MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2012-0174

REBUTTAL TESTIMONY

OF

MICHAEL M. SCHNITZER

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
September 2012

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Have Been Removed
Pursuant To 4 CSR 240-2.135.

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OF

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Case No. ER-2012-0174

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

2   A: My name is Michael M. Schnitzer. My business address is 30 Monument Square,

3   Concord, Massachusetts 01742.

4   Q: **By whom and in what capacity are you employed?**

5   A: I am a Director of the NorthBridge Group, Inc. ("NorthBridge"). NorthBridge is a

6   consulting firm specializing in providing economic and strategic advice to the electric

7   and natural gas industries.

8   Q: **Are you the same Michael M. Schnitzer who provided Direct Testimony in support**

9   **of Kansas City Power & Light Company in this Case No. ER-2012-0174?**

10   A: Yes, I am.

11   **I.   PURPOSE OF TESTIMONY AND CONCLUSIONS**

12   Q: **Please describe the purpose of your Rebuttal Testimony.**

13   A: The purpose of my Rebuttal Testimony is to address the testimony of Nicholas L. Phillips

14   and Greg R. Meyer on behalf of Missouri Industrial Energy Consumers and Midwest

15   Energy Consumers Group (collectively "MIEC/MECG"), and MIEC/MECG's proposal

16   that the Commission should deviate from past practice and adopt either one of two

17   alternative MIEC/MECG calculations of Off-System Contribution Margin (as defined in

18   my Direct Testimony) for Kansas City Power & Light Company ("KCP&L" or the

19   "Company"). In responding to the MIEC/MECG witnesses, I will also discuss how the

1   probability distribution resulting from the initial calculation[1] in my Direct Testimony

2   does not reflect current market conditions and must be updated. The update ("June

3   Update") was completed in June 2012, and is based on market data and inputs provided

4   to NorthBridge by KCP&L as of June 8, 2012[2].

5   My testimony is organized in three parts. In the first part, I provide an update to

6   the probabilistic analysis of Margin in my Direct Testimony to form a current baseline for

7   comparison to the MIEC/MECG proposals. In the second part, I summarize how the

8   Commission has adopted a forward looking analysis of Margin in each of the last four

9   rate cases, and discuss why either of the MIEC/MECG proposed approaches based on

10   normalized test year inputs would be a departure from this practice. In the third part, I

11   consider the specifics of the MIEC/MECG approaches to the calculation of Margin, why

12   they deviate from past Commission practice, and the inflated results they produce when

13   compared to any reasonable forward looking estimate of Margin.

14   **Q: What are your conclusions?**

15   A: First, the underlying drivers that impact estimates of Off-System Contribution Margin,

16   such as natural gas prices and firm load obligations, have moved since I filed my Direct

17   Testimony. The probability distribution illustrating the range and likelihood of Off-

18   System Contribution Margin outcomes shown in that testimony should be updated to

19   reflect current expectations. The distribution of Off-System Contribution Margin

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[1] My Direct Testimony in this case was filed on February 27, 2012 and addressed the probability distribution of Off-System Contribution Margin ("Margin") for the 2013 calendar and was based on market data and inputs provided to NorthBridge by KCP&L as of January 18, 2012.
[2] The June Update results were informally provided to Commission Staff and other parties in the month of June. After discussion with the parties, KCP&L has further updated certain assumptions regarding wind capacity and transmission constraints from that originally used in the June Update. All further references to the June Update in this Rebuttal Testimony include these additional changes to wind capacity and transmission constraints.

1   outcomes in my Direct Testimony had a Median value of **█████████**, a 40th

2   percentile value of **████████** and a 60th percentile value of **████████**. In

3   the June Update, the Median value declined to **████████**, the 40th percentile value

4   declined to **████████** and the 60th percentile value declined to **████████**.

5   The reasons for these reductions are described below.

6   Second, the Commission has in the past four KCP&L rate cases adopted a

7   forward looking forecast of Margin, in preference to an historical test year approach. In

8   each case, the Commission relied on a probabilistic forecast of Margin that reflected the

9   range and likelihood of Margin outcomes for a future period based on the then current

10   expectations of important drivers, such as natural gas prices and native load. The chief

11   inquiry regarding Margin was to determine the point on the probability distribution at

12   which the initial offset for Margin should be established, or rather to determine the level

13   of Margin that the Company would have a reasonable expectation of meeting, given the

14   risk sharing between KCP&L and the ratepayers (i.e., the KCP&L guaranteed 'floor'). In

15   this case, the MIEC/MECG witnesses have proposed to deviate from past Commission

16   practice and use one of two different approaches, both of which rely on normalized

17   historical inputs to determine the offset for Margin, without regard to whether those

18   inputs or the resulting Margin offset value reflect reasonable future expectations. The

19   MIEC/MECG proposals are contrary to the Commission's prior practice of relying on a

20   forward looking estimate of Margin in the past four KCP&L rate cases and, for this

21   reason, the Commission should not adopt either of the MIEC/MECG proposals.

22   More specifically, the first of the two MIEC/MECG approaches (under which the

23   Margin is set at an adjusted test year value) should be rejected for two reasons: (1) for all

1   of the reasons articulated in prior cases, historic Margins are not a good predictor of

2   future Margins due to the volatility of the underlying drivers of off-system sales, in

3   particular natural gas prices; and (2) the test year adjustments proposed by MIEC/MECG

4   are particularly unreasonable and result in normalized test year margins that exceed

5   actual test year margins by more than a factor of two – making them more opportunistic

6   than reasonable.

7   The second MIEC/MECG approach (which combines the adjusted test year

8   approach with a probability simulation) should be rejected for three reasons: (1) it is

9   fundamentally backward looking, rather than forward looking and so is inconsistent with

10   the Commission's prior policy; (2) the test year adjustments are again unreasonable,

11   resulting in assumptions that deviate substantially from current forward market data and

12   produce an even higher Margin value than the first approach; and (3) the approach

13   produces a probability distribution of Margin that is essentially meaningless, as it was

14   calculated using inputs that do not reflect, nor were even intended to reflect, expectations

15   about a future period. As such, the percentiles identified by Mr. Phillips on this

16   distribution do not reflect the likelihood of such events occurring, and in fact have no

17   meaningful interpretation. This second MIEC/MECG approach bears no relation to, and

18   should not be confused with, the forecasts upon which the Commission has relied in prior

19   cases.

20   Both MIEC/MECG approaches share the common fault that the prices at which

21   they suppose off-system Sales will be made are well above the levels forecasted by the

22   Company and well above those one would expect, given that current forward prices for

23   natural gas are at historically low levels. In fact, MIEC/MECG relies on energy prices

1		that are based on natural gas prices 17% higher than current 2013 forward prices[3].
2		Unsurprisingly, MIEC/MECG estimated Margins are based on on-peak and off-peak
3		prices that are ** ██ ** and ** ██ **, respectively, above the Company's forecast for
4		2013. Furthermore, historical relationships between SPP-North energy prices and natural
5		gas prices illustrate that there would be less than a ** ██ ** chance of energy prices being
6		as high as those relied upon by MIEC/MECG when natural gas prices are at the level
7		currently forecasted by the market. The impact of these errors is significant. Were the
8		Margin set at the level proposed by MIEC/MECG, the Company would be unable to
9		achieve the guaranteed level of Margin seven out of every ten years, and in those years
10		the average under-recovery would be ** ████ **[4].
11		**II. JUNE UPDATE TO OFF-SYSTEM MARGIN CALCULATIONS**
12	Q:	**Please describe the June Update to your Direct Testimony.**
13	A:	The prospective analysis of 2013 Off-System Contribution Margin contained in my
14		Direct Testimony was based on market data and KCP&L inputs as of January 18, 2012.
15		In June 2012, KCP&L provided inputs to NorthBridge (as of June 8, 2012), which were
16		then used to update my probabilistic analysis. A comparison of the probability
17		distributions from the Direct Testimony and the June Update is shown in Schedule MMS-
18		5 (HC). A further update (using market data and KCP&L inputs as of the true-up date)
19		will be provided in True-Up Direct Testimony.

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[3] The normalized test year SPP-North energy prices used by MIEC/MECG were produced by KCP&L using the MIDAS™ model and were based on historical 2011 natural gas spot prices equal to $4.00/mmBtu. The Henry Hub natural gas price forecast underlying the June Update is $3.41/mmBtu, which reflects the 2013 forward price for Henry Hub natural gas price as of June 8, 2012.

[4] This value reflects the average under-recovery if the Margin were set at the MIEC/MECG recommendation of ** ██ **. If the margin were set at the level of ** ████ **, the average under-recovery would be ** ██ **.

1   Q: **Why did the Median value and the 40th and 60th percentile values for the June**

2   **Update decline from those filed in your Direct Testimony?**

3   A: The prospective analysis of 2013 Off-System Contribution Margin represents an estimate

4   of Margin for a future period based on current expectations of energy prices, fuel prices,

5   and load obligations. The analysis contained in my Direct Testimony reflected

6   expectations that were current as of that time. As estimates of future energy prices, fuel

7   prices, and load obligations continue to change with the arrival of new information and

8   market expectations, it is appropriate to update the analysis. Schedule MMS-6 (HC)

9   shows graphically the significant sources of difference from the Direct Testimony

10   probabilistic analysis that account for the net decline in Off-System Contribution Margin

11   calculated at the Median. The graph begins at the left with the Direct Testimony value

12   and then moving left to right shows four positive effects and five negative effects that

13   total to the June Update value. The net effect of all nine sources of difference is to

14   produce an updated probability distribution with a net reduction in the Median of **█

15   █████**. The corresponding reduction in the 40th percentile is **██████** and the

16   reduction in the 60th percentile is**██████**.

17   Q: **Please describe the four positive effects.**

18   A: The first positive effect is that the June Update contains increased transmission capability

19   into the Entergy region, with a positive impact of **██████**. The second positive

20   effect results from an increase in unit capacities and higher effective wind output, with a

21   positive impact of **██████**. Next, a reduced load forecast allows KCP&L to

22   make more off-system sales, with a positive impact of **██████**. The final

1   positive effect is that the lead time between when the forecast was benchmarked and the

2   beginning of 2013 is shorter, with a positive impact of **▮▮▮▮▮**.

3 **Q:** **Please describe the five negative effects.**

4 A: The first three negative effects are changes in volatility parameters, forced outage rates,

5   and fuel and allowance costs, which cumulatively have a negative impact on the Median

6   of **▮▮▮▮▮**. The fourth negative effect is an increase in planned outages, with a

7   negative impact of **▮▮▮▮▮**. The fifth (and most significant) negative effect is a

8   reduction in the expected wholesale electricity price at which off-system sales are made,

9   with a negative impact of **▮▮▮▮▮**.

10   **III.   PAST COMMISSION TREATMENT OF KCP&L MARGIN**

11 **Q:** **How has the Commission addressed the policy questions surrounding Off-System**

12   **Contribution Margin in the four KCP&L rate cases since the adoption of the**

13   **Regulatory Plan in Case No. EO-2005-0329?**

14 A: In these four rate cases, the Commission has addressed two key policy questions with

15   respect to Off-System Contribution Margin. First, should Margin be based on actual

16   historical Margin or on a probabilistic forecast of Margin (in turn based on market

17   expectations of key inputs, such as natural gas) for the period in which new rates will be

18   in effect? Second, if the probabilistic approach is chosen, then at what percentile of the

19   distribution should the initial offset for Margin be established? As described in detail at

20   pages 5-10 of my Direct Testimony, the Commission has in each case rejected the

21   historical approach in favor of forward market data, and established the initial offset for

22   Margin at different points ranging from the 25th to the 40th percentile of my forward

23   looking probabilistic distribution. The chief inquiry in each case and the major disputes

1   between the parties have been focused on the percentile question (i.e., where on the

2   probability distribution to set the initial offset, given that KCP&L would guarantee this as

3   a 'floor').   MIEC/MECG has proposed that the Commission should revisit the first

4   question, albeit with a twist.

5 **Q: What is MIEC/MECG asking the Commission to do in this case?**

6 A: The Commission is being asked to revisit the issues it resolved in the four prior cases and

7   base the Margin offset not on a forward looking estimate of Margin that reflects current

8   expectations, but on historical price and load conditions.   MIEC/MECG has presented

9   this broad request in two different forms.   In the first approach the Commission is being

10   asked to set the Margin offset based on an historical test year, but normalized for load

11   and other variables; and, in the second approach the Commission is being asked to set the

12   Margin at the 'Median' of a probabilistic distribution of scenarios that is based on the

13   same historical test year assumptions, again as normalized in the first approach.

14 **Q: What is your response to the MIEC/MECG proposal?**

15 A: The Commission has in the past four KCP&L rate cases adopted my probabilistic

16   forecast of Margin, in preference to an historical test year approach, answering the first

17   policy inquiry in favor of a forward looking approach. The MIEC/MECG witnesses have

18   proposed in this case to deviate from the Commission's prior approach to prefer a

19   forward looking estimate of Margin. Both approaches proposed by MIEC/MECG should

20   be rejected.

1   **Q: Please summarize the two approaches to calculating the Margin offset proposed by**

2   **MIEC/MECG witnesses Phillips and Meyer.**

3   A: Mr. Phillips proposes two methods which use normalized test year data to calculate an

4   offset value for Off-System Contribution Margin. He first calculates a deterministic[5]

5   offset value of ** ███████ ** using his normalized test year inputs into the

6   RealTime™ dispatch model. This calculation uses a single 'base case' scenario and is

7   not probabilistic. Separately, he produces a distribution of values by re-running the

8   NorthBridge OSS model. However, in place of the forward looking 2013 inputs provided

9   by KCP&L and used in my Direct Testimony, he uses normalized test year inputs

10   consistent with his RealTime™ inputs. This produces a Median value of ** ██

11   █████ **. Mr. Meyer recommends that the offset be established at approximately

12   ** ████████ ** on a Missouri jurisdictional basis, based on Mr. Phillips' whole

13   company values of ** ███████ ** from the deterministic RealTime™ model, or a

14   proportional Missouri share based on the ** ███████ ** Median value based on Mr.

15   Phillips' 'corrections' of the KCP&L inputs to the NorthBridge OSS model[6]. Mr. Meyer

16   recommends that a range of ** █████████ ** value (Missouri jurisdictional only)

17   be used as a fixed offset to KCP&L's revenue requirements and that the 'tracker

18   mechanism' (i.e., the regulatory liability account established in the last four rate cases to

19   account for Margin in excess of the 'floor' amount) be eliminated.

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[5] By deterministic, I mean a single value produced by a model using a set of fixed assumptions, such as historical test year inputs with adjustments for normalization, and which does not reflect a probability distribution of potential future outcomes.

[6] Mr. Phillips' original Direct Testimony calculated the Median value at ** █████ **. On August 16, 2012 counsel for MIEC/MECG served notice on parties to this proceeding that Mr. Phillips would be increasing this Median value to ** █████ ** based on certain revisions to his calculation. For purposes of my Rebuttal Testimony, I have assumed that Mr. Meyer's testimony will also be revised to include the Missouri jurisdictional proportion of the ** █████ ** (i.e., ** ██████ **) as an alternative revenue requirement offset proposal.

| 1 | Q: | How does MIEC/MECG justify its approach to calculating the Margin offset? |

| 2 | A: | Mr. Meyer testifies at p. 35, lines 11-17 of his Direct Testimony: |

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> Historically, the Commission establishes rates based upon a normalized
> levels of revenues and expenses. Using the traditional use of normalized
> level of revenues and expenses then, the Commission would utilize the
> 50th percentile of the possible outcomes. Under traditional ratemaking the
> utility assumes the risk that OSS fall short of the 50th percentile. In return,
> however, the utility has the opportunity to keep 100% of all OSS that
> exceed this point. The use of traditional ratemaking, therefore, provides
> the utility with an incentive to maximize its level of OSS.

11   As discussed below, the Commission has rejected this approach for KCP&L in each of

12   the last four rate cases.

| 13 | Q. | When did the Commission decide to adopt instead a forward looking approach for |
| 14 | | KCP&L? |

15   A: In Case No. ER-2006-0314 ("2006 Rate Case"), the Commission specifically rejected the

16   traditional test year approach and adopted a forward looking approach to calculating the

17   Margin offset. In the 2006 Rate Case Staff Witness Traxler proposed using a traditional

18   test year approach to determine the off-system sales margin offset. See Report and

19   Order, p. 31 (December 21, 2006):

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> Staff recommends that the Commission set the non-firm off-system sales
> level at the same level of sales KCPL made in 2005, believing that those
> sales are representative of what KCPL will experience in 2007.

23   The Commission ruled in favor of the forward looking approach finding that "competent

24   and substantial evidence supports KCP&L's position." See Report and Order, p. 33.

| 25 | Q: | Did the Commission follow that same approach in the next KCP&L rate case? |

26   A: Yes. In Case No. ER-2007-0291 ("2007 Rate Case"), the Commission again adopted the

27   forward looking approach. In particular, the Commission specifically recognized the

| 1 | wisdom of adopting the forward looking approach in the 2006 Rate Case. See Report and |
| 2 | Order, p. 38: |

> In the portion of its off-system sales discussion in the Report and Order in
> Case. No. ER-2006-0314, the Commission pointed out that the probability
> of an event occurring, or not occurring, was not the end of the analysis. In
> addition, the Commission concluded that an event's importance should
> weigh heavily as the Commission contemplates what to do. [145] In other
> words, in deciding what level of projected off-system sales to put in the
> revenue requirement, the Commission believed it was wise to not just look
> at sheer percentages, but what benefit or harm would accrue to what
> stakeholders should KCPL succeed, or fail, to attain a certain level of off-
> system sales.

In adopting this forward looking approach, the Commission took specific notice of the

decline in wholesale electricity prices caused by the decline in natural gas prices. See

Report and Order, p. 37.

> But the major reason for reduced OSS margins in 2007 is not forced
> outages, but rather the drop in the price of electricity. [140] Projected
> electricity price levels for 2007 were based on estimates made in 2006.
> The price of electricity in 2007, however, averaged over $10 per megawatt
> hour (MWh) less than in the prior year, mostly because of the drop in the
> price of natural gas. [141]

As described at pp. 8-10 of my Direct Testimony, the Commission approved the forward

looking approach in the two subsequent KCP&L rate cases in 2009 and 2010.

IV.   PROPOSED USE OF NORMALIZED TEST YEAR DATA

Q: Do you agree with the use of normalized test year data by MIEC/MECG witness

Phillips?

A: No. My testimony in this rate case, as well as the past four KCP&L rate cases has been

premised on the observed fact that energy prices are volatile and that even the best,

unbiased forecast of energy prices for a future period is merely the center point of a range

of potential realized price outcomes. Since energy prices are inherently volatile, future

1   margin will also be volatile. Past realized (i.e., test year) Margin does not provide a good

2   prediction of the future. As I have testified in prior KCP&L rate cases, and most recently

3   at p. 17 of my Direct Testimony:

4   The Company's future Off-System Contribution Margins will depend on
5   future electricity and gas prices, loads, fuel prices, and unit availability.
6   The best current predictor of future commodity prices and the associated
7   future Margins is visible forward market prices. That is not to say that
8   actual results will not turn out to be different than the forecast – they likely
9   will – but a forecast based on forward price data is the best that can be
10   done.

11   Forward prices represent the market's best estimate of what spot prices are likely to be,

12   and so I disagree with Mr. Phillip's proposal, which is to use historical electricity prices.

13   Forward prices are volatile, but that volatility is simply a reflection of the changing

14   expectations of the community of active buyers and sellers who are constantly

15   reappraising a multitude of relevant market drivers. The use of historical prices and

16   normalized load and outage inputs cannot be the basis for a forward looking estimate of

17   Margin, consistent with the Commission's past decisions.

18 Q: **Is it necessary that prices used in Margin calculations be consistent with other test**

19   **year components of revenue requirements?**

20 A: No. In the prior four rate cases, KCP&L has calculated Margin prospectively, and

21   calculated all other cost of service items based on an historical test year adjusted for

22   known and measurable changes. These other cost of service items are subject to

23   regulatory lag, which sometimes benefits customers and sometimes benefits the utility.

24   There is no systematic bias in this type of regulatory lag: fuel and purchased power costs

25   might increase or decrease following any particular test year. This has also been true in

26   the last four KCP&L rate cases in which the Commission approved a forward looking

27   calculation of Margin. Under the Commission's Orders, customers have received the

1   higher of the actual Margin realized or the 25th or 40th percentile 'floor' guaranteed by

2   KCP&L through the regulatory liability mechanism. Although KCP&L's sharing

3   proposal in this case, as set out in Mr. Rush's Direct Testimony, represents a different

4   allocation of risk from the 'floor' mechanism used in the four prior cases, the

5   Commission's prior rationale for preferring a forward looking estimate of Margin should

6   not change.

7 **Q:** **What alternatives does MIEC/MECG propose the Commission adopt in place of the**

8   **forward looking KCP&L Margin analysis?**

9 A: Mr. Phillips and Mr. Meyer are proposing that the Commission reject the forward looking

10   approach it has taken in the last four KCP&L rate cases and return to what Mr. Meyer

11   characterizes as the traditional use of normalized revenues and expenses. As described

12   above in Section III of my Rebuttal Testimony, Mr. Phillips takes two alternative

13   approaches to calculating Off-System Contribution Margin, one of which is deterministic

14   and the other of which he claims is probabilistic.

15 **Q:** **Please describe how Mr. Phillips calculated Off-System Contribution Margin under**

16   **his first approach?**

17 A: In the first approach, he uses the deterministic RealTime™ model to calculate a single

18   'base case' value of Margin based on normalized test year values. As described in his

19   Direct Testimony in Section II at pages 3-9 and Section III(A) at pages 10-12, Mr.

20   Phillips makes certain adjustments to KCP&L's test year values. In this first approach

21   Mr. Phillips has, in effect, modeled the dispatch of KCP&L's generating units given his

22   normalized assumptions about KCP&L native load and outage rates/schedules and using

1		2011 wholesale energy prices. These 2011 wholesale energy prices are in turn based on
2		2011 natural gas prices.
3	**Q:**	**Is his revenue requirement offset recommendation consistent with the actual Off-**
4		**System Contribution Margin KCP&L has realized in the test year?**
5	A:	No. Using the first approach, Mr. Phillips has calculated a whole company (Missouri and
6		Kansas) offset for Margin of **████████**. Staff, at p. 89 of its Revenue
7		Requirement Cost of Service Report, produces a table of whole company Margin since
8		2006. Calendar year 2006 was the last year actual Margin exceeded Mr. Phillips'
9		recommendation. Since then, Margin has fallen from **████████** in 2007 to **██
10		████** in 2011 and has only averaged **████████** for the last three calendar
11		years, 2009-2011. So, Mr. Phillips has used normalized data based on 2011 wholesale
12		energy prices to produce a recommended offset that is more than twice what the
13		Company's actual Margin has averaged since 2009.
14	**Q:**	**Please describe how Mr. Phillips calculated Off-System Contribution Margin under**
15		**his second approach?**
16	A:	The second approach combines a normalized test year with a probabilistic analysis, and is
17		described in Section III(B) at pages 13-18 of his Direct Testimony. In effect, Mr. Phillips
18		takes the test year inputs from his first approach and uses these data instead of forward
19		looking data in the NorthBridge model. This is an unsound and illogical approach
20		because it uses the 1,000 forward looking NorthBridge scenarios to attempt to introduce
21		uncertainty around past events (i.e., the certain inputs from the normalized test year).

1	Q.	How does NorthBridge model future uncertainty?

1   **Q.**   **How does NorthBridge model future uncertainty?**

2   A: As described at page 24 of my Direct Testimony, we model future uncertainty by

3   calculating historical volatilities of certain variables and developing future scenarios

4   consistent with that historical volatility. At a finer level of detail, we first analyze the

5   statistical characteristics of eight variables: SPP-North on-peak and off-peak energy

6   prices; Into-Entergy on-peak and off-peak energy prices; on-peak and off-peak load; and

7   delivered natural gas and fuel oil prices. We then construct 1,000 equally likely scenarios

8   of future outcomes for the period being studied. This output takes the form of a dataset

9   of 'multipliers' that represent deviations from the current expectation of the future. The

10   average of the 1,000 multipliers equals 1.0 for each variable. The multiplier dataset is

11   combined with inputs provided by KCP&L of expectations of the future. For example,

12   we may produce a multiplier of 1.1 for a natural gas price outcome in a certain scenario

13   for a future period. If the current expectation for that future period provided by KCP&L

14   is $3.00/mmBtu, then the price of natural gas in that scenario in that future period would

15   be $3.30/mmBtu ($3 x 1.1). The product of the multipliers and the expectation inputs is

16   used to model the dispatch of the KCP&L generation fleet to serve firm load obligations,

17   spinning reserves, and make off-system sales. The dispatch model is run 1,000 times

18   using the product of multipliers in $Scenario_1$ to $Scenario_{1000}$ with the KCP&L inputs. The

19   outputs of the 1,000 dispatch model runs are ranked and fitted with a curve to create the

20   probability distributions presented in my testimony.

21   **Q:**   **Can you provide a simplified example of how this works?**

22   A: Yes. Suppose, I wanted to model the dispatch price of a particular gas-fired generating

23   unit in February 2013, and further suppose that the unit's heat rate is 10,000 mmBtu/kwh

1   and that the forward price (or expectation) for natural gas (including delivery costs to the

2   unit) in February 2013 is $3.00/mmBtu.   Assume the statistical analysis yields a

3   simplified set of ten multipliers ranging from 0.85 to 1.15 centered on 1.   Then our

4   dispatch cost outcomes would be represented in Table 1 below.   In the example, the

5   average of the multipliers is 1.000 and the average of the product of the multipliers and

6   the expectation is the same as the expectation $3.00/mmBtu. The dispatch costs range

7   from $25.50/MWh to $34.50/MWh and are centered on the average of $30.00/MWh,

8   which is also the Median of the distribution. Because the scenario values are a product of

9   the current gas price expectation (i.e., $3.00/mmBtu) and multipliers that reflect

10   uncertainty, the resulting dispatch cost scenario appropriately reflects the variability in

11   dispatch cost that one might expect for the future period.

12   Table 1 is a simplified example of how input expectations provided by KCP&L

13   are combined with the multipliers from the NorthBridge statistical analysis to produce a

14   distribution of dispatch, load and market outcomes that in turn produces a distribution of

15   Margin.

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Table 1

	Multiplier	Expectation ($/mmBtu)	Product ($/mmBtu)	Heat Rate (Btu/kwh)	Dispatch Cost ($/MWh)
Scenario 1	0.850	3.000	2.550	10,000	25.50
Scenario 2	0.900	3.000	2.700	10,000	27.00
Scenario 3	0.950	3.000	2.850	10,000	28.50
Scenario 4	0.975	3.000	2.925	10,000	29.25
Scenario 5	1.000	3.000	3.000	10,000	30.00
Scenario 6	1.000	3.000	3.000	10,000	30.00
Scenario 7	1.025	3.000	3.075	10,000	30.75
Scenario 8	1.050	3.000	3.150	10,000	31.50
Scenario 9	1.100	3.000	3.300	10,000	33.00
Scenario 10	1.150	3.000	3.450	10,000	34.50
AVERAGE	**1.000**	**3.000**	**3.000**	**10,000**	**30.00**

2 **Q: In the second MIEC/MECG approach, how has Mr. Philips used your multipliers**

3 **differently from your own use of the multipliers in the forward looking analysis?**

4 A: Mr. Phillips has effectively substituted a normalized test year value for the expectation of

5   the future. As I noted above, this is unsound and illogical because he has taken a past

6   event which is known with certainty and plugged its values into a NorthBridge model that

7   is designed to use inputs that are forward looking (i.e., expectations of the future). Let's

8   take our simplified example and substitute a normalized test year value of $4.00/mmBtu

9   for February gas prices, as shown in Table 2 below:

1

Table 2

	Multiplier	Expectation ($/mmBtu)	Product ($/mmBtu)	Heat Rate (Btu/kwh)	Dispatch Cost ($/MWh)
Scenario 1	0.850	4.000	3.400	10,000	34.00
Scenario 2	0.900	4.000	3.600	10,000	36.00
Scenario 3	0.950	4.000	3.800	10,000	38.00
Scenario 4	0.975	4.000	3.900	10,000	39.00
Scenario 5	1.000	4.000	4.000	10,000	40.00
Scenario 6	1.000	4.000	4.000	10,000	40.00
Scenario 7	1.025	4.000	4.100	10,000	41.00
Scenario 8	1.050	4.000	4.200	10,000	42.00
Scenario 9	1.100	4.000	4.400	10,000	44.00
Scenario 10	1.150	4.000	4.600	10,000	46.00
AVERAGE	**1.000**	**4.000**	**4.000**	**10,000**	**40.00**

2 **Q: Why is this not a reasonable or sound approach?**

3 A: It is computationally possible to substitute a test year value of $4.00/mmBtu for the

4   expectation, but unless the $4.00/mmBtu is a true expectation of February 2013 prices,

5   the calculation is not meaningful. I can claim that this produces a probability distribution

6   of the February 2013 dispatch cost of the gas unit with a range of $34.00/MWh to

7        $46.00/MWh, with a Median and an average equal to $40.00/MWh, but that is only true

8   if my best expectation for the February 2013 delivered gas price is $4.00/mmBtu. Based

9   on current expectations of $3.00/mmBtu in the example, the price of $4.00/mmBtu is not

10   a reasonable expectation. This simple example highlights both the methodological flaw

1   in Mr. Phillips' calculation as well as the magnitude to which his calculation could

2   misstate the likelihood of future event.

3   In the above example of Mr. Phillips' flawed calculation, one would infer that a

4   dispatch price below $34/MWh would be highly unlikely[7]. However, the first set of

5   scenarios based on the $3.00/mmBtu gas price correctly illustrates that dispatch costs

6   below $34/MWh would not only be common, but would actually represent the majority

7   of outcomes[8]. Mr. Phillips' set of constructed scenarios based on the higher (out-of-date)

8   price would not represent the true range and likelihood of different future outcomes and

9   would severely misrepresent both the expectation of and uncertainty surrounding future

10   dispatch costs. One could, in practice, identify the median value of the flawed set of

11   scenarios, but such a value would be meaningless, at best, and potentially misleading.

12   Similarly, Mr. Phillips uses out-of-date pricing to calculate his recommended offset of

13   **▮▮▮▮▮**.

14   **Q: In the second MIEC/MECG approach, has Mr. Philips calculated the 50th**

15   **percentile on a probability distribution consistent with past Commission practice in**

16   **the last four KCP&L rate cases?**

17   A: No. As in the first approach, he is again proposing a deviation from the Commission's

18   expressed preference for a forward looking estimate of Margin. Although he is not as

19   straight forward as the Staff witness in the 2006 Rate Case, Mr. Phillips has effectively

20   done the same thing. In that case, Staff argued to set the offset for Margin at the 2005

21   level of off-system sales margin, believing that the test year level was the best estimate of

22   2007 Margin. Mr. Phillips has effectively asserted that the historical test year data, <u>as</u>

---

[7]   Evidenced by the fact that none of the ten scenarios produces a dispatch cost of less than $34/MWh.

1		normalized, is the best estimate for 2013. He applies a statistical gloss by putting the test
2		year values through the 1,000 scenarios and calculating a 'Median' value, but he has
3		essentially argued that the Commission should return to the pre-2006 methodology for
4		determining the offset.
5	**Q:**	**Is his second revenue requirement offset recommendation consistent with the actual**
6		**Off-System Contribution Margin KCP&L has realized in the test year?**
7	A:	No. Using the second approach, Mr. Phillips has advocated the Commission adopt an
8		even larger Margin offset than the first approach, calculated at a whole company
9		(Missouri and Kansas) value offset of ****████████****. As noted above, Margin has only
10		averaged ****████████**** for the last three calendar years, 2009-2011. So, Mr. Phillips
11		has again used normalized data based on 2011 wholesale energy prices to produce a
12		recommended offset that is more than twice what the actual Margin has averaged since
13		2009.
14	**Q:**	**Has NorthBridge done any analysis to determine how Mr. Phillip's normalized test**
15		**year methodology has produced a recommended offset of **████████** in his**
16		**second approach?**
17	A:	Yes. As I noted earlier, Mr. Phillips used the multipliers in our 1,000 scenarios, and by
18		inputting normalized test year values, he effectively adopted those as his 'expectation' for
19		the calendar year 2013. The single biggest difference between our results (using current
20		expectations of the future) and his results (using past period data) is the upward
21		adjustment he makes to the on-peak and off-peak prices of energy. We compared his
22		normalized test year values for on-peak and off-peak energy to the expectations provided

---

[8] Nine out of the ten scenarios show a dispatch price of less than $34/MWh.

1   by KCP&L to NorthBridge for the June Update. KCP&L's wholesale market price

2   expectations for 2013 are calculated using the MIDAS^{TM} model and are based on forward

3   gas price data. As described at pages 26-28 of my Direct Testimony, the MIDAS^{TM}

4   forecasts of electricity prices are reasonable, and are based on publicly available trade

5   data in natural gas forward strips. Mr. Phillips' normalized test year electricity prices are

6   not reasonable as a forecast or expectation of the future. As shown in Table 3 (HC)

7   below[9], the Phillips' 'expectation' for on-peak energy exceeds the Company's

8   expectation by an average of ** ███████████████ **. Mr. Phillips' 'expectation'

9   for off-peak energy exceeds the Company's expectation by an average of ** ████████

10   ██████████ **.

11   ** ███

      ███
      ███
      ███
      ███

12   **

13 Q: **Are the energy prices used by Mr. Phillips consistent with market expectations for**

14   **calendar year 2013?**

15 A: No. Although there are no visible forward prices for energy in SPP-North, we can

16   identify the historical relationship between Henry Hub natural gas prices and SPP-North

17   energy prices, both on-peak and off-peak. Using those relationships, we can then

18   calculate the range of SPP-North energy prices that would be consistent with current

---

[9] Based on Mr. Phillips' revised work papers as circulated by MIEC/MECG counsel on August 16, 2012.

1   market expectations for Henry Hub natural gas for delivery in 2013. As shown in Figures

2   1 (HC) and 2 (HC) below[10], the on-peak and off-peak energy prices used by Mr. Phillips

3   in his calculations fall at the **█████** and **█████** percentile, respectively, of the range

4   that would be expected given current[11] market conditions for natural gas for delivery in

5   2013. This comparison suggests that relying on the prices utilized by Mr. Phillips to

6   forecast Off-System Contribution Margin would unfairly bias the calculation high and

7   result in an estimate of Margin that is considerably higher than what is likely to be

8   achieved by the Company.

9   **

10   **

11

---

1   **▮

2   **

3   **Q:**   **How does Mr. Phillips' recommended offset of **▮▮▮** of Off-System**

4   **Contribution Margin compare to the distribution of Margin NorthBridge prepared**

5   **for the June Update?**

6   A: Schedule MMS-7 (HC) shows that Mr. Phillips' result, which he characterizes as the '50th

7   percentile' or 'Median' of a probability distribution produced using normalized test year

8   values as expectations, is actually located at the **▮▮▮** of the forward

9   looking probability distribution in our June Update. This means that KCP&L would have

10   only a three in ten chance of meeting his recommended offset for Margin[12].

11   **Q:**   **Please summarize your conclusions.**

12   A: First, in the June Update, the Median value of my probability distribution declined to

13   **▮▮▮**, the 40th percentile value declined to **▮▮▮** and the 60th

1	percentile value declined to **▓▓▓▓▓**. Second, the Commission has in the past
2	four KCP&L rate cases adopted a forward looking forecast of Margin, in preference to an
3	historical test year approach. In this case, the MIEC/MECG witnesses have proposed to
4	deviate from past Commission practice and use one of two different approaches, both of
5	which rely on normalized historical inputs to determine the offset for Margin, without
6	regard to whether those inputs or the resulting Margin offset value reflect reasonable
7	future expectations. The MIEC/MECG proposals are contrary to the Commission's prior
8	practice of relying on a forward looking estimate of Margin in the past four KCP&L rate
9	cases and, for this reason, the Commission should not adopt either of the MIEC/MECG
10	proposals. More specifically, the first MIEC/MECG approach should be rejected because
11	it uses normalized test year Margins, which are not a good predictor of future Margin
12	generally, and in this case produce results that exceed actual test year Margins by more
13	than a factor of two – making them more opportunistic than reasonable. The second
14	MIEC/MECG approach should be rejected because it also is fundamentally backward
15	looking, relies again on unreasonable test year adjustments producing even greater
16	deviations from current forward market data than the first approach, and results in a
17	probability distribution of Margin that is essentially meaningless. The second approach
18	bears no relation to, and should not be confused with, the forecasts upon which the
19	Commission has relied in prior cases. Both MIEC/MECG approaches share the common
20	fault that the prices at which they suppose off-system Sales will be made are well above
21	the levels forecasted by the Company and well above those one would expect given that
22	

[12] The corresponding value in the forward looking probability distribution in our June Update for Mr. Phillips' alternative recommendation of **▓▓▓▓▓** is the **▓▓▓▓▓**.

1   current forward prices for natural gas are at historically low levels. Were the Margin set

2   at the level proposed by MIEC/MECG, the Company would be unable to achieve the

3   guaranteed level of Margin seven out of every ten years, and in those years the average

4   under-recovery would be **████████**.

5   **Q:**   **Does this conclude your testimony?**

6   A: Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Kansas City Power & Light   )
Company's Request for Authority to Implement   )   Case No. ER-2012-0174
A General Rate Increase for Electric Service   )

AFFIDAVIT OF MICHAEL M. SCHNITZER

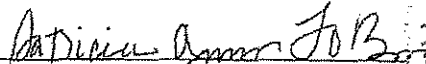**COMMONWEALTH OF MASSACHUSETTS**   )
) ss
COUNTY OF MIDDLESEX   )

      Michael M. Schnitzer, being first duly sworn on his oath, states:

      1.   My name is Michael M. Schnitzer. I work in Concord, Massachusetts, and I am employed by The Northbridge Group, Inc. as a Director.

      2.   Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Kansas City Power & Light Company consisting of _twenty-five (25)_ pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

      3.   I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

                                                 _____
                                               Michael M. Schnitzer

Subscribed and sworn before me this 5th day of September 2012.

                               _____
                               Notary Public

My commission expires: June 21, 2013
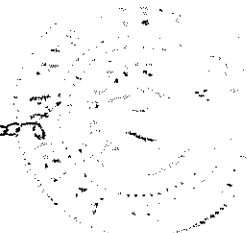
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