COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT TO ITS ELECTRIC RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCHARGE)))) Case No. 2020-00349)))
IN THE MATTER OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT TO ITS ELECTRIC AND GAS RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCHARGE))) Case No. 2020-00350)))

THE UNITED STATES DEPARTMENT OF DEFENSE AND ALL OTHER FEDERAL EXECUTIVE AGENCIES' RESPONSES TO THE COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Data Request No. 1:

Refer to the Direct Testimony of Christopher C. Walters (Walters Testimony). Provide all workpapers and Excel spreadsheets formatted with all formulas, columns, and rows unprotected and fully accessible.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

Please see Public Attachment 1 and Confidential Attachment 1.

Data Request No. 2:

Refer to the Walters Testimony generally. There have been recent ROE awards to electric utilities with transmission and distribution assets only that have been below 9.0 percent.

- a. Everything else being equal, explain generally whether wires only utilities are less risky than vertically integrated electric utilities that own and operate generation facilities? If so, explain the risk factors associated with the ownership and operation of generation facilities that enhances the utilities' risk.
- b. Provide a detailed explanation of how each of the risk factors enumerated above relate specifically to Kentucky Utilities Company (KU) and Louisville Gas and Electric Company (LG&E) (jointly KU/LG&E). Include in the response an explanation of how the well-established rate recovery mechanisms and regulatory processes fail to alleviate any additional risk such that a higher awarded ROE is warranted.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

Recently there have been electric utility ROEs below 9.0% for, both vertically integrated and wires-only utilities. In fact, in 2020, authorized ROEs for vertically integrated utilities ranged from 8.20% to 10.0%, and in 2019 range from 8.75% to 10.5%. Similarly, electric distribution ROEs ranged from 8.25% to 9.7% in 2020 and 8.91% to 9.7% in 2019.

Generation assets are generally considered riskier than wires assets such as distribution and transmission assets. S&P has stated as much in its most recent ratings report covering LGE. (see page 23, starting on line 26 of Mr. Walters' direct testimony). The added risks associated with generation assets can vary given the fuel mix, regulation, customer mix, environmental compliance requirements, age of the fleet, on-going financing requirements, and human capital requirements.

Mr. Walters has not performed a detailed analysis of the individual risks enumerated above as it relates to the Companies. Rather, Mr. Walters relies on the opinions expressed by market participants, such as S&P, in their detailed reports provided to the investing community. Mr. Walters is of the opinion that a company's total risk should be taken into consideration when establishing a fair ROE. To the extent rate recovery mechanisms that address any of the risks identified above, or others, are allowed and implemented, the risk is likely to be shifted from the utility to the ratepayer. The reduced financial risk at the company level will then be reflected in the total risk assessment of the company through its credit ratings and reports. S&P has identified some of these mechanisms in the report cited beginning on page 23 of Mr. Walters' testimony. As discussed at pages 26-27 of Mr. Walters' testimony, he observes that the Companies' credit ratings from S&P and Moody's are higher than the proxy group. Similarly, the Companies' proposed common equity ratio is higher than the average common equity ratio for the proxy group companies. Given the Companies' relative risk to the proxy group based on these parameters, Mr. Walters concluded that an ROE in the lower half of his range could be warranted. (see page 27, lines 2-4 of his testimony).

Data Request No. 3:

Refer to the Walters Testimony, page 26, lines 6–7, and page 69, line 3. Explain the reasoning for excluding Algonquin Power from the proxy group.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

Algonquin Power was excluded from Mr. Walters' proxy group due to it not being based in the United States. Algonquin Power is headquartered in Ontario, Canada and is traded on the Toronto Stock Exchange. Further, it is not included as part of Value Line's electric utility universe. Reasons to exclude Canadian-based companies include, but are not limited to, volatility in rates of return and possible country-based risk premiums. Please see Confidential Attachment 3. Here, Duff & Phelps provides a list of reasons often cited for adding a country risk premium adjustment.

Also shown on the Confidential Attachment, Duff & Phelps shows the summary statistics of annual returns for several global indexes. As shown on this table, over the period of 1970-2019, the Canadian index returns had a standard deviation of 21.5% compared to 17.6% standard deviation for the World index and 17.0% standard deviation for the U.S. index. Furthermore, Duff & Phelps notes that the "Canadian index was the riskiest in the 2000s, while Europe was the riskiest in the most recent decade. The Pacific regional composite was the least risky in the most recent decade." Also, as shown on that same page in the Duff & Phelps Exhibit 12.12: Annualized Monthly Standard Deviation by Decade (%), in every time period shown, the Canadian index had higher volatility than the U.S. index and the World index. Importantly, the standard deviation for the U.S. portfolio was practically identical to the Pacific region portfolio for the most recent decade, which was identified as the least risky for that time period.

Data Request No. 4:

Refer to the Walters Testimony, page 29, lines 13–16. Explain why dividend growth rates were not used and whether the use of dividend growth rates should at least also be included in the analysis in addition to earnings per share growth rates.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

Mr. Walters has always relied on projected earnings per share growth rates in his DCF analyses. Because the DCF model assumes a time period that extends into perpetuity, and over the long-term dividend growth cannot exceed earnings growth. As such, earnings growth rates serve as a cap on dividend growth and are reasonable estimates for use in a constant growth DCF model.

Whether dividend growth rates should or should not be used in a DCF analysis is at the discretion of the analyst performing the analysis. It is the practice of Mr. Walters to rely on the earnings growth rates as a proxy for dividend growth in his DCF models that rely on analyst growth rates.

Data Request No. 5:

Refer to the Walters Testimony, page 29, lines 20–21. Explain the reason for not including growth rate projections obtained from Value Line.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

Mr. Walters has always relied on earnings growth rates for electric and gas utility DCF studies from sources such as SNL/Market Intelligence, Yahoo Finance and Zack's. Mr. Walters used to incorporate estimates provided by Reuters, however, Reuters now requires a subscription to access growth rates that he does not have. These sources tend to provide growth rate estimates from multiple sell-side analysts, and are often referred to as the consensus of analyst growth projections. Consensus estimates are less susceptible to bias or error than are estimates from single analysts such as Value Line. As such, consensus estimates are more likely to be reflective of investor outlooks for earnings growth.

Data Request No. 6:

Refer to the Walters Testimony, page 31, lines 6–8, page 32, lines 12–14, and page 34, lines 19–20. Explain why the growth rate used in the sustainable DCF model is higher than the estimated, long-term GDP growth rate when it was argued that the growth rate for a utility cannot exceed the growth rate of the economy indefinitely.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

The referenced DCF model is based on the sustainable growth method, which is commonly known as the retention or internal growth method. The retention growth rate which is what a company can theoretically grow at based on its retained earnings (the difference between earnings and dividend payments), future return on equity, and is adjusted for the issuance of future common shares. However, much like it is the case with consensus growth rates used in the previously discussed Constant Growth model, the growth rates developed using this method also assume projected data over the next 3-5 years, which is a limiting assumption in a model that assumes perpetuity. As such, this particular model is not immune from the economic reality that should a calculated growth rate exceed the growth of the economy, it cannot do so in perpetuity. Rather, the sustainable/retention growth DCF model is provided as another piece of information to form an opinion on a company's cost of equity. As discussed at length in his testimony, it is his position that no company

can grow at a higher rate than the economy in which it sells goods and services in perpetuity.

Data Request No. 7:

Refer to the Walters Testimony, page 34, lines 6–10. Explain the reasoning for the chosen growth periods.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

The first phase or growth period (years 1-5) are generally based on the period through which the growths rates have been forecasted through since each of the analyst growth rates used are for a period covering 3-5 years. The third phase which begins in Year 11 and extends through perpetuity, relies on the proxy for maximum sustained future growth which is capped at the projected growth rate of GDP. Rather than assume each company's growth would immediately move to its maximum allowable growth rate, it was assumed that each company's growth rate would transition to, be it up or down, to the long-term GDP growth rate during years 6-10.

Data Request No. 8:

Refer to the Walters Testimony, page 40, lines 12–13. Explain why a linear downtrend was chosen for the second stage, years 6-10.

<u>Responsible Witness</u>: Christopher C. Walters

Response:

A linear downtrend was not "chosen." As it was explained in the immediately preceding response to Staff Request 7, rather than assume each company's growth rate would immediately move to its maximum allowable growth rate which is capped at GDP growth, it was assumed that each company's growth rate would transition to, be it up or down, to the long-term GDP growth rate during years 6-10. In fact, multiple companies had a linear uptrend. See lines 8, 10, 13, and 14 as examples of where a linear uptrend was assumed during the transition phase over years 6-10.

Data Request No. 9:

Refer to the Walters Testimony, page 48, line 18, Other than Blue Chip. Explain if any other 30-year Treasury bond forecasts were considered.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

No other 30-year Treasury bond forecasts were considered.

Data Request No. 10:

Refer to the Walters Testimony, page 49, lines 16–18. Provide a more detailed explanation of why for companies with betas less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis, can produce an overstated estimate of the CAPM return.

<u>Responsible Witness</u>: Christopher C. Walters

Response:

Long-term bond yields, relative to short-term bond yields, generally have various risk premiums priced in and therefore require a higher yield. Typically, it is even more apparent when using forecasted long-term Treasury bond yields (i.e., forecasted 30 year bond yields are higher than spot 30-year bond yields which are higher than spot short-term bond yields). The use of longer-dated Treasury bonds such as projected 30-year Treasury bonds in a CAPM analysis increases the intercept on the vertical axis and flattens the slope of the security market line. This increases the CAPM return for companies with betas less than 1 and decreases the CAPM return estimate for companies with betas greater than 1. See Attachment 10 for an illustrative example.

Data Request No. 11:

Refer to the Walters Testimony, page 50, lines 1–9, and page 65, lines 15–21. Explain, compare, and contrast the methodologies used by Value Line and Market Intelligence's Beta Generator model to calculate Beta values. Include in the explanation a discussion of the reasons for adjusting the Beta values, and the Vasicek, modified Vasicek, and Blume adjustment methods.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

There is no mention of a "modified Vasicek" adjustment method in the referenced testimony. The following response will assume Staff meant to refer to the "modified form of the Blume adjustment" referenced on lines 20-21 on page 65 of the testimony.

See Confidential Attachment 11a for an excerpt from the CFA Institute discussing the traditional Blume adjustment. In short, the typical Blume adjustment method for estimating beta is a very simple adjustment that applies a constant weighting of 2/3 to the security's raw, or unadjusted beta and a constant weighting of 1/3 to the market beta of 1.

The basis for the adjustment is an attempt to move a company's beta closer to the market beta of 1.

See Confidential Attachment 11b for a document provided by Value Line detailing its adjustment to beta. This adjustment method is what Mr. Walters referred to as the "modified form of the Blume adjustment" referenced on lines 20-21 on page 65 of the testimony. As shown on the attachment, Value Line uses a slightly different weighting to the market beta than the typical Blume adjustment. Specifically, Value Line uses a 35% weighting on the market beta of 1 and a 67% weighting on a company's unadjusted beta. Something to note is the sum of Value Line's weights (35% and 67%) exceed 100%. This potentially over-weights the market beta of 1 relative to the typical Blume adjustment, ultimately increasing the CAPM cost of equity estimate for securities with betas lower than 1.

See Confidential Attachment 11c for a copy of the Beta Generator model provided by Market Intelligence which includes a comparison of the Vasicek adjustment methodology and the adjustment methodology used by Bloomberg, which is the typical Blume adjustment.

Finally, please see Confidential Attachment 11d. See Section 5.5 on page 194 of the article "Summary of Blume versus Vasicek." This is an article discussing the differences between the two methods that was published in *The Financial Review*. A key observation made in the article on page is as follows:

This simply reflects the fact that the unpartitioned estimator ignores a firm's industry, and this is very useful information in estimating beta. A dramatic example of this is in U.S. electric utilities. A typical such firm has an estimated beta (unadjusted) of around 0.4 (Value Line, 1993). By virtue of being typical, the Vasicek estimate, with prior corresponding to this industry, will also be 0.4. By contrast, Blume adjusts the 0.4 to 0.6 [i.e. 0.33 + 0.67(0.4)]. The result is a dramatic overestimate by Blume, because a singularly relevant fact is ignored, i.e., membership of an industry whose average estimated, and therefore presumably also true, beta is well below one. Given that these firms have output prices that are set so as to recover costs, including the cost of equity, and they have substantial equity investment, then the implications of using Blume betas (i.e., not partitioning into industries) for measuring costs of equity are particularly severe.

Data Request No. 12:

Refer to the Walters Testimony, page 51, lines 2–3. In Mr. Walters' previous ROE modeling analyses, he used broader measures of inflation. Explain why the consumer price index is an appropriate measure of inflation in this particular context as opposed to a broader inflation measure.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

It is not clear what previous ROE modeling analyses is referred to in the request or which broader measure(s) of inflation Staff is referring to. With regard to the referenced lines in the testimony, Mr. Walters relied on the intermediate projection of CPI from *Blue Chip Financial Forecasts* to produce one of his three estimates of the expected market return for his CAPM. In each of his previous Direct testimonies filed in the state of Kentucky, Mr. Walters relied on the same measure of inflation to produce one estimate of the expected market return to be used in his CAPM.

Data Request No. 13:

Refer to the Walters Testimony, Table 11, page 58. Given the range of CAPM ROE estimates, explain how a recommendation of 9.6 percent was derived.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

There was no particular methodology employed to "derive" a 9.6% CAPM return recommendation. The CAPM recommendation of 9.6% recognized the unreasonableness of the results based on the current Value Line beta estimates (see page 49 line 21 through page 50 line 9). The 9.6% CAPM recommendation also recognized the unreasonableness of the expected market return using the single stage constant growth DCF method (see page 53, lines 1-14 of Mr. Walters' testimony). After assessing the results of all versions of his CAPM analysis, as well as the inputs and assumptions used to derive those results, Mr. Walters relied on his experience and professional judgement to make a determination on what was a reasonable return estimate based on the CAPM.

Data Request No. 14:

Refer to the Walters Testimony, Exhibit CCW-7, page 1. Explain the purpose of the "Adjustment Factor" used in the sustainable growth rate model.

<u>Responsible Witness</u>: Christopher C. Walters

<u>Response</u>:

The adjustment factor is applied to the projected earned return on book equity in order to recognize the earned ROE on average equity instead of year-end book equity over the projected period.

Data Request No. 15:

Refer to the Direct Testimony of Michael P. Gorman (Gorman Testimony), page 39, Table 10, and page 40, Table 11. Provide a similar analysis for the 6CP monthly peak months. Provide this in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.

<u>Responsible Witness</u>: Michael P. Gorman

<u>Response</u>:

Mr. Gorman does not have the data to complete this table using a 6CP methodology over the historical time period. However, steam production maintenance expense relative to the operating capacity of LG&E's steam production plant is shown on Attachment 15-A. Again, this shows that maintenance expense for these plants is relatively fixed based on the operating capacity of these facilities. This supports Mr. Gorman's conclusion that these costs are more related to capacity or demand on the system, as opposed to energy generation.

Data Request No. 16:

Refer to the Gorman Testimony, page 42, Table 12, and page 43, Table 13.

- a. Provide all support documentation related to the calculations used in the table. Provide this in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.
- b. Provide Tables 12 and 13 in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.

<u>Responsible Witness</u>: Michael P. Gorman

Response:

- a. See Mr. Gorman's workpapers:
 - MPG Public WP 4.xlsx
 - MPG Public WP 5.xlsx
 - MPG Public WP 6.xlsx
 - MPG Public WP 7.xlsx
- b. See Mr. Gorman's workpapers:
 - MPG Public WP 3.xlsx

Data Request No. 17:

Refer to the Gorman Testimony, page 47. Provide the rates for all customer classes that would result from the proposed allocations in Table 16, assuming that the entire amount of LG&E's proposed electric rate increase were approved by the Commission. Provide this in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.

<u>Responsible Witness</u>: Michael P. Gorman

<u>Response</u>:

Table 16 of Mr. Gorman's testimony outlines the percent increase in the rate schedule produced with gradualistic movements toward cost of service proposed by Mr. Gorman. Mr. Gorman has not designed rates for all rate classes other than the Time-of-Day Rate Primary Voltage class, which his proposed rate design is discussed in his testimony.

Mr. Gorman is not specifically advocating for any specific rate design for the other classes, but based on his proposed revenue spread of the Company's claimed revenue deficiency, a change in rates would need to be designed to produce the increased revenue assigned to each of the rate classes.

Data Request No. 18:

Refer to the Gorman Testimony, page 48. Provide the rates for all customer classes that would result from the proposed allocations in Table 17 assuming that the entire amount of KU's proposed electric rate increase were approved by the Commission. Provide this in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.

<u>Responsible Witness</u>: Michael P. Gorman

<u>Response</u>:

Table 17 of Mr. Gorman's testimony outlines the percent increase in the rate schedule produced with gradualistic movements toward cost of service proposed by Mr. Gorman. Mr. Gorman has not designed rates for any rate class other than Time-of-Day Rate Primary Voltage, which is discussed in his testimony. Mr. Gorman is not specifically advocating for any specific rata designed for the other classes, but based on his proposed revenue spread of the Company's claimed revenue deficiency, a change in rates would need to be designed to produce the increased revenue assigned to each of the rate classes.

Data Request No. 19:

Refer to the Gorman Testimony, Exhibits MPG-3 and MPG-4.

- a. Provide this in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.
- b. Provide the supporting calculation for the Revised Production energy O&M after reclassification of steam generation maintenance expense. Provide this in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.
- c. Provide supporting calculation for the proposed energy, base demand, intermediate demand and peak demand revenue calculations. Provide this in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.

Responsible Witness: Michael P. Gorman

<u>Response</u>:

- a. See Mr. Gorman's workpapers:
 - MPG Public WP 8.xlsx is Exhibit MPG-4
 - MPG Public WP 9.xlsx is Exhibit MPG-3
- b. See response to part a.
- c. See response to part a.

Data Request No. 20:

Based upon Mr. Gorman's proposed adjustments to Mr. Seelye's 6CP cost of service study (COSS):

- a. Provide a revised COSS with these adjustments. Provide all workpapers supporting the revised COSS in Excel spreadsheet format with all with all formulas, columns, and rows unprotected and fully accessible.
- b. Provide a table listing the relative rates of return for each rate class.

<u>Responsible Witness</u>: Michael P. Gorman

<u>Response</u>:

- a. See Mr. Gorman's workpapers:
 - MPG Public WP 4.xlsx for KU
 - MPG Public WP 7.xlsx for LG&E
- b. See response to part a. Rates of return are shown on the tab labeled "ROR".

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Case No. 2020-00350

STATE OF MISSOURI)COUNTY OF ST. LOUIS)SS

VERIFICATION OF CHRISTOPHER C. WALTERS

The undersigned, Christopher C. Walters, being duly sworn, deposes and says that he

is an Associate of Brubaker & Associates, Inc., and that he has personal knowledge of the

matters set forth in the responses for which he is identified as the witness, and the answers

contained therein are true and correct to the best of his information, knowledge and belief.

Christopher C. Walters

Subscribed and sworn to before me, a Notary Public in said County and State, this 1st

day of April, 2021.



Sally D. Wilhelms Notary Public

COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF KENTUCKY UTILITIES **COMPANY FOR AN ADJUSTMENT TO ITS ELECTRIC RATES, A CERTIFICATE OF** PUBLIC CONVENIENCE AND NECESSITY TO **DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING** TREATMENTS, AND ESTABLISHMENT OF A **ONE-YEAR SURCHARGE**

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Case No. 2020-00350

STATE OF MISSOURI **COUNTY OF ST. LOUIS**) SS

VERIFICATION OF MICHAEL P. GORMAN

The undersigned, Michael P. Gorman, being duly sworn, deposes and says that he is a

Managing Principal of Brubaker & Associates, Inc., and that he has personal knowledge of the

matters set forth in the responses for which he is identified as the witness, and the answers

contained therein are true and correct to the best of his information, knowledge and belief.

Michael P. Gorman

Subscribed and sworn to before me, a Notary Public in said County and State, this 1st

day of April, 2021.



Sally D. Wilhelms Notary Public