrounding the use of the CAPM.⁹ There is
7 evidence that beta is not the primary factor in determining the risk of a security. For
8 example, Value Line's "Safety Rank" is a measure of total risk, not its calculated
9 beta coefficient. Beta coefficients usually describe only a small amount of total
10 investment risk.

11
12 There is also substantial judgment involved in estimating the required market return.
13 In theory, the CAPM requires an estimate of the return on the total market for
14 investments, including stocks, bonds, real estate, etc. It is nearly impossible for the
15 analyst to estimate such a broad-based return. Often in utility cases, a market return
16 is estimated using the S&P 500 or the return on Value Line's stock market
17 composite. However, these are limited sources of information with respect to
18 estimating the investor's required return for all investments. In practice, the total
19 market return estimate faces significant limitations to its estimation and, ultimately,
20 its usefulness in quantifying the investor required ROE.

21
⁹ For a more complete discussion of some of the controversy surrounding the use of the CAPM, refer to *A Random Walk Down Wall Street* by Burton Malkiel, pp. 206 - 211, 2007 edition.

1 In the final analysis, a considerable amount of judgment must be employed in
2 determining the risk-free rate and market return portions of the CAPM equation.
3 The analyst's application of judgment can significantly influence the results obtained
4 from the CAPM. My past experience with the CAPM indicates that it is prudent to
5 use a wide variety of data in estimating investor-required returns. Of course, the
6 range of results may also be wide, indicating the difficulty in obtaining a reliable
7 estimate from the CAPM.

8 **Q. How did you estimate the market return portion of the CAPM?**

9 A. The first source I used was the Value Line Investment Analyzer, Plus Edition, for
10 February 25, 2015. This edition covers several thousand stocks. The Value Line
11 Investment Analyzer provides a summary statistical report detailing, among other
12 things, forecasted growth rates for earnings and book value for the companies Value
13 Line follows as well as the projected total annual return over the next 3 to 5 years. I
14 present these growth rates and Value Line's projected annual return on page 2 of
15 Exhibit No. ____ (RAB-6). I included median earnings and book value growth rates.
16 The estimated market returns using Value Line's market data range from 9.00% to
17 11.05%. The average of these three market returns is 10.02%.

18 **Q. Is this a change to how you calculated expected market return in the past?**

19 A. Yes. In my past testimonies I used the average expected growth rates for earnings
20 and book value from Value Line in calculating an expected market return. However,
21 I have concluded that using median growth rates is likely a more accurate method of
22 estimating the central tendency of Value Line's large data set. Average earnings and
23 book value growth rates may be unduly influenced by very high or very low 3 - 5

1 year growth rates that are unsustainable in the long run. For example, Value Line's
2 Statistical Summary shows both the highest and lowest value for earnings and book
3 value growth forecasts. For earnings growth, Value Line showed the highest
4 earnings growth forecast to be 98% and the lowest growth rate to be -25.5%. The
5 median growth rate is not influenced by such extremes because it represents the
6 middle value of the range of earnings growth rates.

7
8 I also added Value Line's projected 3-5 year percentage annual total return from the
9 Statistical Summary, which in this case is 9.0%. This projected annual return is
10 substantially less than the DCF return on the Value Line companies of 11.05%,
11 suggesting that the DCF ROE for the Value Line companies may be overstated.
12 However, I believe that using both of these measures of expected returns on the
13 market provide a reasonable range of possible outcomes in this proceeding.

14 **Q. Please continue with your market return analysis.**

15 A. I also considered a supplemental check to the Value Line projected market return
16 estimates. Morningstar publishes a study of historical returns on the stock market in
17 its *Ibbotson SBBI 2014 Classic Yearbook*. Some analysts employ this historical data
18 to estimate the market risk premium of stocks over the risk-free rate. The
19 assumption is that a risk premium calculated over a long period of time is reflective
20 of investor expectations going forward. Exhibit No. ____ (RAB-7) presents the
21 calculation of the market returns using the historical data.

22 **Q. Please explain how this historical risk premium is calculated.**

1 A. Exhibit No. ___(RAB-7) shows both the geometric and arithmetic average of yearly
2 historical stock market returns over the historical period from 1926 - 2013. The
3 average annual income return for 20-year Treasury bond is subtracted from these
4 historical stocks returns to obtain the historical market risk premium of stock returns
5 over long-term Treasury bond income returns. The historical market risk premium
6 range is 5.01% - 7.01%.

7 **Q. Did you add an additional measure of the historical risk premium in this case?**

8 A. Yes. Morningstar reported the results of a study by Dr. Roger Ibbotson and Dr. Peng
9 Chen indicating that the historical risk premium of stock returns over long-term
10 government bond returns has been significantly influenced upward by substantial
11 growth in the price/earnings ("P/E") ratio for stocks from 1980 through 2001.¹⁰
12 Morningstar recommended adjusting this growth in the P/E ratio for stocks out of the
13 historical risk premium because "it is not believed that P/E will continue to increase
14 in the future." Morningstar's adjusted historical arithmetic market risk premium is
15 6.12%, which I have also included in Exhibit No. ___(RAB-7).

16 **Q. How did you determine the risk free rate?**

17 A. I used the average yields on the 20-year Treasury bond and five-year Treasury note
18 over the six-month period from August 2014 through January 2015. This was the
19 latest available data from the Federal Reserve's Selected Interest Rates (Daily) H.15
20 web site during the preparation of my Direct Testimony. The 20-year Treasury bond

¹⁰ 2014 Ibbotson *SBBI Classic Yearbook*, Morningstar, pp. 156 - 158.

1 is often used by rate of return analysts as the risk-free rate, but it contains a
2 significant amount of interest rate risk. The five-year Treasury note carries less
3 interest rate risk than the 20-year bond and is more stable than three-month Treasury
4 bills. Therefore, I have employed both of these securities as proxies for the risk-free
5 rate of return. This approach provides a reasonable range over which the CAPM
6 return on equity may be estimated.

7 **Q. How did you determine the value for beta?**

8 A. I obtained the betas for the companies in the electric company comparison group
9 from most recent Value Line reports. The average of the Value Line betas for the
10 comparison group is 0.73.

11 **Q. Please summarize the CAPM results.**

12 A. For my forward-looking CAPM return on equity estimates, the CAPM results are
13 7.71% - 8.01%. Using historical risk premiums, the CAPM results are 6.34% -
14 7.79%.

15 **Conclusions and Recommendations**

16 **Q. Please summarize the cost of equity results for your DCF and CAPM analyses.**

17 A. Table 2 below summarizes my return on equity results using the DCF and CAPM for
18 my comparison group of companies.

**TABLE 2
SUMMARY OF ROE ESTIMATES**

Baudino DCF Methodology:	
Average Growth Rates	
- High	8.82%
- Low	8.24%
- Average	8.57%
Median Growth Rates:	
- High	9.02%
- Low	8.00%
- Average	8.44%
CAPM:	
- 5-Year Treasury Bond	7.71%
- 20-Year Treasury Bond	8.01%
- Historical Returns	6.34% - 7.79%

1

2 **Q. What is your recommended return on equity for LGE and KU?**

3 A. I recommend that the KPSC adopt an 8.60% return on equity for the Companies. My
4 recommendation is consistent with the average DCF results from my constant growth
5 DCF model. Based on current market evidence, an 8.60% return on equity is fair and
6 reasonable for A-rated, lower risk electric utility companies like LGE and KU.

7 **Q. Mr. Baudino, are you concerned that your recommended cost of equity is too**
8 **low?**

9 A. No, not at all. All of the market evidence I examined fully supports my ROE
10 recommendation for the Companies in this proceeding. As I described in Section II
11 of my testimony, the U. S. economy is in a low interest rate environment, one that
12 has been supported in a deliberate and considered fashion by Federal Reserve
13 monetary policy. Both my DCF and CAPM ROE estimates show that the investor
14 required ROE for LGE and KU, as well as other regulated electric and gas utilities,
15 reflects this low interest rate environment. An 8.60% ROE recommendation for A-

1 rated electric utilities such as LGE and KU is by no means too low in the current
2 economic and financial environment.

3 **Q. Do you have any recommended adjustments to the Companies' requested cost**
4 **of debt?**

5 A. Yes. On page 22, lines 6 through 16 of his LGE Direct Testimony, Company
6 witness Blake testified that LGE's cost of long-term debt included a projected
7 issuance of \$550 million of secured debt in October 2015. Interest on this debt was
8 included in the forecasted cost of debt using current market interest rates, according
9 to Mr. Blake's testimony. According to Schedule J-3, \$300 million of this issuance
10 carries a coupon rate of 4.40% and \$250 million carries a coupon rate of 3.89%. Mr.
11 Blake further testified that LGE and KU expect to provide updates to its cost of long-
12 term debt as this case progresses.¹¹

13 **Q. Are the coupon rates included for this projected debt issuance consistent with**
14 **current rates on A-rated utility bonds?**

15 A. The coupon rates assumed by the Companies for this new long-term debt issuance
16 are slightly higher than current A-rated utility debt. According to Moody's Credit
17 Trends, as of February 27, 2015 the yield on A-rated long-term utility bonds was
18 3.69%. This indicates that yields are lower than the coupon rates included by LGE
19 and KU in their respective Schedules J-3.

20 **Q. Did you make an adjustment to the coupon rates for the Companies' projected**
21 **long-term debt issuance?**

¹¹ Mr. Blake also explained this adjustment in his KU Direct Testimony, pp. 20 - 21.

1 A. Yes. I reduced the rates on the projected issuance to 3.70%, which approximates the
2 current yield on A-rated public utility debt as reported by Moody's Credit Trends.
3 Please refer to Exhibit No. ___(RAB-8), pages 1 and 2, which show the recalculation
4 of LGE's and KU's cost of long-term debt with the 3.70% coupon rates for the
5 projected debt issuance. This lowers LGE's cost of long-term debt slightly to 4.04%
6 from 4.16%. KU's cost of debt declines to 3.99% from 4.07%.¹²

7 **Q. What is your recommended weighted cost of capital?**

8 A. My weighted cost of capital is based on the capital structure, cost of debt, and cost of
9 equity recommended by Mr. Kollen and myself. Mr. Kollen addresses the
10 Company's cost of short-term debt. Table 3 below presents my weighted cost of
11 capital for LGE and KU.

¹² Exhibit No. ___(RAB-8) was derived from spreadsheets the Companies provided in response to PSC 1-59.

TABLE 3
Louisville Gas & Electric
Weighted Cost of Capital

	<u>Pct.</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Short-Term Debt	4.46%	0.30%	0.01%
Long-term Debt	42.79%	4.04%	1.73%
Common Equity	52.75%	8.60%	4.54%
Total	100.00%		6.28%

Kentucky Utilities
Weighted Cost of Capital

	<u>Pct.</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Short-Term Debt	2.98%	0.30%	0.01%
Long-term Debt	44.00%	3.99%	1.76%
Common Equity	53.02%	8.60%	4.56%
Total	100.00%		6.32%

1

2 **Q. How do the Companies' requested capital structure compare with the capital**
3 **structure of your comparison group?**

4 A. Table 4 below presents the 2013 equity and debt ratios for the companies in my
5 comparison group as well as the group average capital structure components. These
6 numbers were taken from the most recent Value Line reports for each company.
7 LGE's and KU's requested common equity ratios of 52.75% and 53.02%,
8 respectively, are higher than the comparison group's average equity ratio of 49.4%.
9 Other things being equal, this shows that the Companies have lower financial risk
10 than my comparison group.

11

TABLE 4
Comparison Group Capital Structure

	<u>Common Equity</u>	<u>Preferred Equity</u>	<u>Long-term Debt</u>
ALLETE, Inc.	55.4%	0.0%	44.6%
Alliant Energy Corporation	50.8%	3.1%	46.1%
Avista Corporation	48.6%	0.0%	51.4%
CMS Energy Corporation	32.2%	0.3%	67.5%
Consolidated Edison, Inc.	53.9%	0.0%	46.1%
Dominion Resources, Inc.	37.3%	0.8%	61.9%
Duke Energy Corporation	52.0%	0.0%	48.0%
Edison International	46.2%	8.1%	45.7%
Empire District Electric Co.	50.2%	0.0%	49.8%
Eversource Energy	54.8%	0.9%	44.3%
IDACORP, Inc.	53.4%	0.0%	46.6%
NorthWestern Corp.	46.5%	0.0%	53.5%
OGE Energy	56.9%	0.0%	43.1%
Pinnacle West Capital Corp.	60.0%	0.0%	40.0%
Portland General Electric	48.7%	0.0%	51.3%
Southern Company	45.8%	2.7%	51.5%
Westar Energy, Inc.	50.0%	0.0%	50.0%
Xcel Energy Inc.	46.7%	0.0%	53.3%
Averages	49.4%	0.9%	49.7%

1

2

1 IV. RESPONSE TO LGE AND KU TESTIMONY

2 **Q. Have you reviewed the Direct Testimony of Dr. Avera and Mr. McKenzie?**

3 A. Yes.

4 **Q. Please summarize your conclusions with respect to their testimony and return**
5 **on equity recommendation.**

6 A. Dr. Avera's and Mr. McKenzie's¹³ recommended 10.64% return on equity is grossly
7 overstated and is completely unjustified in the current low interest rate environment.
8 As I shall demonstrate later in this section of my testimony, the Company witnesses
9 systematically made judgments that served to inflate their ROE results, particularly for
10 the DCF and CAPM. As such, the Company witnesses provided very little useful
11 guidance for the Commission with respect to the investor required ROE for LGE and
12 KU.

13 **Q. Beginning on page 12, the Company witnesses contended that current capital**
14 **market conditions do not provide a representative basis on which to evaluate a**
15 **fair ROE and that prevailing capital market conditions are "an anomaly" (page**
16 **13, lines 3 and 4). Do you agree with this assertion?**

17 A. No. The fact is that the economy is in a low interest rate environment that is being
18 supported quite deliberately by Federal Reserve policy. The Federal Reserve has
19 supported the current low interest rate environment for several years, so it is hardly an
20 "anomaly" as the Company witnesses characterized it. Lower current capital costs are

¹³ For ease of reference, I will refer to Dr. Avera and Mr. McKenzie as "Company witnesses".

1 not consistent with the LGE witnesses' 10.64% recommendation return on equity in this
2 proceeding.

3
4 Furthermore, current financial market conditions do indeed provide a representative
5 basis for estimating the cost of equity capital for LGE and KU, and for utilities
6 generally. The fact that interest rates are relatively low by historical standards does not
7 preclude the rate of return analyst from making a reasonable assessment of investor
8 required ROEs using current stock prices and interest rates.

9 **Q. On page 14 of the Company witnesses' Direct Testimony, Figure 2 shows higher**
10 **forecasted interest rates through 2018 from several different forecasting**
11 **sources. Should the Commission increase its allowed return on equity based on**
12 **these higher interest rate forecasts?**

13 A. No. Higher interest rates have been forecasted for the last few years and they have
14 not come to pass. Please refer to Table 5 below, which presents forecasted interest
15 rates for 2014 included in Dr. Avera's Direct Testimony filed with the Florida Public
16 Service Commission in Docket No. 120015-EI on behalf of Florida Power and Light
17 Company ("FPL"). Dr. Avera's testimony was filed on March 19, 2012. Exhibit No.
18 ____ (RAB-9) provides his Exhibit WEA-2, which contains the sources of the interest
19 rate forecasts used by Dr. Avera in that case. These interest rate forecasts were from
20 November 25, 2011 through January 23, 2012.

21

TABLE 5	
2014 Forecasted Interest Rates	
Avera FP&L Testimony	
Docket No. 120015-EI	
	<u>2014</u>
30-Year Treasury	
- Value Line	4.5%
- IHS Global	4.5%
- Blue Chip	4.5%
AA Utility	
- IHS Global	5.6%
- EIA	5.7%

1
2 On page 29 of his Direct Testimony in Docket No. 120015-EI Dr. Avera testified
3 that there was a "clear consensus that the cost of permanent capital will be higher in
4 the 2012 - 2016 timeframe" and that current cost of capital estimates were
5 conservative "because they are likely to understate investors' requirements at the
6 time the rates set in this proceeding become effective."

7
8 Obviously, time has proven that the higher interest rate forecasts contained in Dr.
9 Avera's FPL testimony failed to materialize. The current 30-year Treasury bond
10 yield is approximately 2.60% and the Aa utility bond at the end of February 2015
11 was 3.63%, around 200 basis points lower than the forecasts presented by Dr. Avera.
12 This points out why interest rate forecasts should not be used to justify higher (or
13 lower) returns on equity than those based on current market conditions.

14
15 I will now address the Company witnesses' various approaches to estimating the
16 investor required ROE for LGE and KU.

1 **DCF Model**

2 **Q. Briefly summarize the Company witnesses' approach to the DCF model.**

3 A. The Company witnesses constructed a group of electric and gas utilities for purposes
4 of estimating the DCF ROE for the Companies. They used several sources of growth
5 rate forecasts, which included IBES, Zacks, Reuters, and Value Line as well as an
6 estimate of sustainable growth.

7

8 In their Exhibit No. 5, the Company witnesses adjusted their DCF ROE results by
9 excluding certain company ROE results that, in their view, were too low. These
10 results ranged from 3.4% to 7.4%. They did not exclude any DCF ROE results for
11 being too high. After excluding low-end DCF results, their resulting range was 9.0%
12 to 9.7% using an average of the remaining results. The midpoints ranged from 9.5%
13 to 10.5%.

14 **Q. Please respond to the Company witnesses' approach to formulating their DCF**
15 **recommendation to the Commission.**

16 A. Dr. Avera and Mr. McKenzie conducted a highly biased approach in formulating
17 their DCF recommendations. They applied a test for excluding ROE results that, in
18 their view, were too low but failed to examine whether any results should be
19 excluded as being too high. In fact, there are several results that could be rejected as
20 being too high based on current market conditions. For example, the average
21 Commission-allowed ROE for 2013 that was reported by the Company witnesses in
22 their Exhibit No. 8 was 10.02. In their response to LGE PSC-2, Question No. 45, the
23 Company witnesses updated their risk premium analysis and showed that average
24 2014 Commission allowed ROE was 9.92%. With recent Commission allowed

1 ROEs of around 10%, the Company witnesses included ROEs in their Exhibit No. 5
2 ranging from 11.4% to 13.1%. *A review of Commission allowed returns contained*
3 *in their Exhibit No. 8 reveals that 2002 was the last year that allowed returns on*
4 *equity were as high as 11%. Further, the last Commission allowed return near 13%*
5 *was in 1989.*

6
7 It is abundantly clear that the LGE witnesses' one-sided approach to excluding ROE
8 results from their DCF analysis had the effect of inflating their DCF ROE
9 recommendation.

10 **Q. Have you conducted an alternative analysis that includes all of the DCF results**
11 **from the Company witnesses' Exhibit No. 5?**

12 A. Yes. Table 6 below presents the average and median ROEs utilizing all of the DCF
13 results from the Company witnesses' Exhibit No. 5. For purposes of Table 5, I
14 excluded the retention growth results since the Company witnesses gave less weight
15 to that measure of growth.

Table 6
Avera/McKenzie ROE Results

<u>Company</u>	<u>V Line</u>	<u>IBES</u>	<u>Zacks</u>	<u>Reuters</u>
Alliant Energy	9.5%	8.2%	8.7%	8.7%
Ameren Corp.	8.7%	13.1%	12.5%	13.1%
Avista Corp.	9.6%	9.1%	NA	NA
Black Hills Corp.	12.6%	10.1%	NA	NA
CenterPoint Energy	7.6%	8.0%	8.6%	8.0%
CMS Energy Corp.	10.3%	10.6%	9.9%	10.6%
Consolidated Edison	6.5%	7.2%	7.4%	7.2%
Dominion Resources	9.1%	9.8%	9.1%	9.8%
DTE Energy Co.	10.1%	9.5%	9.9%	9.5%
Duke Energy Corp.	9.4%	9.1%	9.1%	9.1%
Empire District Elec	8.1%	7.1%	7.1%	7.1%
Entergy Corp.	5.4%	5.7%	3.4%	6.9%
Northeast Utilities	11.7%	10.0%	10.2%	9.7%
NorthWestern Corp.	6.9%	10.4%	10.4%	10.4%
PG&E Corp.	9.0%	10.9%	9.6%	10.9%
Pub Sv Enterprise Grp	6.1%	5.9%	6.2%	8.3%
SCANA Corp.	9.2%	8.8%	8.6%	8.8%
Sempra Energy	8.6%	10.1%	10.1%	10.1%
Vectren Corp.	12.6%	8.1%	8.3%	8.1%
Average	9.0%	9.0%	8.8%	9.2%
Median	9.1%	9.1%	9.1%	9.1%

Source: Avera/McKenzie Exhibit No. 5

1
2
3 Rather than arbitrarily excluding low-end results, I recommend that the median be
4 used as an alternative measure of central tendency. As I testified in Section III, the
5 median is not affected by extremely high or low results, but instead represents the
6 middle value of the data set. If there are concerns about results that are either too
7 high or too low, the median may be used as an additional reference for the investor
8 required ROE.

9
10 Table 6 shows that when all results are considered, the average and median results
11 from the Company witnesses' DCF analyses are quite close. In my opinion, this

1 suggests that low-end results are offset by high-end results. Table 6 also shows how
2 the Company witnesses' one-sided approach to excluding individual DCF results
3 biased their results upward. If all DCF results are considered, the Company
4 witnesses' average and median ROEs are quite close to my recommended ROE of
5 8.60%.

6 **ECAPM**

7 **Q. Beginning on page 41 of their Direct Testimony, the Company witnesses**
8 **describe the Empirical CAPM ("ECAPM") analysis. Is this a reasonable**
9 **method to use to estimate the investor required ROE for LGE and KU?**

10 A. No. The ECAPM is supposed to account for the possibility that the CAPM
11 understates the return on equity for companies with betas less than 1.0. I believe it is
12 highly unlikely that investors use the ECAPM formulation shown in Company
13 witnesses' Exhibit No. 7 to "correct" CAPM returns for electric utilities. To the
14 extent investors use the CAPM to estimate their required returns, I believe it is much
15 more likely that they use the traditional CAPM equation that I used in Section III of
16 my testimony. The Company witnesses presented no evidence that investors use the
17 adjustment factors contained their ECAPM analyses. Moreover, the use of an
18 adjustment factor to "correct" the CAPM results for companies with betas less than
19 1.0 suggests that published betas by such sources as Value Line are incorrect and that
20 investors should not rely on them. In fact, the Company witnesses testified on page
21 44, lines 3 through 5 of their LGE Direct Testimony that investors rely on Value
22 Line betas in evaluating returns for utility common stocks.

23 **Q. Please continue your evaluation of the results of the Company witnesses'**
24 **ECAPM analysis.**

1 A. I disagree with the Company witnesses' general formulation of the ECAPM and in
2 particular with their estimate of the expected market return. They estimated the
3 market return portion of the ECAPM by estimating the current market return for
4 dividend paying stocks in the S&P 500. This limited the so-called "market" return to
5 only 408 companies.

6

7 The market return portion of the CAPM or ECAPM should represent the most
8 comprehensive estimate of the total return for all investment alternatives, not just a
9 small subset of publicly traded stocks. In practice, of course, finding such an
10 estimate is difficult and is one of the more thorny problems in estimating an accurate
11 ROE when using the CAPM. If one limits the market return to stocks, then there are
12 more comprehensive measures of the stock market available, such as the Value Line
13 Investment Survey that I used in my CAPM analysis. Value Line's projected
14 earnings growth used a sample of 2,280 stocks and its book value growth estimate
15 used 1,531 stocks. Value Line's projected annual percentage return included 1,664
16 stocks. These are much broader samples than the LGE witnesses' limited sample of
17 dividend paying stocks from the S&P 500.

18 **Q. Did the Company witnesses overstate the expected market return component of**
19 **the ECAPM.**

20 A. Yes, most definitely. My forward-looking market returns show an expected return
21 on the market of around 10%, far less than the 13.1% expected return result for the
22 limited sample of companies that the Company witnesses used for their ECAPM
23 market return.

24

1 It is also instructive to look at long-term historical risk premiums in connection with
2 current expected returns. The historical risk premiums I included from Morningstar
3 range from 5.01% to 7.01%. In stark contrast, the market premium used by the
4 Company witnesses is 9.7%.

5 **Q. On pages 44 through 45 of their Direct Testimony, the Company witnesses**
6 **explained that they incorporated a size adjustment to their ECAPM results,**
7 **thereby increasing the average ECAPM cost of equity from 11.1% to 11.9%. Is**
8 **this size adjustment appropriate?**

9 A. No. The data that the Company witnesses relied upon to make this adjustment came
10 from the *Ibbotson SBBI 2014 Classic Yearbook* published by Morningstar. The
11 groups of companies from which the Company witnesses took this significant
12 upward adjustment to their ECAPM results contain many unregulated companies.
13 Further, the decile groups from which these adjustments were taken had average
14 betas ranging from 0.91 to 1.30. These betas are greatly in excess of the their utility
15 group average beta of 0.72, suggesting that the companies the Company witnesses
16 used to make their size adjustment are more risky than the regulated utilities that
17 comprise their utility group. There is no evidence to suggest that the size premium
18 used by the Company witnesses applies to regulated utility companies, which on
19 average are quite different from the group of companies included in the Morningstar
20 research on size premiums. I recommend that the Commission reject the Company
21 witnesses' size premium in the CAPM ROE.

22 **Q. On page 45 of their Direct Testimony, the Company witnesses recommended**
23 **using projected bond yields in their risk premium and ECAPM ROE models.**
24 **Should the Commission consider using forecasted bond yields in its ROE**
25 **analysis in this proceeding?**

1 A. Definitely not. Current interest rates and bond yields embody all of the relevant
2 market data and expectations of investors, including expectations of changing future
3 interest rates. The forecasted bond yields used by the Company witnesses are
4 speculative at best and may never come to pass. Current interest rates present
5 tangible market evidence of investor return requirements today, and these are the
6 interest rates and bond yields that should be used in both the ECAPM and in the
7 bond yield plus risk premium analysis. To the extent that investors give forecasted
8 interest rates any weight at all, they are already incorporated in current securities
9 prices.

10
11 Further, the Company witnesses' use of forecasted bond yields results in overstated
12 ECAPM results that are completely out of line with recent Commission-allowed
13 ROEs. I mentioned earlier that the average Commission-allowed ROE was 9.92% in
14 2014. Using forecasted bond yields in the ECAPM and with the size adjustment
15 implies a cost of equity of 12.2%. Without the size adjustment the ECAPM result
16 would be 11.4%. Both of these ROE estimates are far in excess of recently allowed
17 Commission returns and should be rejected by the Commission.

18
19 **Utility Risk Premium**

20 **Q. Please summarize the Company witnesses' risk premium approach.**

21 A. The Company witnesses developed an historical risk premium using Commission-
22 allowed returns for regulated utility companies from 1974 through 2013. They also
23 used regression analysis to estimate the value of the inverse relationship between

1 interest rates and risk premiums during that period. On page 49 of their LGE Direct
2 Testimony, the Company witnesses calculated the risk premium return on equity to
3 be 10.09% using the current BBB utility bond yield and 11.25% using a forecasted
4 bond yield.

5 **Q. Please respond to the Company witnesses' risk premium analysis.**

6 A. Generally, the bond yield plus risk premium approach is imprecise and can only
7 provide very general guidance on the current authorized ROE for a regulated electric
8 utility. Risk premiums can change substantially over time and with varying risk
9 perceptions of investors. As such, this approach is a "blunt instrument", if you will,
10 for estimating the ROE in regulated proceedings. In my view, a properly formulated
11 DCF model using current stock prices and growth forecasts is far more reliable and
12 accurate than the bond yield plus risk premium approach, which relies on an
13 historical risk premium analysis over a certain period of time.

14
15 Finally, for the reasons I discussed earlier, the use of forecasted bond yields is
16 inappropriate and should be rejected.

17 **Flotation Costs**

18 **Q. Beginning on page 49 of their Direct Testimony, the Company witnesses discuss**
19 **flotation costs. Are flotation costs a legitimate consideration for the**
20 **Commission's determination of ROE in this proceeding?**

21 A. No. The Company witnesses recommended that the Commission consider adding an
22 adjustment of 14 basis to recognize flotation costs. A flotation cost adjustment attempts
23 to recognize and collect the costs of issuing common stock. Such costs typically

1 include legal, accounting, and printing costs as well as well as broker fees and
2 discounts.

3
4 In my opinion, it is likely that flotation costs are already accounted for in current stock
5 prices and that adding an adjustment for flotation costs amounts to double counting. A
6 DCF model using current stock prices should already account for investor expectations
7 regarding the collection of flotation costs. Multiplying the dividend yield by a 4%
8 flotation cost adjustment, for example, essentially assumes that the current stock price is
9 wrong and that it must be adjusted downward to increase the dividend yield and the
10 resulting cost of equity. I do not believe that this is an appropriate assumption. Current
11 stock prices most likely already account for flotation costs, to the extent that such costs
12 are even accounted for by investors.

13 **Expected Earnings Approach**

14 **Q. Beginning on page 55 of their LGE Direct Testimony, the Company witnesses**
15 **presented an expected earnings approach based on expected returns on equity**
16 **using Value Line's rates of return on common equity for electric utilities over its**
17 **2017 - 2019 forecast horizon. Is this a reasonable method for estimating the**
18 **current required return on equity in this proceeding?**

19 **A.** No. The Commission should not rely on forecasted utility ROEs for 2017 - 2019 for
20 the same reasons that it should not rely on interest rate forecasts. These forecasts
21 return on equity have little value in today's market, especially considering that
22 current DCF returns are significantly lower than these forecasts. Once again, I
23 recommend that the Commission rely on current market data as the best measure of
24 investor required returns today, and not forecasted accounting returns on book equity
25 several years from now.

1 **Low Risk Non-Utility DCF**

2 **Q. Beginning of page 57 of their LGE Direct Testimony, the Company witnesses**
3 **present the results of a low-risk non-utility DCF model. Is it appropriate to use**
4 **a group of unregulated companies to estimate a fair return on equity for LGE**
5 **and KU?**

6 **A.** Absolutely not. The Company witnesses' use of unregulated non-utility companies
7 to estimate a fair rate of return for LGE and KU is completely inappropriate and
8 should be rejected by the Commission.

9

10 Utilities have protected markets, e.g. service territories, and may increase the prices
11 they charge in the face of falling demand or loss of customers. This is contrary to
12 competitive, unregulated companies who often lower their prices when demand for
13 their products decline. Generally, the non-utility companies simply do not have
14 these characteristics and must compete with other firms selling the same product for
15 sales and for customers. Obviously, the non-utility companies have higher overall
16 risk structures than a lower risk electric company like LGE or KU and will have
17 higher required returns from their shareholders. It is not at all surprising that the
18 Company witnesses' ROE results for their Non-Utility Proxy Group were
19 substantially higher than the results for their utility group. Given the higher business
20 risk for the non-utility group of companies, this is exactly the result that would have
21 been expected. However, these results do not form any kind of reasonable basis to
22 estimate the investor required ROE for LGE and KU. Quite the contrary, the returns
23 from the non-utility proxy group are a good measure of returns that are, by
24 definition, substantially in excess of those to be expected in the utility segment.

1 Q. Does this complete your Direct Testimony?

2 A. Yes.

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF: THE APPLICATION OF KENTUCKY :
UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS : **Case No. 2014-00371**
ELECTRIC RATES :

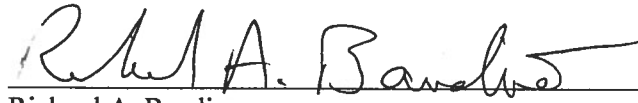
IN THE MATTER OF: THE APPLICATION OF LOUISVILLE :
GAS & ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS : **Case No. 2014-00372**
ELECTRIC RATES :

AFFIDAVIT OF RICHARD A. BAUDINO

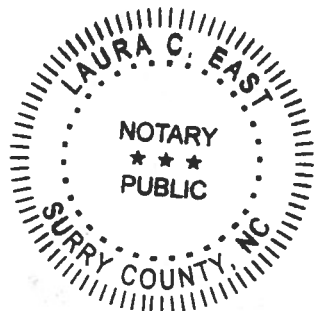
STATE OF NORTH CAROLINA)
COUNTY OF Surry)

Richard A. Baudino being first duly sworn, deposes and states that:

1. He is a consultant with J. Kennedy & Associates, Inc.;
2. He is the witness who sponsors the accompanying testimony entitled "Direct Testimony and Exhibits of Richard A. Baudino;"
3. Said testimony was prepared by him and under his direction and supervision;
4. If inquiries were made as to the facts and schedules in said testimony he would respond as therein set forth; and
5. The aforesaid testimony and schedules are true and correct to the best of his knowledge, information and belief.


Richard A. Baudino

Subscribed and sworn to or affirmed before me this 4th day of March, 2015, by Richard A. Baudino.



Laura C. East
Notary Public
my commission expires: 4-9-18

**BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

In the Matter of:

**APPLICATION OF KENTUCKY UTILITIES)
COMPANY FOR AN ADJUSTMENT OF) CASE NO. 2014-00371
ITS ELECTRIC RATES)**

In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

<p>EXHIBITS OF RICHARD A. BAUDINO</p>

**ON BEHALF OF
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.**

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

**BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

In the Matter of:

**APPLICATION OF KENTUCKY UTILITIES)
COMPANY FOR AN ADJUSTMENT OF) CASE NO. 2014-00371
ITS ELECTRIC RATES)**

In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

**EXHIBIT (RAB -1)
OF
RICHARD A. BAUDINO**

ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-two years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to

Present: Kennedy and Associates: Consultant - Responsible for consulting assignments in the area of revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to

1989: New Mexico Public Service Commission Staff: Utility Economist - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System	PSI Industrial Group
Air Products and Chemicals, Inc.	Large Power Intervenors (Minnesota)
Arkansas Electric Energy Consumers	Tyson Foods
Arkansas Gas Consumers	West Virginia Energy Users Group
AK Steel	The Commercial Group
Armco Steel Company, L.P.	Wisconsin Industrial Energy Group
Assn. of Business Advocating Tariff Equity	South Florida Hospital and Health Care Assn.
CF&I Steel, L.P.	PP&L Industrial Customer Alliance
Climax Molybdenum Company	Philadelphia Area Industrial Energy Users Gp.
Cripple Creek & Victor Gold Mining Co.	West Penn Power Intervenors
General Electric Company	Duquesne Industrial Intervenors
Holcim (U.S.) Inc.	Met-Ed Industrial Users Gp.
IBM Corporation	Penelec Industrial Customer Alliance
Industrial Energy Consumers	Penn Power Users Group
Kentucky Industrial Utility Consumers	Columbia Industrial Intervenors
Lexington-Fayette Urban County Government	U.S. Steel & Univ. of Pittsburg Medical Ctr.
Large Electric Consumers Organization	Multiple Intervenors
Newport Steel	Maine Office of Public Advocate
Northwest Arkansas Gas Consumers	Missouri Office of Public Counsel
Maryland Energy Group	University of Massachusetts - Amherst
Occidental Chemical	WCF Hospital Utility Alliance
	West Travis County Public Utility Agency

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdct.	Party	Utility	Subject
09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/GR-94-001	MN	Large Power Intervenor	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenor	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenor	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenor	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdct.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343- 000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co., Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdct.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenor	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenor	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Cost of debt.

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdic.	Party	Utility	Subject
10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD & United States	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdict.	Party	Utility	Subject
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HealthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278- E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006- 0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T Users Group	WV	West Virginia Energy	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008- 2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008- 2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

**Expert Testimony Appearances
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As of March 2015**

Date	Case	Jurisdct.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

**Expert Testimony Appearances
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As of March 2015**

Date	Case	Jurisdct.	Party	Utility	Subject
03/10	09-1352-	WV E-42T	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR- 09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E- GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009- 2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010- 2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010- 2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010- 2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts- Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010- 2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010- 2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699- E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010- 2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011- 2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

**Expert Testimony Appearances
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As of March 2015**

Date	Case	Jurisdct.	Party	Utility	Subject
08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Coming Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

**Expert Testimony Appearances
of
Richard A. Baudino
As of March 2015**

Date	Case	Jurisdct.	Party	Utility	Subject
08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-JR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenor	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-JR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, cost of capital

BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY UTILITIES)
COMPANY FOR AN ADJUSTMENT OF) CASE NO. 2014-00371
ITS ELECTRIC RATES)

In the Matter of:

APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)

<p>EXHIBIT (RAB-2)</p> <p>OF</p> <p>RICHARD A. BAUDINO</p>

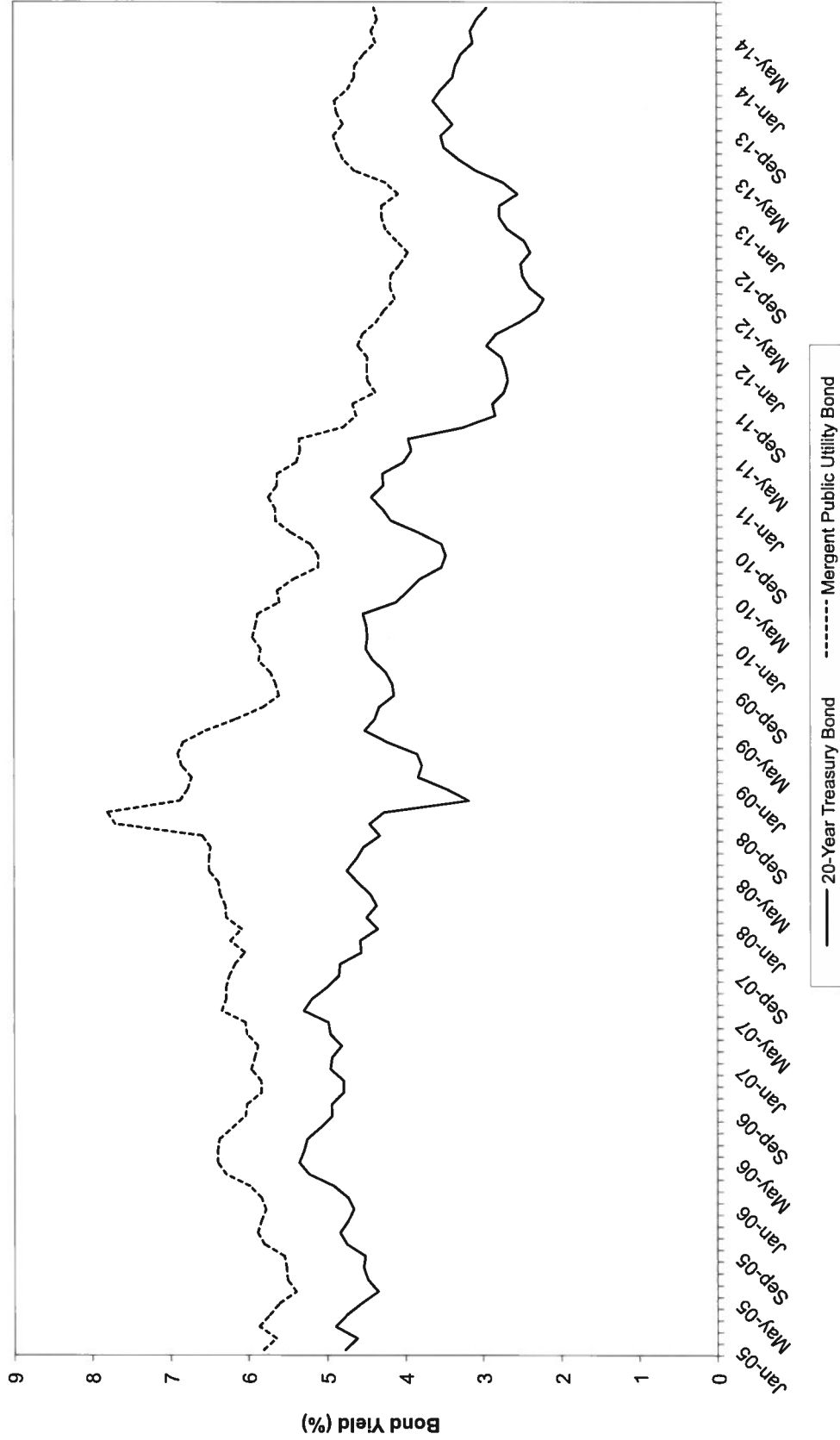
ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

MARCH 6, 2015

HISTORICAL BOND YIELDS AVERAGE PUBLIC UTILITY BOND VS 20-YEAR TREASURY BOND



**BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

In the Matter of:

**APPLICATION OF KENTUCKY UTILITIES)
COMPANY FOR AN ADJUSTMENT OF) CASE NO. 2014-00371
ITS ELECTRIC RATES)**

In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

**EXHIBIT (RAB -3)
OF
RICHARD A. BAUDINO**

**ON BEHALF OF
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.**

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

J. Kennedy and Associates, Inc.

Credit Suisse 20th Annual Energy Summit

February 23 - 25, 2015
Vail, Colorado



U.K. Regulated



KY Regulated



PA Regulated



Supply



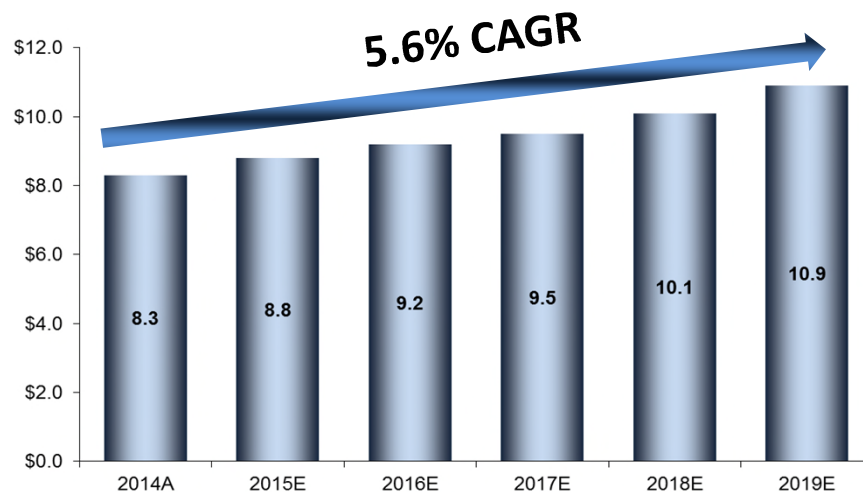
Kentucky Regulated Segment Investment Highlights



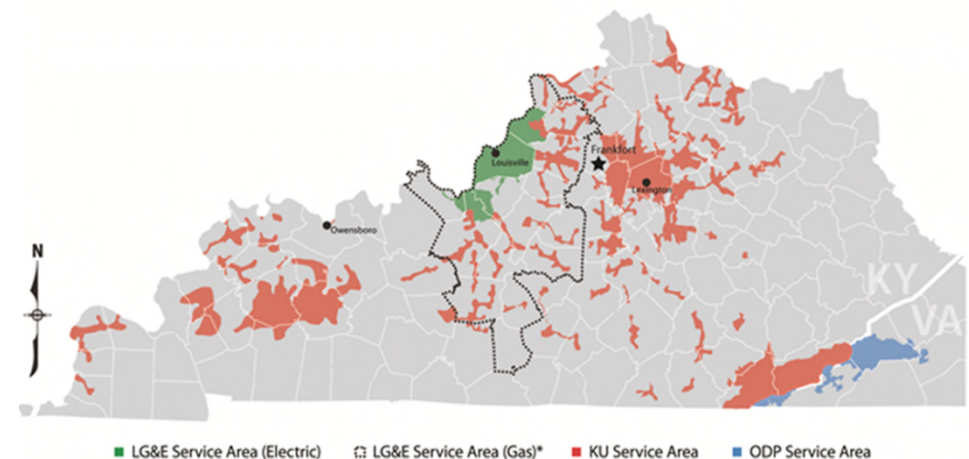
- Efficient, well-run utilities focused on safety, reliability and customer service
- Constructive regulatory environment that provides a timely return on a substantial amount of planned capex over the next 5 years
 - Environmental Cost Recovery (ECR): \$2.3 billion estimated spend on projects approved by the KPSC with a 10.25% ROE – virtually no regulatory lag
 - Other supportive recovery mechanisms include Construction Work In Progress, Fuel Adjustment Clause, Gas Supply Clause Adjustment and Demand Side Management recovery

(\$ in billions)

Significant Rate Base Growth



Kentucky Delivery Territories



**BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

In the Matter of:

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COMPANY FOR AN ADJUSTMENT OF) CASE NO. 2014-00371
ITS ELECTRIC RATES)**

In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

**EXHIBIT (RAB -4)
OF
RICHARD A. BAUDINO**

ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

**COMPARISON GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD**

		Feb-15	Jan-15	Dec-14	Nov-14	Oct-14	Sep-14
ALLETE	High Price (\$)	57.770	59.730	57.970	53.260	52.680	48.820
	Low Price (\$)	52.380	54.300	50.490	49.560	44.190	44.390
	Avg. Price (\$)	55.075	57.015	54.230	51.410	48.435	46.605
	Dividend (\$)	0.505	0.490	0.490	0.490	0.490	0.490
	Mo. Avg. Div.	3.67%	3.44%	3.61%	3.81%	4.05%	4.21%
	6 mos. Avg.	3.80%					
Alliant Energy	High Price (\$)	69.350	70.800	69.780	63.730	62.300	59.360
	Low Price (\$)	62.890	65.300	61.940	61.350	55.380	54.690
	Avg. Price (\$)	66.120	68.050	65.860	62.540	58.840	57.025
	Dividend (\$)	0.550	0.510	0.510	0.510	0.510	0.510
	Mo. Avg. Div.	3.33%	3.00%	3.10%	3.26%	3.47%	3.58%
	6 mos. Avg.	3.29%					
Avista Corp.	High Price (\$)	37.650	38.340	37.370	35.980	35.960	32.880
	Low Price (\$)	33.280	34.910	33.200	33.190	30.550	30.450
	Avg. Price (\$)	35.465	36.625	35.285	34.585	33.255	31.665
	Dividend (\$)	0.330	0.318	0.318	0.318	0.318	0.318
	Mo. Avg. Div.	3.72%	3.47%	3.60%	3.68%	3.82%	4.02%
	6 mos. Avg.	3.72%					
CMS Energy	High Price (\$)	38.120	38.660	36.870	33.460	32.910	30.830
	Low Price (\$)	34.280	34.650	32.790	32.050	29.590	29.150
	Avg. Price (\$)	36.200	36.655	34.830	32.755	31.250	29.990
	Dividend (\$)	0.290	0.270	0.270	0.270	0.270	0.270
	Mo. Avg. Div.	3.20%	2.95%	3.10%	3.30%	3.46%	3.60%
	6 mos. Avg.	3.27%					
Consolidated Edison	High Price (\$)	69.690	72.250	68.920	64.730	64.000	58.120
	Low Price (\$)	62.370	65.360	62.620	61.450	56.400	55.800
	Avg. Price (\$)	66.030	68.805	65.770	63.090	60.200	56.960
	Dividend (\$)	0.650	0.630	0.630	0.630	0.630	0.630
	Mo. Avg. Div.	3.94%	3.66%	3.83%	3.99%	4.19%	4.42%
	6 mos. Avg.	4.01%					
Dominion Resources	High Price (\$)	78.880	79.890	80.890	74.590	72.240	71.330
	Low Price (\$)	71.610	75.330	71.340	71.340	65.530	67.290
	Avg. Price (\$)	75.245	77.610	76.115	72.965	68.885	69.310
	Dividend (\$)	0.600	0.600	0.600	0.600	0.600	0.600
	Mo. Avg. Div.	3.19%	3.09%	3.15%	3.29%	3.48%	3.46%
	6 mos. Avg.	3.28%					

**COMPARISON GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD**

		Feb-15	Jan-15	Dec-14	Nov-14	Oct-14	Sep-14
Duke Energy	High Price (\$)	87.290	89.970	87.290	83.900	82.680	75.210
	Low Price (\$)	77.790	82.610	80.160	78.510	74.330	72.950
	Avg. Price (\$)	82.540	86.290	83.725	81.205	78.505	74.080
	Dividend (\$)	0.795	0.795	0.795	0.795	0.795	0.795
	Mo. Avg. Div.	3.85%	3.69%	3.80%	3.92%	4.05%	4.29%
	6 mos. Avg.	3.93%					
Edison International	High Price (\$)	68.460	69.590	68.740	63.660	62.900	59.540
	Low Price (\$)	62.310	64.780	62.780	61.390	55.880	54.120
	Avg. Price (\$)	65.385	67.185	65.760	62.525	59.390	56.830
	Dividend (\$)	0.417	0.417	0.355	0.355	0.355	0.355
	Mo. Avg. Div.	2.55%	2.48%	2.16%	2.27%	2.39%	2.50%
	6 mos. Avg.	2.39%					
Empire District Electric	High Price (\$)	30.940	31.490	31.200	28.870	29.240	25.950
	Low Price (\$)	24.330	29.160	27.400	27.520	24.090	24.000
	Avg. Price (\$)	27.635	30.325	29.300	28.195	26.665	24.975
	Dividend (\$)	0.260	0.260	0.260	0.255	0.255	0.255
	Mo. Avg. Div.	3.76%	3.43%	3.55%	3.62%	3.83%	4.08%
	6 mos. Avg.	3.71%					
Eversource Energy	High Price (\$)	56.520	56.830	56.660	50.920	49.980	46.570
	Low Price (\$)	50.420	52.930	49.930	48.650	44.370	43.880
	Avg. Price (\$)	53.470	54.880	53.295	49.785	47.175	45.225
	Dividend (\$)	0.393	0.393	0.393	0.393	0.393	0.393
	Mo. Avg. Div.	2.94%	2.86%	2.95%	3.16%	3.33%	3.48%
	6 mos. Avg.	3.12%					
IDACORP	High Price (\$)	68.400	70.480	70.050	63.520	64.120	56.970
	Low Price (\$)	60.900	65.040	61.350	60.550	53.390	53.200
	Avg. Price (\$)	64.650	67.760	65.700	62.035	58.755	55.085
	Dividend (\$)	0.470	0.470	0.470	0.470	0.430	0.430
	Mo. Avg. Div.	2.91%	2.77%	2.86%	3.03%	2.93%	3.12%
	6 mos. Avg.	2.94%					
Northwestern Corp.	High Price (\$)	58.340	59.710	58.700	54.420	53.450	49.550
	Low Price (\$)	52.700	55.260	52.020	51.400	45.140	45.120
	Avg. Price (\$)	55.520	57.485	55.360	52.910	49.295	47.335
	Dividend (\$)	0.400	0.400	0.400	0.400	0.400	0.400
	Mo. Avg. Div.	2.88%	2.78%	2.89%	3.02%	3.25%	3.38%
	6 mos. Avg.	3.03%					

**COMPARISON GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD**

		Feb-15	Jan-15	Dec-14	Nov-14	Oct-14	Sep-14
OGE Energy	High Price (\$)	35.750	36.480	36.700	37.900	37.560	37.760
	Low Price (\$)	32.120	33.440	32.850	35.640	33.060	35.150
	Avg. Price (\$)	33.935	34.960	34.775	36.770	35.310	36.455
	Dividend (\$)	0.250	0.250	0.250	0.250	0.250	0.225
	Mo. Avg. Div.	2.95%	2.86%	2.88%	2.72%	2.83%	2.47%
	6 mos. Avg.	2.78%					
Pinnacle West	High Price (\$)	70.710	73.310	71.110	63.500	61.560	57.740
	Low Price (\$)	63.810	67.690	62.600	60.610	54.590	54.130
	Avg. Price (\$)	67.260	70.500	66.855	62.055	58.075	55.935
	Dividend (\$)	0.595	0.595	0.595	0.595	0.568	0.568
	Mo. Avg. Div.	3.54%	3.38%	3.56%	3.84%	3.91%	4.06%
	6 mos. Avg.	3.71%					
Portland General Electric	High Price (\$)	40.260	41.040	40.310	37.290	36.860	34.550
	Low Price (\$)	36.040	37.820	36.510	35.500	32.070	31.700
	Avg. Price (\$)	38.150	39.430	38.410	36.395	34.465	33.125
	Dividend (\$)	0.280	0.280	0.280	0.280	0.280	0.275
	Mo. Avg. Div.	2.94%	2.84%	2.92%	3.08%	3.25%	3.32%
	6 mos. Avg.	3.06%					
Southern Company	High Price (\$)	51.140	53.160	51.280	47.970	47.690	44.820
	Low Price (\$)	45.220	48.840	47.070	46.300	43.550	43.040
	Avg. Price (\$)	48.180	51.000	49.175	47.135	45.620	43.930
	Dividend (\$)	0.525	0.525	0.525	0.525	0.525	0.525
	Mo. Avg. Div.	4.36%	4.12%	4.27%	4.46%	4.60%	4.78%
	6 mos. Avg.	4.43%					
Westar Energy	High Price (\$)	43.310	44.030	43.150	39.620	37.910	37.070
	Low Price (\$)	38.600	40.330	38.520	37.240	33.730	33.760
	Avg. Price (\$)	40.955	42.180	40.835	38.430	35.820	35.415
	Dividend (\$)	0.350	0.350	0.350	0.350	0.350	0.350
	Mo. Avg. Div.	3.42%	3.32%	3.43%	3.64%	3.91%	3.95%
	6 mos. Avg.	3.61%					
Xcel Energy	High Price (\$)	37.840	38.350	37.580	34.100	33.760	32.480
	Low Price (\$)	34.600	35.600	33.490	32.950	30.180	30.120
	Avg. Price (\$)	36.220	36.975	35.535	33.525	31.970	31.300
	Dividend (\$)	0.300	0.300	0.300	0.300	0.300	0.300
	Mo. Avg. Div.	3.31%	3.25%	3.38%	3.58%	3.75%	3.83%
	6 mos. Avg.	3.52%					
Average Dividend Yield		3.42%					

Source: Yahoo! Finance

**BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

In the Matter of:

**APPLICATION OF KENTUCKY UTILITIES)
COMPANY FOR AN ADJUSTMENT OF) CASE NO. 2014-00371
ITS ELECTRIC RATES)**

In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

**EXHIBIT (RAB -5)
OF
RICHARD A. BAUDINO**

**ON BEHALF OF
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.**

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

**COMPARISON GROUP
DCF Growth Rate Analysis**

<u>Company</u>	(1) Value Line <u>DPS</u>	(2) Value Line <u>EPS</u>	(3) Value Line <u>B x R</u>	(4) <u>Zacks</u>	(5) <u>IBES</u>
ALLETE, Inc.	4.00%	6.00%	3.50%	6.00%	6.00%
Alliant Energy Corporation	4.50%	6.00%	5.00%	4.90%	5.40%
Avista Corporation	4.50%	5.50%	3.00%	5.00%	5.00%
CMS Energy Corporation	6.00%	6.50%	6.00%	6.20%	6.73%
Consolidated Edison, Inc.	2.50%	2.50%	3.00%	3.00%	2.77%
Dominion Resources, Inc.	7.50%	7.50%	4.50%	6.30%	5.83%
Duke Energy Corporation	2.50%	5.00%	3.00%	4.70%	4.41%
Edison International	9.50%	2.50%	5.50%	7.10%	3.53%
Empire District Electric Co.	4.50%	4.00%	3.50%	3.00%	3.00%
Eversource Energy	7.00%	8.00%	4.00%	6.40%	6.25%
IDACORP, Inc.	8.00%	1.50%	3.50%	4.00%	3.00%
NorthWestern Corp.	6.50%	6.50%	4.00%	7.60%	7.60%
OGE Energy	9.50%	5.50%	5.50%	5.60%	5.10%
Pinnacle West Capital Corp.	3.00%	4.00%	3.50%	4.00%	4.20%
Portland General Electric Company	4.50%	5.00%	4.00%	5.90%	5.26%
Southern Company	3.50%	4.00%	4.50%	3.60%	3.40%
Westar Energy, Inc.	3.00%	6.00%	4.50%	3.80%	3.37%
Xcel Energy Inc.	5.00%	5.50%	4.00%	4.70%	4.51%
Averages	5.31%	5.08%	4.14%	5.10%	4.74%
Median Values	4.50%	5.50%	4.00%	4.95%	4.76%

Sources: Value Line Investment Survey, December 19,2014 and January 30 and February 20, 2015
Yahoo! Finance for IBES growth rates retrieved February 27, 2015
Zacks growth rates retrieved February 27, 2015
IBES growth rates were used in the Zacks column for ALLETE and Avista

**COMPARISON GROUP
DCF RETURN ON EQUITY**

	(1) Value Line <u>Dividend Gr.</u>	(2) Value Line <u>Earnings Gr.</u>	(3) Zack's <u>Earning Gr.</u>	(4) IBES <u>Earning Gr.</u>	(5) Average of <u>All Gr. Rates</u>
Method 1:					
Dividend Yield	3.42%	3.42%	3.42%	3.42%	3.42%
Average Growth Rate	5.31%	5.08%	5.10%	4.74%	5.06%
Expected Div. Yield	<u>3.51%</u>	<u>3.51%</u>	<u>3.51%</u>	<u>3.50%</u>	<u>3.51%</u>
DCF Return on Equity	8.82%	8.59%	8.61%	8.24%	8.57%
Method 2:					
Dividend Yield	3.42%	3.42%	3.42%	3.42%	3.42%
Median Growth Rate	4.50%	5.50%	4.95%	4.76%	4.93%
Expected Div. Yield	<u>3.50%</u>	<u>3.52%</u>	<u>3.51%</u>	<u>3.50%</u>	<u>3.51%</u>
DCF Return on Equity	8.00%	9.02%	8.46%	8.26%	8.44%

**BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

In the Matter of:

**APPLICATION OF KENTUCKY UTILITIES)
COMPANY FOR AN ADJUSTMENT OF) CASE NO. 2014-00371
ITS ELECTRIC RATES)**

In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

**EXHIBIT (RAB -6)
OF
RICHARD A. BAUDINO**

ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

COMPARISON GROUP
Capital Asset Pricing Model Analysis
Comparison Group

20-Year Treasury Bond, Value Line Beta

<u>Line No.</u>		<u>Value Line</u>
1	Market Required Return Estimate	10.02%
2	Risk-free Rate of Return, 20-Year Treasury Bond	
3	Average of Last Six Months	2.71%
4	Risk Premium	
5	(Line 1 minus Line 3)	7.32%
6	Comparison Group Beta	0.73
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.31%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	8.01%

5-Year Treasury Bond, Value Line Beta

1	Market Required Return Estimate	10.02%
2	Risk-free Rate of Return, 5-Year Treasury Bond	
3	Average of Last Six Months	1.60%
4	Risk Premium	
5	(Line 1 minus Line 3)	8.43%
6	Comparison Group Beta	0.73
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	6.11%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	7.71%

COMPARISON GROUP
Capital Asset Pricing Model Analysis
Comparison Group

Supporting Data for CAPM Analyses

20 Year Treasury Bond Data

	<u>Avg. Yield</u>
August-14	2.94%
September-14	3.01%
October-14	2.77%
November-14	2.76%
December-14	2.55%
January-15	<u>2.20%</u>

6 month average 2.71%

Source: www.federalreserve.gov, Selected Interest Rates (Daily) - H.15

5 Year Treasury Bond Data

	<u>Avg. Yield</u>
August-14	1.63%
September-14	1.77%
October-14	1.55%
November-14	1.62%
December-14	1.64%
January-15	<u>1.37%</u>

6 month average 1.60%

Value Line Market Return Data:

Forecasted Data:

Value Line Median Growth Rates:	
Earnings	12.00%
Book Value	<u>8.50%</u>
Average	10.25%
Median Dividend Yield	<u>0.76%</u>
Estimated Market Return	11.05%

Value Line Projected 3-5 Yr.
Median Annual Total Return 9.00%

Average of Projected Mkt.
Returns 10.02%

Source: Value Line Investment Survey
for Windows retrieved February 25, 2015

Comparison Group Betas:

ALLETE, Inc.	0.80
Alliant Energy Corporation	0.80
Avista Corporation	0.80
CMS Energy Corporation	0.70
Consolidated Edison, Inc.	0.60
Dominion Resources, Inc.	0.70
Duke Energy Corporation	0.60
Edison International	0.75
Empire District Electric Co.	0.70
Eversource Energy	0.75
IDACORP, Inc.	0.80
NorthWestern Corp.	0.70
OGE Energy	0.90
Pinnacle West Capital Corp.	0.70
Portland General Electric Company	0.80
Southern Company	0.55
Westar Energy, Inc.	0.75
Xcel Energy Inc.	<u>0.65</u>

Average 0.73

Source: Value Line Investment Survey

Value
Line

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In the Matter of:

**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

**EXHIBIT (RAB -7)
OF
RICHARD A. BAUDINO**

ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

COMPARISON GROUP
Capital Asset Pricing Model Analysis
Historic Market Premium

	<u>Geometric Mean</u>	<u>Arithmetic Mean</u>	<u>Adjusted Arithmetic Mean</u>
Long-Term Annual Return on Stocks	10.10%	12.10%	
Long-Term Annual Income Return on Long-Term Treas. Bonds	<u>5.09%</u>	<u>5.09%</u>	
Historical Market Risk Premium	5.01%	7.01%	6.12%
Comparison Group Beta, Value Line	<u>0.73</u>	<u>0.73</u>	<u>0.73</u>
Beta * Market Premium	3.63%	5.08%	4.44%
Current 20-Year Treasury Bond Yield	<u>2.71%</u>	<u>2.71%</u>	<u>2.71%</u>
CAPM Cost of Equity, Value Line Beta	<u>6.34%</u>	<u>7.79%</u>	<u>7.14%</u>

Source: *Ibbotson S&P 2014 Classic Yearbook*, Morningstar, pp. 39 - 40, 152, 157 - 158

**BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION**

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**APPLICATION OF LOUISVILLE GAS AND)
ELECTRIC COMPANY FOR AN) CASE NO. 2014-00372
ADJUSTMENT OF ITS ELECTRIC AND)
GAS RATES)**

**EXHIBIT (RAB -8)
OF
RICHARD A. BAUDINO**

ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

J. Kennedy and Associates, Inc.

LG&E REVISED COST OF LONG-TERM DEBT

LINE NO.	DEBT ISSUE TYPE	COUPON RATE (%)	DATE ISSUED (DAY/MON/YR)	MATURITY DATE (DAY/MON/YR)	AVERAGE PRINCIPAL AMOUNT (\$)	UNAMORT (DISCOUNT) OR PREMIUM (E)	UNAMORT DEBT REACQUIRED DEBT (F)	UNAMORT LOSS ON REACQUIRED DEBT (G)	CARRYING VALUE (H+D-E-F-G)	INTEREST (I*PAD)	AMORT (DISCOUNT) OR PREMIUM (J)	AMORT DEBT EXPENSE (K)	AMORT LOSS ON REACQUIRED DEBT (L)	LETTER OF CREDIT AND OTHER FEES (M)	TOTAL (N+I+K+L+M)					
																(A)	(B)	(C)	(D)	(E)
1	LG&E_PCB Variable due June 1, 2033	1.60%	Apr 26, 2007	June 1, 2033	35,200,000	-	77,291	571,863	34,550,848	953,200	-	54,582	32,902	-	650,664					
2	LG&E_PCB 4.90% due June 1, 2033	4.90%	Apr 26, 2007	June 1, 2033	60,000,000	-	827,998	829,165	58,342,836	2,760,000	-	47,541	47,105	-	2,855,246					
3	LG&E_PCB Variable due Aug 1, 2030	1.95%	Aug 9, 2000	Aug 1, 2030	83,335,000	-	568,534	2,065,404	80,673,062	1,877,444	-	30,791	143,963	254,897	2,066,706					
4	LG&E_PCB Variable due Sep 1, 2027	1.95%	Sep 11, 2001	Sep 1, 2027	10,104,000	-	237,948	825,914	9,866,052	197,744	-	28,438	77,575	30,403	246,363					
5	LG&E_PCB Variable Series CC due Sep 1, 2026	1.25%	Mar 6, 2002	Sep 1, 2026	27,500,000	-	109,857	675,918	26,824,143	343,750	-	19,911	65,118	-	429,078					
6	LG&E_PCB Variable Series DD due Nov 1, 2027	1.45%	Mar 22, 2002	Nov 1, 2027	31,000,000	-	130,241	540,249	30,469,759	507,500	-	11,020	49,140	-	567,658					
7	LG&E_PCB Variable Series EE due Nov 1, 2027	1.45%	Mar 23, 2002	Nov 1, 2027	35,000,000	-	130,143	540,221	34,269,530	507,500	-	11,020	49,140	-	567,658					
8	LG&E_PCB Variable Series FF due Nov 1, 2027	1.45%	Mar 23, 2002	Nov 1, 2027	41,665,000	-	130,143	540,221	40,166,563	815,418	-	37,297	55,927	146,678	605,240					
9	LG&E_PCB due Oct 1, 2033	1.65%	Nov 20, 2003	Oct 1, 2033	128,000,000	-	191,357	5,542,482	122,266,160	2,117,000	-	152,432	314,334	-	1,655,220					
10	LG&E_PCB due Oct 1, 2033	1.45%	Nov 20, 2003	Oct 1, 2033	25,000,000	-	49,354	1,366,892	23,550,744	361,601	-	70,946	123,805	-	2,576,766					
11	LG&E_PCB due Mar 1, 2035	3.00%	Apr 13, 2005	Feb 1, 2035	40,000,000	-	253,633	1,614,855	38,131,713	1,200,000	-	84,342	84,769	-	1,355,715					
12	LG&E_PCB due Feb 1, 2033	1.15%	Apr 26, 2007	June 1, 2033	31,000,000	-	90,958	616,895	30,293,137	356,500	-	196,128	35,435	-	456,277					
13	LG&E_FMB due June 1, 2015	1.625%	Nov 16, 2010	Nov 15, 2015	93,750,000	(14,189)	41,782	1,814,855	93,894,849	1,524,438	66,838	196,128	-	-	1,786,203					
14	LG&E_FMB due Nov 15, 2015	5.125%	Nov 16, 2010	Nov 15, 2015	285,000,000	(2,571,033)	2,965,651	1,814,855	279,463,316	14,806,250	103,560	119,656	-	-	14,826,266					
15	LG&E_FMB due Nov 1, 2043	4.65%	Nov 14, 2013	Nov 15, 2043	250,000,000	(1,672,426)	2,547,966	-	245,778,668	11,825,000	60,120	91,587	-	-	11,776,707					
16	LG&E_FMB due Nov 1, 2043	3.70%	Oct 1, 2015	Oct 1, 2045	225,000,000	-	-	-	225,000,000	8,325,000	-	-	-	-	8,325,000					
17	LG&E_2015 Projected Issuance due 2045	3.70%	Oct 1, 2015	Oct 1, 2045	187,500,000	-	-	-	187,500,000	6,837,500	-	-	-	-	6,837,500					
18	LG&E_2015 Projected Issuance due 2025	3.70%	Oct 1, 2015	Oct 1, 2025	187,500,000	-	-	-	187,500,000	6,837,500	-	-	-	-	6,837,500					
19	UNAM_EXP-S-3 SHELF REGISTRATION 3/15																			
20	Revolving Credit Facility																			
21	JP Morgan Chase Bank, 5.495% - Trimble Co, 2000 Series A						2,043,920	204,197	(2,288,117)	-	-	564,248	57,249	625,000	1,266,498					
22	Morgan Stanley Capital Services 3.657% - Louisville Metro 2003 Series A						-	-	-	3,950,097	-	-	-	-	3,950,097					
23	Morgan Stanley Capital Services 3.645% - Louisville Metro 2003 Series A						-	-	-	935,549	-	-	-	-	935,549					
24	Bank of America - Louisville Metro 2003 Series A						-	-	-	947,709	-	-	-	-	947,709					
25	Regulatory Liability - Swap Hedging FMB						-	-	-	(1,410,166)	-	-	-	-	(1,410,166)					
TOTALS										1,615,556,000	(4,257,649)	11,037,656	16,488,223	1,583,768,978	60,085,485	238,318	1,574,417	1,197,301	1,058,978	64,068,500
															4.04%					

EMBEDDED COST OF LONG-TERM DEBT (N/H)

**BEFORE THE
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**EXHIBIT (RAB -9)
OF
RICHARD A. BAUDINO**

ON BEHALF OF

KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.

**J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA**

MARCH 6, 2015

Docket No. 120015-EI
Interest Rate Trends
Exhibit WEA-2, Page 1 of 1

	<u>Current (a)</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
30-Yr. Treasury						
Value Line (b)	3.4%	3.9%	4.1%	4.5%	5.0%	--
IHS Global Insight (c)	3.4%	3.3%	3.8%	4.5%	5.1%	5.3%
Blue Chip (d)	3.4%	3.7%	4.2%	4.8%	5.3%	5.5%
AAA Corporate						
Value Line (b)	4.2%	4.6%	4.7%	5.2%	5.7%	--
IHS Global Insight (c)	4.2%	4.2%	4.5%	5.1%	6.0%	6.2%
Blue Chip (d)	4.2%	4.3%	4.7%	5.4%	5.8%	6.2%
S&P (e)	4.2%	4.2%	4.6%	5.1%	6.0%	--
AA Utility						
IHS Global Insight (c)	4.3%	4.4%	4.9%	5.6%	6.5%	6.8%
EIA (f)	4.3%	4.7%	4.8%	5.7%	6.8%	6.9%

(a) Based on monthly average bond yields for the six-month period Jul. - Dec. 2011 reported at www.credittrends.moodys.com and <http://www.federalreserve.gov/releases/h15/data.htm>.

(b) The Value Line Investment Survey, Forecast for the U.S. Economy (Nov. 25, 2011).

(c) IHS Global Insight, *U.S. Economic Outlook* at 25 (Dec. 2011).

(d) *Blue Chip Financial Forecasts*, Vol. 30, No. 12 (Dec. 1, 2011).

(e) Standard & Poor's Corporation, "U.S. Economic Forecast: Just Like Ol' Times," *RatingsDirect* (Jan. 12, 2012).

(f) Energy Information Administration, *Annual Energy Outlook 2012, Early Release* (Jan. 23, 2012).