

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTONIC APPLICATION OF LOUISVILLE GAS)
AND ELECTRIC COMPANY FOR AN ADJUSTMENT) CASE NO. 2018-00295
OF ITS ELECTRIC AND GAS RATES)

**LOUISVILLE/JEFFERSON COUNTY METRO GOVERNMENT'S
FIRST REQUEST FOR INFORMATION TO LOUISVILLE GAS & ELECTRIC**

In accordance with the Public Service Commission's ("Commission") October 11, 2018, Order, Intervenor Louisville/Jefferson County Metro Government ("Louisville Metro") propounds the following data requests upon the Applicant Louisville Gas & Electric ("LG&E"). LG&E shall respond to these requests in accordance with the provisions of the Commission's October 11, 2018, Order, applicable regulations, and the instructions set forth below.

INSTRUCTIONS

1. Please provide written responses, together with any and all exhibits pertaining thereto, separately indexed and tabbed by each response.
2. The responses provided should restate Louisville Metro's request and also identify the witness(es) responsible for supplying the information.
3. If any request appears confusing, please request clarification directly from counsel for Louisville Metro.
4. Please answer each designated part of each information request separately. If you do not have complete information with respect to any item, please so state and give as much

information as you do have with respect to the matter inquired about, and identify each person whom you believe may have additional information with respect thereto.

5. To the extent that the specific document, workpaper, or information does not exist as requested, but a similar document, workpaper, or information does exist, provide the similar document, workpaper, or information.

6. To the extent that any request may be answered by way of a computer printout, please identify each variable contained in the printout which would not be self-evident to a person not familiar with the printout.

7. If LG&E objects to any request on any grounds, please notify counsel for Louisville Metro as soon as possible.

8. For any document withheld on the basis of privilege, state the following: date; author; addressee; blind copies; all persons to whom distributed, shown, or explained; and, the nature and legal basis for the privilege asserted.

9. In the event any document called for has been destroyed or transferred beyond the control of the company, state the following: the identity of the person by whom it was destroyed or transferred, and the person authorizing the destruction or transfer; the time, place, and method of destruction or transfer; and, the reason(s) for its destruction or transfer. If destroyed or disposed of by operation of a retention policy, state the retention policy.

10. These requests shall be deemed continuing so as to require further and supplemental responses if the company receives or generates additional information within the scope of these requests between the time of the response and the time of any hearing conducted hereon.

Respectfully submitted,



STURGILL, TURNER, BARKER & MOLONEY, PLLC
James W. Gardner
M. Todd Osterloh
333 W. Vine Street, Suite 1500
Lexington, Kentucky 40507
Telephone No.: (859) 255-8581
Facsimile No.: (859) 231-0851
jgardner@sturgillturner.com
tosterloh@sturgillturner.com

and

Mike O'Connell
JEFFERSON COUNTY ATTORNEY
600 West Jefferson St., Suite 2086
Louisville, Kentucky 40202
502-574-6333 (phone)
502-574-0009 (fax)
Mike. Oconnell @Louisvillekv.Gov
*Attorneys for Louisville/Jefferson County Metro
Government*

CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8, I certify that the November 13, 2018, electronic filing of this document is a true and accurate copy of the same document being filed in paper medium; that the electronic filing will be transmitted to the Commission on November 13, 2018; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that an original paper medium of the Notice of Filing will be delivered to the Commission within two business days.



Counsel for Louisville Metro

Requests for Information

1. Please refer to Exhibit WSS-3.
 - a. Please explain the methodology of the analysis that concluded that some customer bills would be lower under a 100% ratchet compared to a 75% ratchet. Include within your response an identification and explanation of all assumptions used in the analysis.
 - b. For each customer in the analysis, please provide the maximum base demand and the average base demand for the 23-month period of study.
 - c. In absolute terms, how much additional revenue was generated by increasing the ratchet from 75% to 100% during the test period?
2. Regarding rate TOD-S, please confirm that revenue related to Base Demand is not expected to vary (in aggregate) because the reduction in the base rate is offset by the determination of load using kVA in the forecast model.
3. Please provide the number (quantity), rate type, type description, and location (by street address) of each street light located in Jefferson County, Kentucky for which Louisville Metro currently pays rates to the Company.
4. Please refer to Exhibit WSS-4:
 - a. On Page 1, please provide a comprehensive breakdown of the Total Installed Cost for each LED lighting offering.
 - b. Please explain how LG&E or Mr. Seelye calculated the Fixed Carrying Charge.
 - c. Please explain the justification for the Fixed Carrying Charge.
 - d. Please provide all workpapers supporting the estimated investment per unit for each type of LED fixture and underground pole.
5. Please refer to the paragraph 4.5 of the First Stipulation and Recommendation entered into in Case Nos. 2016-00370 and 2016-00371.
 - a. Please provide copies of all documents/memoranda, emails, minutes of meetings, conclusions, and notices to members prepared by the Companies in conjunction with the LED collaborative.
 - b. Please provide the conclusions and/or recommendations of the collaborative.
 - c. Please provide in detail how the Companies “engage[d] in good faith” during the time that the collaborative existed.
 - d. How many meetings were held? For each meeting, please provide the dates and locations, and results or conclusions.
6. One criticism that came out of the LED Collaborative is that LG&E does not track operation and maintenance expenses at a level sufficient to assess the anticipated benefits of LED lighting; nor at a level to fact-check the estimated costs used to establish lighting rates. Suggestions included tracking expenses for new installation separate from repairs and that the type of repair be known (e.g. problem related to wiring, fixture, pole, etc.)
 - a. Does LG&E plan to make any changes to LS expense tracking?
 - b. If yes, please elaborate.
7. During the LED Collaborative, participants explained that lighting customers needed information regarding a practical rollout of upgrading existing lights to LED. Does

- LG&E have any systematic plans to convert restricted lighting to LED by geography or by rate code?
8. How does LG&E define end of service for an LED, given the expected result is lumen depreciation rather than complete failure?
 - a. What are LG&E's plans for service/maintenance for LED lights when they near or reach the end of service?
 9. For the period of 2014 to present, please provide any LG&E internal and external business plans, presentations, marketing material, feasibility studies, lighting conversion financial analyses, customer economic studies, conversion financial models, and correspondence to senior leadership as created or prepared by or for LG&E as it relates to street lighting. Bookmark the following documents in your response:
 - a. Technical specifications or metrics established by LG&E that were used to select LED lighting types, such as lumen output, lumens-per-watt, warranty, L70, kelvin, etc.
 - b. Product data sheets for the new LED lighting types and LED equipment supply options as mentioned by Mr. Seelye on page 40 of his testimony.
 10. Please refer to KU's response to LFUCG 1-28 in Case No. 2016-00370. On Page 31 of Attachment 1, it provides a recommendation that KU develop a tool to estimate the cost to switch to LED lighting. State whether LG&E has developed a tool to estimate the cost to switch to LED lighting. If not, please state whether LG&E is committed to developing such a tool and when it anticipates that it will accomplish that objective.
 11. The Energy Policy Act of 2005 – Section 135 H.R. 6-39 states that “Mercury vapor lamp ballasts . . . shall not be manufactured or imported after January 1, 2008.” What is the status of LG&E's inventory for mercury vapor replacement?
 - a. When is conversion to from mercury vapor to LED anticipated?
 - b. Please indicate the proposed LED replacement for each MV light and the change in monthly charge as a result of replacement, including any one time charges to the customer.
 12. Proposed rates for Underground Lighting Service are broken into two charges, a fixture charge and pole charge. Please provide a comprehensive breakdown of the components in a generic lighting system and identify the respective charge for each component. For example, is the conductor part of the fixture or pole charge? Is a mast arm part of the fixture or pole charge?
 - a. If LG&E will begin tracking these categories of material separately, how does LG&E propose to allocate current undepreciated balance of the combined category into separate undepreciated balances for each of the separated categories.
 13. In the past, Louisville Metro has used CIAC to pay for the cost of installing underground service with monthly bills charged at the overhead rate.
 - a. Will the proposed changes to the LS tariff disrupt this option? If yes, please elaborate.

- b. Does LG&E have an asset inventory that would infrastructure pre-paid by the customer through CIAC?
 - c. If Louisville Metro requests an LED conversion of such a light, how would the service be billed under the proposed rates? Provide both monthly and any one time fees.
- 14. State whether LG&E has a form that is equivalent to KU form KU-17-12a dated 3-18 for Contract for Outdoor Lighting Service. This fillable form provides a cost breakdown worksheet to determine the CIAC and/or EF FEES that could be associated with installation of new LS service. If so, please provide an updated proposed change to this form based on the changes proposed in this case so that Louisville Metro may be able to estimate the proposed changes in costs from the current costs.
- 15. Please refer to Tariff LS on proposed Sheet 35.4. LG&E proposes a new provision in Paragraph 6 that would require a customer to pay LG&E the cost to remove lighting facilities, such as fixtures, poles, or supporting facilities.
 - a. Please explain if this when and how this fee will be calculated?
 - b. Please clarify that if Louisville Metro requests cancelation of a LS or RLS fixture that has been in service longer than 5 years, under these proposed changes, will there be a fee to cease that service and/or removed the fixture?
- 16. Please refer to the RLS Tariff beginning on proposed tariff Sheet 35. It states: “In the event restricted fixtures/poles fail and replacements are unavailable, Customer will be given the choice of having Company remove the failed fixture/pole or replacing the failed fixture/pole with other available fixture/pole.” The range of lumen output in the new rates complicates a photometric study.
 - a. How will LG&E assist municipalities in evaluating roadway illumination for the new LS rate options?
 - b. For starters, please provide a cross-reference table that associates all existing rate codes with their LED equivalent(s).
- 17. Please refer to Mr. Seelye’s testimony at page 38.
 - a. Please explain what it means for purposes of this proposal that a “non-LED fixture fails.” Does this include bulb failure, ballast failure, or only fixture failure?
 - b. Confirm that a customer will not be required to pay an LED Conversion Fee if an RLS light fails to function properly and the light is replaced with an LED fixture.
 - c. Please provide approximate time until replacement equipment inventory is exhausted for each of the light types proposed to be moved from Rate LS to Rate RLS.
- 18. Please refer to testimony of Mr. Seelye, page 39 , lines 6-8. Will the Company be installing LED fixtures with 3-pin, 5-pin, or 7-pin photocell receptacles?
- 19. Please refer to Exhibit WSS-5.
 - a. Explain how the Company estimated the NBV for Poles.
 - b. Explain how the Company estimated the NBV for Fixtures.
 - c. Explain how and provide the calculation on how the Company determined the NBV per fixture.
 - d. Provide all workpapers to support the information provided in Exhibit WSS-5.

20. Please state how many new public street lights were installed by LG&E for each of the past three years, indicating the types of lights installed and the number of these lights which replaced previously existing street lights, for the following: Louisville Metro and LG&E's entire system.
21. For each of the past three years, please provide the number of street lights that LG&E had planned on replacing prior to that year, and a summary of the actual number replaced that year for the following: Louisville Metro (extrapolate if needed) and LG&E's entire system.
22. Please explain in detail LG&E's current policies, procedures, practices, and/or guidelines for maintaining street lights in Jefferson County and provide copies of the same.
 - a. Does LG&E regularly inspect individual street lights or the collective street lighting in the Louisville Metro boundaries?
 - b. Do these inspections take place only upon the receipt by LG&E of a complaint regarding a particular street light?
 - c. What is the average response time to replace a non-working street light in Jefferson County?
 - d. Does this information differ depending upon the type of street light? If so, please provide a detailed explanation.
23. Please describe in detail all maintenance that must be performed by LG&E on each type of street light to ensure that it operates properly and provide a list of each component of the required maintenance and its monthly cost.
24. Please provide both the number and type of public street lights for Louisville Metro accounts for which service or maintenance was performed in each of the last three years and the same information for LG&E entire system. In addition, please provide the basis for generating the above repair or maintenance order (i.e., referral from 311, customer complaint, LG&E) for each of the above.
25. Provide the average time to repair a malfunctioning street light from the time of discovery, either by public reporting or Company representative, to the time the light is restored to operation.
26. Provide a chart of maintenance and repair calls for each street light for Louisville Metro and the total cost for each call, including both materials and labor.
27. Provide separately the number of calls from the public regarding street lights paid for by Louisville Metro and the rest of the Company's system.
28. Provide any internal policies or procedures with regards to street light maintenance, repair and replacement.
29. Is LG&E able to ascertain, at any given time, the number of street lights paid for by Louisville Metro that are actually in proper working order? If so, please provide a detailed explanation, and further explain:
 - a. How many street lights (on average) are actually in proper working order at any given time;
 - b. Whether the Louisville Metro is charged the monthly tariff rate for non-working street lights for the periods of time within which such street lights are non-operational or not working properly;
 - c. The amount of time it takes (on average) to bring such street lights into working order; and

- d. Whether this information differs among different types of street lights. If so, please provide this information for each type of light.
30. Please state how many existing street lights are scheduled (or anticipated) to be replaced by LG&E over the next five years for which the Louisville Metro currently and/or in the future will pay a monthly rate. Please provide the quantity of each type of light being removed and the quantity and type of light that will replace it.
31. Please state how many existing street lights are scheduled (or anticipated) to be replaced by LG&E over the next five years. Please provide the quantity of each type of light being removed and the quantity and type of light that will replace it.
32. Please refer to the new Green Tariff, Option #2 beginning on proposed tariff Sheet 69:
 - a. Will LG&E competitively bid solar installation projects?
 - b. Will the system costs and control agreements be available publically?
33. Please refer to Mr. Conroy's testimony at line 21 of page 21. How does the Company define "reasonable assurance of cost recovery"?
34. Explain whether LG&E has reviewed all franchises it has with other municipalities to determine whether the proposed tariff changes to the Pole and Structure Attachment Charges- Rate PSA are permissible under every franchise.
35. For each year from 2019 to 2023, how much additional revenue does LG&E anticipate it will receive from the change in the PSA tariff to include governmental units and educational institutions?
36. Please refer to line 21 of page 26 of Robert Conroy's testimony.
 - a. How many license agreements are currently effective?
 - b. How many license agreements will expire in the base period?
 - c. How many license agreements will expire in the forecasted test year?
37. Please refer to Exhibit 2 of Lonnie Bellar's testimony, the 2018 RTO Membership Analysis.
 - a. For the analysis of the PJM and MISO capacity auction benefits, please provide the estimated clearing prices used for the PJM/MISO auctions for each year in the study (2020-2029).
 - b. Please provide the estimated reserve margin required by PJM and MISO for its member utilities.
 - c. Please provide the estimated reserve margin for LG&E/KU as provided in its most recent Integrated Resource Plan filed in October, 2018. Were these the margins that KU/LG&E used for purposes of its 2018 RTO Membership Analysis? If not, why not?
 - d. Please provide a copy of the work papers for its analysis of the capacity benefits.
 - e. Who led the Team that prepared this RTO Membership analysis? Who were the members of the team and what are their positions with the companies?
 - f. With respect to its 2012 RTO analysis, did the companies include the loss of load from the municipals in determining its load? Please provide a copy of the 2012 RTO Membership Analysis.
38. Please provide a listing of all revenue LG&E/KU received from PJM and MISO (provided separately) by year for the years 2013-2017 by category including but not limited to transmission, energy sales and capacity sales.
39. Please explain why and how energy and capacity payments would increase by being a member of PJM/MISO from the status quo.

40. Did the 2012 RTO Membership Analysis include both FRR and RPM for PJM? If yes, please provide the results. If not, why not?
41. Please refer to page 14 of the Commission's Order in 2016-00370 and page 17 in the Commission's Order in 2016-00371. Please provide all actions which the Companies took to reduce the "excessive costs" for contributions made to retirement funds.
42. Please refer to the LG&E and KU Transmission System Improvement Plan Annual Report dated June 1, 2018 (TSIP).
 - a. Were the projections for 2017 and 2018 modified annually from the projections in the original TSIP submitted with Paul Thompson's testimony in 2016-00370 and 2016-00371 or are they the original projections?
 - b. If they were modified, why are the projections for 2018 once again significantly different from actuals when the actuals in 2017 significantly exceeded projections?
43. Please refer to Mr. Blake's testimony at his answer to the question beginning on line 19 of page 10.
 - a. Explain what costs will be added for LG&E under its Merger Mitigation Depancaking transmission rate mechanism.
 - b. On line 23 of page 10, Mr. Blake indicates that there will be added costs for only KU, but on lines 1-2 on page 11, he mentions added revenue requested by both KU and LG&E as a result of the MMD mechanism. Reconcile and explain this discrepancy.
 - c. Confirm that, if KU and LG&E receive FERC approval to eliminate the MMD charges, the Companies should not recover additional revenue for these costs that the Companies will not have.
 - d. Identify the total amount of costs related to the MMD mechanism that KU and LG&E has included to recover from customers in this case.
 - e. Identify the FERC Docket Number for the matter that has been established to review KU and LG&E's request to eliminate the MMD mechanism.
 - f. State the approximate date on which KU and LG&E anticipate FERC will render a decision on the above-referenced matter.
44. Please refer to Mr. Bellar's testimony at his answer to the question beginning on line 19 of page 22. With respect to the expenses identified in the chart,
 - a. identify what expenses have already been spent by LG&E;
 - b. identify what expenses have not yet been incurred by LG&E; and
 - c. of the expenses that have not been incurred, identify which (if any) expenses LG&E is contractually bound to pay.
45. Please refer to the Integrated Resource Plan filed with the Commission in Case No. 2018-00348. Will the planned retirements of Brown 1, Brown 2, and Zorn 1 result in any reduction of the companies' O & M expenses?
 - a. If not, why not?
 - b. If so, are they accounted for in reduced expenses in the current rate case? If so, please state how much and where the reductions are located.
46. Please refer to the testimony of Paul W. Thompson. Please provide a copy of PPL's "Climate Assessment" report described on page 10, lines 13-17.
47. Please refer to the testimony of David Sinclair at line 10, page 9 and the EV Charging Program – 2017 Report filed for Case No. 2015-00355 on March 29, 2018.

- a. Please state why only 74 drivers have used the KU/LG&E charging stations when there are estimated to be more than 1,500 EV's in the KU/LG&E service territory.
 - b. Why have only 5 of 10 authorized LG&E charging stations and 3 of 10 authorized KU charging stations been constructed and are operational?
 - c. Please refer to page 1 of the EV Charging Report where it states, "usage is expected to continue trending upward as customer awareness increases" Please describe the efforts the companies employ to increase usage by existing EV owners. Does KU/LG&E have any programs/messaging specifically to EV owners in the state?
 - d. Please provide updated numbers for the information found on page 1 of the EV Charging Report for 2018 through the month of October.
48. Please refer to Mr. Bellar's testimony at his answer to the question beginning on line 10 of page 55. The chart indicates that KU and LG&E will spend \$128,000,000 from January 2018 through October 2019 to connect new customers. Identify the amount of this total that will be paid for by new customers, developers, or other third-parties in the form of a fee for a service line extension or other form of Contribution in Aid of Construction.
49. Please refer to Mr. Seelye's testimony at line 18 on page 2. Explain what emerging technologies would benefit from a daily Basic Service Charge, as opposed to one that identified as a monthly charge.
50. Please refer to Mr. Seelye's testimony at lines 18-20 on page 15. Explain what benefits customers, stakeholders, and employees will have with a two-part rate structure for the Energy Charge?
51. On page 8 of Robert Conroy's testimony, Mr. Conroy says that he is aware of the impact of the rate increase on low and moderate income people. Does LG&E agree that the increase in the customer charge will have a disproportionate impact on lower income customers?
52. Please refer to Mr. Seelye's testimony beginning on page 66.
- a. Explain the procedure for how the Late Payment Credit will be applied to a customer's account. Include within your response a statement on whether a customer will be required to speak with the Company's customer service representatives, or whether the request for the Credit will be accepted through a customer account accessible on the Company's website.
 - b. Explain how the Companies calculated the reduction in revenue identified on lines 14-15.
 - c. Confirm that the reduction in revenue identified on lines 14-15 presumes that 100% of customers who would be eligible for the Late Payment Credit actually requested the Credit be applied.
 - d. Provide any documentation or study supporting the percentage of customers who would make a request for a Late Payment Credit to be applied.
53. Under how many different types of customer rate codes does the Louisville Metro currently make payments to LG&E? For each type of class, please provide the following information:
- a. The type of customer rate code;
 - b. The number of Louisville Metro accounts in each such rate code;

- c. The total amount paid by the Louisville Metro for each such rate code during the last 12 month period; and
 - d. The total net projected impact for each such rate code under the proposed rate increase.
54. For each separate Louisville Metro account please provide a detailed analysis showing the impact of the proposed rate versus the existing rate using the most recent 12 month actual usage and billing data. Please also provide a detailed explanation of the formula that was used to obtain this information. In particular, please show the formula or calculations indicating the total fiscal impact, including the application of the fees and all applicable adjustments (Environmental, DSM, Fuel, etc.).
55. Does LG&E have an estimate or general or specific information on how much revenue is derived from Jefferson County customers? If so, please provide by customer class for each of the last three years as well as a comparison of the percentage of revenue that this constitutes in relation to all revenues.
56. Please refer to the attachment to Question 53 of the First Data Requests of LG&E from Louisville Metro in Case Number 2016-00371.
- a. Please detail why there is a separate classification for Public Authorities. Is it for convenience only or is it required by the tariffs?
 - b. Why are there some lighting codes in commercial and some in Public Authorities?
 - c. Why are there some residential codes in Public Authorities category?
57. Please provide a schedule showing the following information for each current Metro-Louisville account for 2016, for 2017 and the first 10 months of 2018 separately, so that there will be three separate attachments (one for each year) rather than a multi-year aggregation of data as was provided in Case No. 2016-00371.
- a. Applicable tariff.
 - b. Other tariffs that could be applicable to this account.
 - c. Total sum paid.
 - d. Customer Class.
58. Please refer to page 2 of 3 of the Revenue Statistics filed with your application (Filing Requirement 807 KAR 5:001 Section 16(8)(i)).
- a. Please explain how LG&E classifies certain customers into the “Public Street and Highway Lighting” customer group.
 - b. Schedule I-2 indicates that there were 674 Public Street and Highway Lighting customers in 2017. Please identify whether this is a “rolling” total of individual customers throughout the year or whether it is a snapshot of customers on a given date.
 - c. Is Louisville Metro considered only one “customer” out of the 674 Public Street and Highway Lighting customers in 2017? If not, how many of the 674 customers does Louisville Metro count towards?
 - d. Explain why LG&E has projected a 20% increase in Public Street and Highway Lighting customers from 2017 to its base period ending December 2018 and a 40% increase in Public Street and Highway Lighting customers from 2017 to its test year.
 - e. Explain whether the projected impacts in Public Street and Highway Lighting customers in the base period and test year impacts rates for street lighting or any rate classification or rate codes.

- f. What percentage of the base period income for the Public Street & Highway class customers is derived from Louisville Metro?
59. Is a cost-of-service study using the Loss of Load Probability (“LOLP”) methodology described in the NARUC Electric Utility Cost Allocation Manual?
 60. How many residential customers currently take advantage of the Budget Payment Plan?
 61. Is LG&E a member of the Edison Electric Institute (“EEI”)? If so, please list the payments made to EEI over the past five years by KU and LGE.
 62. Is the cost of being a member of EEI included in determining expenses for revenue requirement determination?
 63. Please state whether the Louisville Metro’s franchise fee applies to all tariffs for services provided in the Louisville Metro boundaries? If not, please identify each tariff for which the franchise fee does not apply.
 64. Provide copies of Mr. McKenzie’s Exhibit Nos. 2 through 12 in Microsoft Excel, with data and formulas intact.
 65. Provide copies of all source documents, articles, cited documents listed in footnotes, regulatory decisions, work papers, and other sources used in the development and preparation of the testimony of Mr. McKenzie.
 66. Provide copies of the source documents, work papers, and underlying data used in the development of all exhibits for Mr. McKenzie (Exhibit No. 2 through Exhibit No. 12). Provide the data and work papers in both hard copy and electronic formats (Microsoft Excel), with all data and formulas intact.
 67. With reference to page 13 of Mr. McKenzie’s testimony, provide the source with the names of the twenty four (24) utilities that have been downgraded from “stable” to “negative”, and the one (1) utility that was downgraded from “positive” to “stable.”
 68. With reference to page 13 of Mr. McKenzie’s testimony, provide the source for footnote fourteen (14).
 69. With reference to pages 26-30 of Mr. McKenzie’s testimony: (1) indicate the universe of electric and utility companies as indicated by Value Line Investment Survey, (2) the companies eliminated from each group from each of the screens; and (3) the reasons each of the companies were eliminated.
 70. With reference to pages 26-31 of Mr. McKenzie’s testimony, provide copies of all studies performed that compare the business, financial, and overall investment risk of Kentucky Utilities or Louisville Gas & Electric to: (1) PPL Corporation and (2) the proxy group of electric and gas companies.
 71. With reference to page 43 of Mr. McKenzie’s testimony, provide any and all sources or studies relied upon or which demonstrate how the Public Utility Regulatory Authority of Connecticut or the Regulatory Commission of Alaska are similarly or dissimilarly situated to the Kentucky Public Service Commission, why their commentary should be relied upon in Kentucky, and if these states are in the majority of minority of states that follow this approach.

72. With reference to page 48 of Mr. McKenzie's testimony, provide any sources or studies that agree with Mr. McKenzie's claims that we should add 100 basis points to historical and projected utility bond yields.
73. With reference to page 48 of Mr. McKenzie's testimony and page 3 of Exhibit No. 5, provide sources or studies that agree with the exclusion of low-end values or yields from Value Line, Institutional Brokers' Estimate System, Zacks Investment Research, Bloomberg, S&P, or FactSet.
74. With reference to pages 53-55 of Mr. McKenzie's testimony, provide the theoretical and empirical studies that support the use of the size premium.
75. With reference to page 56 of Mr. McKenzie's testimony, provide the theoretical and empirical studies that support the use of the ECAPM with the .25/.75 weights versus the traditional CAPM.
76. With reference to page 57-58 of Mr. McKenzie's testimony, provide any and all sources or studies relied upon or which demonstrate how the Staff of the Maryland Public Service Commission, the Regulatory Commission of Alaska, or the Colorado Public Utilities Commission are similarly or dissimilarly situated to the Kentucky Public Service Commission, why their commentary on ECAPM should be relied upon in Kentucky, and if these states are in the majority or minority of states that follow this approach.
77. With reference to pages 59-62 of Mr. McKenzie's testimony and Exhibit No. 9, provide the following: (1) the individual authorized ROEs that are used in computing the annual Allowed ROEs in Column (a); (2) for each of the individual ROEs, include all of the following: the order or docket number, the state, the utility, the decision date, the authorized ROE, the authorized common equity ratio, whether the rate case was fully litigated or settled, and whether the authorized included any specific ROE adders and/or penalties; and (3) the data and work papers for (1) and (2) in both hard copy and electronic formats (Microsoft Excel), with all data and formulas intact. Also include electronic copies (Microsoft Excel) of the Schedule, leaving all data and formulas intact.
78. With reference to pages 62-66 of Mr. McKenzie's testimony, provide any and all sources or studies relied upon by Mr. McKenzie to form his opinion that allowed returns published by RRA are not adequate to consider or are circular in nature.
79. With reference to page 72, provide: (1) the details of the 3.1% flotation cost and how much is associated with the underwriting spread, company issuance costs, market pressure, and other expenses; and (2) the equity flotation costs paid by Kentucky Utilities and Louisville Gas & electric over the past two years.
80. With reference to page 73 of Mr. McKenzie's testimony, provide any sources relied upon by Mr. McKenzie to form his opinion that flotation costs should be allowed based on other jurisdictions implementation of allowance, and the prevalence of allowing flotation costs in the utilities market.
81. With reference to pages 74-78 of Mr. McKenzie's testimony:

- a. list the screens applied to the Value Line database in establishing the Non-Utility Proxy Group;
 - b. indicate the justification for each of the screens applied to the companies in the Value Line Investment Survey in establishing the Non-Utility Proxy Group;
 - c. identify the companies eliminated from the group from each of the five screens; and
 - d. explain the reasons that each of the companies were eliminated.
82. Provide copies of all presentations made to rating agencies and/or investment firms by PPL, Louisville Gas & Electric, and Kentucky Utilities between January 1, 2017 and the present.
 83. Provide copies of all prospectuses for any security issuances by PPL, Louisville Gas & Electric, and Kentucky Utilities between January 1, 2015 and the present.
 84. Provide copies of credit reports for PPL, Louisville Gas & Electric, and Kentucky Utilities between January 1, 2017 and the present from the major credit rating agencies (Moody's, S&P, and Fitch).
 85. Provide the corporate credit and bond ratings assigned to PPL, Louisville Gas & Electric, and Kentucky Utilities since the year 2012 by S&P, Moody's, and Fitch. For any change in the credit and/or bond rating, provide a copy of the associated report.
 86. Provide the breakdown in the expected return on pension plan assets for Louisville Gas & Electric and Kentucky Utilities. Specifically, provide the expected return on different assets classes (bonds, US stocks, international stocks, etc.) used in determining the expected return on plan assets. Provide all associated source documents and work papers.
 87. For the past five years, provide the dates and amount of: (1) cash dividend payments made to PPL by Louisville Gas & Electric or Kentucky Utilities; and (2) cash equity infusions made by PPL into Louisville Gas & Electric or Kentucky Utilities.
 88. Provide the Company's authorized and earned return on common equity for Louisville Gas & Electric and Kentucky Utilities over the past five years. Provide copies of all associated work papers and source documents. Provide copies of the source documents, work papers, and data in both hard copy and electronic (Microsoft Excel) formats, with all data and formulas intact.
 89. Provide copies of the financial statements (balance sheet, income statement, statement of cash flows, and the notes to the financial statements) for PPL, Louisville Gas & Electric, and Kentucky Utilities for 2016, 2017, and 2018 (when available). Provide copies of the financial statements in both hard copy and electronic (Microsoft Excel) formats, with all data and formulas intact.
 90. Please refer to paragraph 4.5 of the Stipulation and Recommendations in 2016-00370 and 2016-00371.
 - a. Since the entry of the Order on June 22, 2017 in 2016-00371, has LG&E modified the GLT or made changes to the GLT? If so, please state the changes that have been made.
 - b. Since the entry of the Order on June 22, 2017 in 2016-00371, have any additional costs been added? If so, please state the amount of the costs, the date the costs were added and the reason for its expenditures resulting in the added costs.
 - c. Is LG&E seeking any modifications to the GLT in the current case? If so, please state the nature of the modifications.

- d. Is LG&E seeking to recover in this case any additional gas line costs with base rates or by inclusion in the GLT? If so, please state the amount of the costs and the nature of the expenditures that led to the costs.
91. Please refer to the answers to the Question beginning on line 18, page 56 of the testimony of Lonnie Bellar.
- a. Please detail all of the gas safety metrics that LG&E measures.
 - b. For each such safety measure, please describe the measure, the purpose of it and how each measure is computed.
 - c. For each such measure, please state LG&E's score for each month from January 1, 2016 – October 2018.
 - d. Please state what "additional resources" were assigned beginning January 2018, to include but not be limited to the number of personnel by position, salaries of personnel so assigned, and capital or supplies dedicated to the assignment.
 - e. Please state with specificity the names and number of employees "free[d] up" for emergency orders and specific qualifications required to handle for emergency work.
 - f. What is R11R and what scale is used?
 - g. How many recordable incidents were handled by contractors? Why were the recordable incidents higher for employees than contractors?
92. Please refer to the answer to the Question on line 10 of page 57 of Mr. Bellar's testimony.
- a. Please attach a copy of the SIMP.
 - b. What is the implementation status of each recommendation in the SIMP?
 - c. What incremental expenditures have been made as a result of the implementation of the recommendations in the SIMP?
 - d. What additional recommendations in the SIMP have yet to be implemented; when will they be implemented; and what are the incremental costs of those yet to be implemented recommendations.
 - e. Are all of the storage facilities referred to a part of LG&E's distribution system? If not, please state which storage facilities are part of the distribution system and which are not. Please state the location, name, and capacity of all of LG&E's natural gas storage facilities.
 - f. Please provide the citation to the new PHMSA regulations referred to at page 57, line 14.
 - g. Please provide the citation to the pending Plastic Pipeline Rule and its effective date. What is being tested in Phase 1 by LG&E and in general what are the requirements in Phase 1.
 - h. What are the services described in Phase 2 in line 10, page 58 of Mr. Bellar's testimony?
 - i. For each of the inspection tools described beginning at line 17, please describe the function of each tool and state when each became fully operational.
 - j. Are the transmission pipelines described throughout Mr. Bellar's testimony part of LG&E's distribution system?
93. Refer to the answer to the question beginning at page 59, line 21 of Mr. Bellar's testimony.
- a. Please attach a copy of the Transmission Pipeline Modernization Program.

- b. Please describe the difference between the transmission program improvement program described in lines 12-20 on page 58 and that described at the beginning of page 59.
 - c. For each of the projects described in lines 5-12 of page 59 to support growth, please provide a timeline and cost of implementation of each.
 - d. Is the Bullitt County pipeline referred to on line 8, the same project for which LG&E received a CPCN in PSC Case No. 2016-00371? If no, please explain the difference. If it is the same, please provide copies of all documents required to be filed pursuant to ordering paragraphs 10-14 of the Commission's order of June 22, 2017.
94. Refer to the answer to the Question on lines 13-14 of page 59 of Mr. Bellar's testimony.
- a. Please state with specificity, (1) how enhanced inline inspections will support compliance with PHMSA regulations and (2) will expand construction documentation.
 - b. Please provide a capital improvement schedule with timeframe and costs for each of the projects described in response to the question at lines 13-14 of page 59 of Mr. Bellar's testimony.
95. Please refer to the question at lines 1-2, page 61 of Mr. Bellar's testimony.
- a. Do all four of the separate pressure systems operate at 2.0 psig? Is that considered low pressure?
 - b. Are there other pressure systems in Jefferson County that operate at 2.0 psig?
 - c. Are there other pressure systems in Jefferson County that operate at pressures other than 2.0 psig? If so, please state the pressure and location or name of each such system.
96. Please refer to the question at line 17, page 61 of Mr. Bellar's testimony.
- a. What are the "issues" described at line 1, page 62?
 - b. Do all locations of the LG&E gas distribution systems have redundant supply?
 - c. Please provide a schedule showing the amount of gas provided to commercial customers and a separate one for industrial customers for each year 2008-2017 and the first 10 months of 2018.
97. Please refer to the Question at line 10-11, page 62 of Mr. Bellar's testimony.
- a. Please provide a schedule for each project with a time frame for completion and costs.
 - b. Are there federal or state regulations such as EPA, PHMSA or otherwise that require the move from wet to dry amino processes? If so, please provide the citations.
 - c. Please provide a chart listing each compressor station on the LG&E system, to include name, location and whether it is dry or wet.
98. Please refer to the Question on lines 1-2, page 63 of Mr. Bellar's testimony.
- a. Please provide the citation to the Control Room Management regulations.
 - b. What was the effective date for the regulation?
 - c. How many employees of LG&E communicate with gas control operations?
 - d. What is the expected increase in costs?
 - e. How many farm taps are on the LG&E system?
 - f. Please describe with specificity increases in maintenance costs, operating costs and incremental capital expenditures arising from the farm tap regulation.

99. Please refer to the Question on lines 17-18, page 63 of Mr. Bellar's testimony.
 - a. Please provide the "cost and time" expended in creating the program and the complete costs of the five incremental positions referred to for each position.
 - b. With respect to all incremental costs described in lines 1-6 at page 64, please detail same with specificity.
100. Please refer to the answer to Question on lines 7-8, page 64 of Mr. Bellar's testimony and to the sentence on line 15, beginning with, "LG&E also expects...."
 - a. What are these incremental costs for the line locations and why are business partners being used? Who are the business partners?
 - b. Why does LG&E need line locating? Are its existing maps incorrect or incomplete? What is the state regulation that requires this?
 - c. For the sentences beginning on line 17, page 64 and continuing to line 2 on page 65, please provide the amount of all incremental costs by the category mentioned.
101. Please refer to the Question at line 3 of page 65 of Mr. Bellar's testimony, where the Gas Inspection and Traceability Program is discussed in detail. Please provide a copy of the program.
102. Please refer to the chart at the bottom of page 66 and top of page 67. Please provide the page and line reference of Mr. Bellar's testimony where each category of expenditures is described.
103. Please refer to line 10, page 57 of Mr. Bellar's testimony and the Questions in the testimony of Mr. Kent Blake at lines 13-15, page 11-12. With specificity, please allocate the component parts of Mr. Blake's \$22,000,000 total to the specific lines and page numbers of Mr. Bellar's testimony.
 - a. Please describe how the "mix of gas supply" relates to total pipeline purchases.
 - b. What is the volume for the total pipeline purchases?
 - c. What is the purpose of these pipeline purchases estimated and what is the "mix" of the gas supply?
104. Please refer to the testimony of Paul W. Thompson at page 2, line 6. Of the 326,000 natural gas customers, how many are residents of Jefferson County?
105. Please refer to the answer to the Question appearing at page 19, line 9 of the testimony of David Sinclair and Exhibit DSS-3 to his testimony.
 - a. What is the difference between the two categories "total volumes-calendar adjusted" and "total sales volumes-calendar adjusted?"
 - b. Please describe how the 30,393,746 number in the base period for total sales volumes in Exhibit DSS-3 was computed making reference to DSS-3.
106. Please refer to line 11, page 19 of the David Sinclair's testimony.
 - a. Please provide the actual "Annual Natural Gas Volume Forecast Process" document or alternatively the page number in Tab 16 where it can be found.
 - b. Please provide changes to the methodologies and forecasting techniques from those used to prepare the natural gas forecast in the 2016-00371 case to the preparation of the forecast in the current case.
 - c. For each of the last ten (10) years, please provide tables or charts showing the forecasted volume of natural gas to be procured by LG&E for its customers and the actual amount of natural gas so procured for that year by LG&E.
107. Please provide a copy of the natural gas prices forecast that the company used to prepare the natural gas forecast for the last ten (10) years.

108. For each of the last ten (10) years, please provide the natural gas price forecast and the actual price of natural gas used.
109. Please refer to the testimony of Robert Conroy on page 37 of his testimony in response to the question appearing on line 12.
 - a. Please describe what is meant by “not time-differentiated.”
 - b. Please describe why the gas cost of service study is “not time-differentiated.”
 - c. Please describe the refinement that has been made in the way that transmission costs are allocated in the study.
110. Please refer to Mr. Conroy’s testimony in response to the question listed on line 4, page 39. Please describe why the change is a “more accurate cost recovery each billing period”?
111. Please refer to Mr. Conroy’s testimony in response to the question at line 20, page 39. Please state why the cost of service study in the current case increased the amount of recommended customer charge to \$24.94 from that in the prior case (2016-00371).
112. Please refer to the testimony of Mr. William Steven Seelye, line 3, page 53. Please indicate why the proposal is for a daily basis service charge for CCF use, but if the rates are billed on an MCF basis, it will continue to have a monthly basic service charge.
113. Please refer to the response to the question at line 20 of page 53 of Mr. Seelye’s testimony. Please provide the actual calculation of the customer cost and the distribution delivery cost from the information contained in Exhibit WSS-9.