COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

In The Matter of:

ELECTRONIC JOINT APPLICATION OF)
LOUISVILLE GAS & ELECTRIC COMPANY)
AND KENTUCKY UTILITIES COMPANY) CASE No.
FOR A CERTIFICATE OF PUBLIC CONVENIENCE) 2018-00005
AND NECESSITY FOR FULL DEPLOYMENT)
OF ADVANCED METERING SYSTEMS)

ATTORNEY GENERAL'S INITIAL DATA REQUESTS

Comes now the intervenor, the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, and submits these Initial Data Requests to Louisville Gas & Electric Co. and Kentucky Utilities Co. [hereinafter jointly referred to as "LG&E-KU" or "the Companies"] to be answered by the date specified in the Commission's Order of Procedure, and in accord with the following:

- (1) In each case where a request seeks data provided in response to a staff request, reference to the appropriate request item will be deemed a satisfactory response.
- (2) Identify the witness who will be prepared to answer questions concerning each request.
- (3) Repeat the question to which each response is intended to refer. The Office of the Attorney General can provide counsel for LG&E-KU with an electronic version of these questions, upon request.
- (4) 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.

- (5) Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association, be accompanied by a signed certification of the preparer or person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.
- (6) If you believe any request appears confusing, request clarification directly from Counsel for the Office of Attorney General.
- (7) To the extent that the specific document, workpaper or information as requested does not exist, but a similar document, workpaper or information does exist, provide the similar document, workpaper, or information.
- (8) To the extent that any request may be answered by way of a computer printout, identify each variable contained in the printout which would not be self-evident to a person not familiar with the printout.
- (9) If the company has objections to any request on the grounds that the requested information is proprietary in nature, or for any other reason, notify the Office of the Attorney General as soon as possible.
- (10) As used herein, the words "document" or "documents" are to be construed broadly and shall mean the original of the same (and all non-identical copies or drafts thereof) and if the original is not available, the best copy available. These terms shall include all information recorded in any written, graphic or other tangible form and shall include, without limiting the generality of the foregoing, all reports; memoranda; books or notebooks; written or recorded statements, interviews, affidavits and depositions; all letters or correspondence; telegrams, cables and telex messages; contracts, leases, insurance policies or other agreements; warnings

and caution/hazard notices or labels; mechanical and electronic recordings and all information so stored, or transcripts of such recordings; calendars, appointment books, schedules, agendas and diary entries; notes or memoranda of conversations (telephonic or otherwise), meetings or conferences; legal pleadings and transcripts of legal proceedings; maps, models, charts, diagrams, graphs and other demonstrative materials; financial statements, annual reports, balance sheets and other accounting records; quotations or offers; bulletins, newsletters, pamphlets, brochures and all other similar publications; summaries or compilations of data; deeds, titles, or other instruments of ownership; blueprints and specifications; manuals, guidelines, regulations, procedures, policies and instructional materials of any type; photographs or pictures, film, microfilm and microfiche; videotapes; articles; announcements and notices of any type; surveys, studies, evaluations, tests and all research and development (R&D) materials; newspaper clippings and press releases; time cards, employee schedules or rosters, and other payroll records; cancelled checks, invoices, bills and receipts; and writings of any kind and all other tangible things upon which any handwriting, typing, printing, drawings, representations, graphic matter, magnetic or electrical impulses, or other forms of communication are recorded or produced, including audio and video recordings, computer stored information (whether or not in printout form), computer-readable media or other electronically maintained or transmitted information regardless of the media or format in which they are stored, and all other rough drafts, revised drafts (including all handwritten notes or other marks on the same) and copies of documents as hereinbefore defined by whatever means made.

- (11) For any document withheld on the basis of privilege, state the following: date; author; addressee; indicated or blind copies; all persons to whom distributed, shown, or explained; and, the nature and legal basis for the privilege asserted.
- (12) In the event any document called for has been destroyed or transferred beyond the control of the company, state: 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.
- (13) Provide written responses, together with any and all exhibits pertaining thereto, in one or more bound volumes, separately indexed and tabbed by each response, in compliance with Kentucky Public Service Commission Regulations.
- (14) "And" and "or" should be considered to be both conjunctive and disjunctive, unless specifically stated otherwise.
- (15) "Each" and "any" should be considered to be both singular and plural, unless specifically stated otherwise.

Respectfully submitted,

ANDY BESHEAR ATTORNEY GENERAL

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Certificate of Service and Filing

Counsel certifies that the foregoing is a true and accurate copy of the same document being filed in paper medium with the Commission within two business days; that the electronic filing has been transmitted to the Commission on April 2, 2018; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding.

This 2nd day of April, 2018.

Assistant Attorney General

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- 1. Reference the Malloy testimony at page 3, line 16, wherein he discusses that AMS meters will allow the Companies to consider other rate options and offering.
 - a. Should the Commission approve this Application for AMS, is it the Companies' intention to seek permission from the Commission to impose a mandatory residential demand charge or decoupling?
 - b. Confirm that the Company cannot impose mandatory residential demand charges or decoupling for residential customers without AMS enabled infrastructure.
- 2. Confirm that if the Companies seek permission to impose a mandatory residential demand charge, no other Kentucky-Commission jurisdictional utility has ever done so.
- 3. Confirm that if the Companies seek permission to impose decoupling, no other Kentucky-Commission jurisdictional utility has ever done so.
- 4. Reference the Malloy testimony at page 3, line 16 wherein he discusses that AMS meters will allow the Companies to consider other rate options and offering. Given the fact that different rate structures will impact customers differently than was considered in the AMS business case, provide a revised cost-benefit analysis that includes a monetary impact to customers should the Company request and Commission approve: (i) a residential demand charge; and/or, (ii) decoupling.
- 5. Refer to the Malloy testimony at p. 10, wherein he discusses the 20-year projected lifespan of the proposed AMS meters. Provide documentation that similar meters deployed in other utilities' service territories meters lasted that long.
 - a. Provide all warranty information in the Companies' possession for the AMS meters the Companies intend to install if the Application is approved.
- 6. Does the Companies' cost-benefit analysis take into consideration stranded costs resulting from the premature retirement of existing metering infrastructure? If not, why not?
- 7. If the Companies are convinced that benefits of AMS will exceed costs, are they willing to submit an adjustment in their next rate cases to reflect operational savings (to date, if a historic test year, or the savings that will be achieved if a fully forecasted test year is used), and a pro forma adjustment to account for projected on-going operational savings? If not, why not? Explain in complete detail.
- 9. Reference the Malloy testimony at page 12, line 6, which states that the Companies have enrolled over 7,300 customers in the AMS Customer Offering.

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- a. Provide a breakdown of the 7,300 customers enrolled by rate class (RS, RTOD, and GS).
- b. To how many customers, by rate class, was the AMS Offer promoted? Provide a breakdown by rate class (RS, RTOD, and GS).
- 10. Reference the Malloy testimony at page 12, line 18, which states that 79% of the customers not participating in the AMS Customer Offering did not know of its existence.
 - a. Describe the efforts the Companies employed to promote the AMS Offer to RS, RTOD, and GS customers.
 - b. Provide full results of the June 2017 customer survey from which this statement originated, referenced at page 12, line 18.
- 11. Reference Application Exhibit JPM-1 Appendix A-1, page 32, which describes the percentage of customers participating in the AMS offer who have taken various steps to save energy.
 - a. Have the Companies measured the percentage of non-participating customers who have taken these same steps to save energy?
 - b. If so, provide this research.
- 12. Refer to the Malloy testimony at page 18, line 12, which describes how the Companies applied their findings from AMS Offer participants to the Companies' entire customer population to estimate the conservation benefits of the ePortal. For example, since 17% of AMS Offer participants became "active" ePortal users, the Companies assume that 17% of all customers will become "active" ePortal users.
 - a. Explain why ePortal participation from AMS Offer participants, which are less than 1% of the Companies' total residential customers, and which are likely to represent the most energy-conscious customers of all the Companies' customers, can serve as the basis of the active user estimate for the other 99% of the Companies' customers.
 - b. How many residential customers were signed up for the online "My Account" service as of December 31, 2017?
- 13. Refer to the Malloy testimony at page 18, line 19, in which the Companies compare their estimate of ePortal benefits to a report published by the Smart Grid Consumer

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Collaborative. This report mentions research results indicating a 5-15% reduction in energy use among consumers with a real-time energy display.

- a. Please confirm that the Companies' AMS proposal includes no provision for real-time energy displays for customers.
- b. Given that the results provided in the Smart Grid Consumer Collaborative report pertain to real-time energy displays which are not part of the Companies' AMS proposal, please explain how these results are relevant to the Companies' ePortal benefit estimate.
- 14. Refer to the TetraTech analysis of active My Meter users, provided as Exhibit JPM-1 Appendix A-10. Tetra Tech mentions the use of a panel fixed effects regression model (page 7). Provide the statistical outputs of the panel fixed effects regression model.
- 15. Refer to the TetraTech analysis of active My Meter users.
 - a. Did the Companies collect any characteristic data on the treatment and contrast groups to identify those (such as income, education, home size, etc.) which might identify group differences which need to be controlled in any associated analysis?
 - b. If so, please provide characteristic data collected on treatment and contrast groups.
- 16. Refer to the TetraTech analysis of active My Meter users. Table 1 indicates that almost half of active My Meter users were dropped from the analysis due to a lack of 12-months of consumption data post opt-in.
 - a. Comment on the percentage who were dropped due to a lack of post opt-in data and on the reasons why these active users left the program early.
 - b. Provide data on average monthly energy savings for those customers who were not dropped from the analysis due to a lack of 12-months of consumption data post opt-in.
 - c. Provide data on average monthly energy savings for those customers who were dropped from the analysis due to a lack of 12-months of consumption data post opt-in.
- 17. Refer to the TetraTech analysis of active My Meter users. If time-varying effects such as from temperature affect the treatment and control group similarly, then the

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difference-in-difference regression approach employed should already correct for these effects.

- a. Comment on whether or not the treatment and contrast groups respond to temperature differently, and how this might bias the results of the difference-in-difference analysis.
- b. If temperature affects energy usage for the treatment and control groups similarly, then please explain why TetraTech made an additional adjustment for HDD and CDD when temperature changes had already been controlled for via the difference-in-difference approach.
- c. Provide the statistical outputs of the difference-in-difference regression results without the HDD and CDD adjustment.
- 18. Refer to the TetraTech analysis of active My Meter users.
 - a. Did the Companies collect any characteristic data on the treatment group which can be compared to the general customer population which indicates that the treatment group is similar to the general customer population?
 - b. If so, please provide characteristic data for the treatment group and the general customer population.
 - c. Can the Companies provide any statistical data or demographic data on the treatment group and the general customer population which indicates that the treatment group is similar to the general customer population?
 - d. If so, please provide statistical data or demographic data on the treatment group and the general customer population.
- 19. Reference the Malloy testimony at page 20, line 9, which states the Companies' belief that the ePortal savings estimate is conservative due to the fact that no ePortal benefits have been assumed for commercial and industrial customers equipped with AMS.
 - a. Provide a list of the commercial and industrial rate classes which will receive AMS meters, along with the count in each class.
 - b. Provide the MWh sales volumes and revenues for each class listed in 2017.
 - c. Provide a list of all rate classes (not just commercial and industrial), and the count of all customers in each as of December 31, 2017.
 - d. Provide the MWh sales volumes and revenues for each class listed in 2017

- e. Provide a count of unique customers participating in one or more of the Companies' energy efficiency programs in 2017. ("Unique" means that a customer participating in three (3) programs is counted once.)
- 20. Reference the table in the Malloy testimony at page 15. The Net Present Value of the Total Lifecycle Costs (Capital and O&M) of AMS is presented as \$453.3 million in this table.
 - a. Does the Net Present Value of the Total Lifecycle Costs include carrying costs that customers are required to pay related to the AMS investment, such as the Companies' return on investment, federal and state taxes the Companies will accrue on associated profits, interest expense, property tax expenses, or others?
 - b. If not, recalculate the Net Present Value of the Total Lifecycle Costs to include all such carrying costs using the Companies' best estimates for these costs. Provide all documentation, calculations, estimates, assumptions, workpapers, etc. which supports the response to this request. Use the same discount rate (6.32%) used in the page 15 table in the Malloy testimony in your calculations.
 - c. State whether the Net Present Value of Total Lifecycle Costs was prepared prior to the enactment of the Tax Cuts and Jobs Act ("TCJA"). If so, provide a revised table reflecting the changes in the corporate tax rates that the TCJA implemented.
- 21. Reference the Malloy testimony at page 15, line 8, which states that the peak bill impact for an average residential customer will be approximately \$2.60 per month.
 - a. Provide bill impact estimates for the average residential customer and the average general service customer by year from 2018 to 2040 for the full 22-year period the Companies estimate for the AMS project. In this average bill impact estimate by year, include, in addition to the five-year deployment phase costs resulting in the \$2.60 per month estimate: 1) the impact of recurring capital and O&M costs as shown in the page 15 table, as well as 2) the impact of carrying costs as calculated in the Companies' answer to 12b.
 - b. Provide all documentation, calculations, estimates, assumptions, workpapers, etc. which supports the answer to this question, in its native electronic format when available.

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- c. Be sure to include in this support the estimated number of residential customers and general service customers used to develop these bill impact estimates by year.
- 22. Reference the table in the Malloy testimony at page 15, which estimates a (nominal) benefit of \$402.3 million from 2018-2040 from a reduction in non-technical losses which will result from the introduction of an AMS system.
 - a. Describe the process by which non-technical losses are identified, billed, and collected today.
 - b. Describe the process by which non-technical losses will be identified, billed, and collected once AMS meters are installed.
 - c. Estimate the reduction in the number of month's service billed for each instance of non-technical loss identified once AMS meters are installed.
- 23. Regarding the tampering fees billed and collected from 2014-2017 as shown in the Malloy testimony table at page 18, line 1, provide:
 - a. The number of individual tampering incidents identified and billed 2014-2017.
 - b. The average number of months' service billed for each tampering incident identified and billed 2014-2017.
 - c. The O&M costs associated with identifying, investigating, billing, and collecting non-technical lost revenue 2014-2017.
 - d. The organizational chart for the Companies' revenue protection department(s), including all employees and position names.
 - e. Identify the employees in the organizational chart responsible for investigating, billing, and collecting non-technical lost revenue.
 - f. Provide job descriptions for the employees responsible for investigating, billing, and collecting non-technical lost revenue.
- 24. Reference the Malloy testimony at page 16, which describes the method used to estimate a (nominal) benefit of \$402.3 million from 2018-2040 resulting from the reduction in non-technical losses from the AMS system.
 - a. Provide all documentation, calculations, estimates, assumptions, workpapers, etc. which translate the 0.71% non-technical loss recovery assumed by the Companies (Malloy testimony, page 18, line 3) into the \$402.4 million nominal benefit.

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- b. Provide the revenue forecast from 2018-2040 by year on which this estimate is based, broken down into fuel revenue and non-fuel revenue for each rate class included in the revenue forecast.
- c. Proved the actual revenue from each of the rate classes included in the forecast, broken down into fuel revenue and non-fuel revenue, in 2017.
- d. Explain any significant differences between a.) the 2018-2040 annual revenue forecast by rate class and revenue type (fuel vs. non-fuel) and b.) the 2017 actual revenue by rate class and revenue type (fuel vs. non-fuel).
- 25. Reference the table in the Malloy testimony at page 15, which estimates (nominal) benefits of \$425.1 million from Operational Savings and \$402.3 million from a reduction in non-technical losses from 2018-2040. These two benefit types represent 84% of the economic benefits projected by the Companies from the proposed AMS deployment. Given current ratemaking processes, neither benefit type will produce economic benefits for customers in the form of rate reductions without a rate case.
 - a. Please describe any commitments the Companies are willing to make regarding the timing of a rate case which would reduce rates for customers by reflecting the value of these two anticipated benefit types in the accounting books of a test year used to prosecute such a rate case.
 - b. If the Companies are unwilling to make such a commitment, propose other potential solutions to this issue the Companies are willing to entertain, or, explain why no commitments on, or other proposed solutions to, this rate case timing issue are appropriate.
- 26. Reference the table in the Malloy testimony at page 15, which estimates Total (nominal) Lifecycle Benefits of \$985.4 million from 2018-2040 as a result of the proposed AMS deployment.
 - a. Provide the estimated (nominal) economic benefits of Operational Savings, ePortal Benefit, and Recovery of Non-Technical Losses by year from 2018-2040.
 - b. Describe any economic commitments the Companies are willing to make that customers will realize the economic benefits estimated from the proposed AMS deployment of the timing and size the Companies project.

- c. If the Companies are unwilling to make any economic commitments based on the timing and size of benefits the Companies project, explain why not.
- 27. Reference the Malloy testimony at page 25, line 2, which states that a benefit of the AMS deployment is the ability to access a web portal to view usage information, download consumption patterns, and explore products and programs. Describe any commitment the Companies are willing to make to comply with Green Button's Connect My Data standard, which would enable customers to take advantage of free third party tools (such as Chai Energy and OhmConnect) to access usage information, view consumption patterns, receive energy conservation tips, and explore commercial energy conservation product and service offerings on their smart phones, among other benefits.
- 28. Reference the Malloy testimony at page 25, line 9, which states that the proposed AMS deployment will "enable the Companies to deploy time-of-day or more dynamic rate structures that could help customers reduce their bills."
 - a. Please provide any research the Companies have conducted on their overall residential customer base that indicates an interest in time-of-day or more dynamic rate structures.
 - b. Please provide any "willingness to pay" research the Companies have conducted on their overall residential customer base regarding the option to participate in time-of-day or more dynamic rate structures.
 - c. Please provide any commitment the Companies are willing to make to offer peak-time rebates as a default feature of all residential customer rates, thereby facilitating and increasing customer economic benefits from the proposed AMS deployment.
- 29. Reference the Malloy testimony at page 25, line 11, which states that the proposed AMS deployment "... will improve customer service representatives' ability to address customers' questions and concerns regarding individual customer outages, power quality, and energy usage." Provide summary results from customer-experience transactional surveys from high-bill complaint calls for 2014, 2015, 2016, and 2017.

- 30. Reference the Malloy testimony at page 25, line 14, which states that the proposed AMS deployment will enhance the Companies' ability to ". . . localize and resolve power outages, which will help reduce customer outage times."
 - a. Describe how the Companies will use the proposed AMS system to localize and resolve power outages and reduce customer outage times.
 - b. Quantify the improvements in Companies-wide SAIDI (and, if applicable, SAIFI) anticipated from the use of the AMS system in this manner. Include all calculations and assumptions used in the development of this estimate in your response.
 - c. Provide any "willingness to pay" research the Companies have conducted on their overall residential customer base regarding improved SAIDI and SAIFI performance.
- 31. Reference the Malloy testimony at page 16, line 18, which states that under the proposed deployment of AMS meters, "The other large driver of savings results from customers using less energy and using it more efficiently as they learn more about their own usage from the web portal that will be available to them as part of the AMS deployment." The Attorney General is aware of a program, offered by several utilities, which is much more convenient than a web portal visit as a means to control bills. Generally known as high bill alert programs, these programs provide customers who register with weekly outbound calls, emails, or text messages (at the customer's option) which estimate the size of their upcoming monthly bill using current month usage-to-date information from their AMS meters. One of the best examples is Southern California Edison's "Budget Assistant". Duke Energy Kentucky proposed to make such a program, tentatively labeled *Predictive Usage Estimator Alerts*, available as part of its smart meter CPCN. Please describe any commitment the Companies are willing to make regarding the implementation of such a program for its customers within 6 months of the completion of the proposed AMS deployment.
 - a. Do the Companies believe that use of a bill alert or "Budget Assistant" or some similar service would help alleviate concerns of low-income customer advocates that for people without internet access, any savings associates with a full deployment of AMS may be illusory? Explain in complete detail.

¹ More information is available at https://www.sce.com/wps/portal/home/residential/my-account/budget-assistant-and-vou/

² See Exhibit ⁹, Weintraub pre-filed testimony, at page 10, line 6 in Case No. 2016-00152 (Ky. PSC April 25, 2016).

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- 32. Reference the AMS Business Case provided as part of Exhibit JPM-1 Appendix A-1, page 39. The Companies project a savings of \$4.6 million over 20 years from more rapid outage restoration. Provide all calculations and assumptions used to arrive at this projection, including a 20-year breakdown by year, for each of the following savings categories cited by the Companies:
 - a. Crew Time/staff reductions
 - b. Overtime
 - c. Fleet Costs
 - d. Contractor expenditures
 - e. Any other savings categories
- 33. Reference the AMS Business Case provided as part of Exhibit JPM-1, page 39. The Companies project a savings of \$7.1 million over 20 years from reductions in "OK on Arrival" truck rolls. Please provide all calculations and assumptions used to arrive at this projection, including a 20-year breakdown by year, for each of the following savings categories cited by the Companies:
 - a. Crew Time/staff reductions
 - b. Fleet Costs
 - c. Any other savings categories
- 34. Provide a copy of all exhibits and schedules that were prepared in the Companies' Application in Excel spreadsheet format with all formulas intact and unprotected and with all columns and rows accessible.
- 35. Identify the changes that should be made to the cost-benefit analysis given that the Companies have customers who lack the ability to access the "MyMeter Dashboard," including those who may live at or below the poverty level, or those without access to internet service. Any response should include the Company's changes within the context of Mr. Malloy's testimony at p. 3 stating customers will "become more aware of their consumption patterns by reviewing the granular consumption information AMS provides."
- 36. Identify and provide copies of (or alternatively, web links to) all studies, research projects and/or reports of which the Companies are aware and not already provided in this docket indicating that costs of AMS / AMI metering systems exceed benefits.
- 37. Provide copies of all studies, research projects and/or reports of which the Companies are aware, or which the Companies or any person or entity acting on their behalf have

conducted regarding whether the ratio of disconnection notices to actual disconnects is expected to increase or decrease once the proposed AMS project is fully deployed.

- 38. Provide copies of all studies, research projects and/or reports of which the Companies are aware, or which the Companies or any person or entity acting on their behalf have conducted regarding whether the number of monthly late payments is expected to increase or decrease once the proposed AMS project is fully deployed.
- 39. Provide copies of all studies, research projects and/or reports of which the Companies are aware, or which the Companies or any person or entity acting on their behalf have conducted regarding whether the amount of revenue from disconnects will increase or decrease once the proposed AMS project is fully deployed.
 - a. If such revenues are forecasted to increase, describe in complete detail how this was portrayed in the Companies' cost-benefit analysis.
- 40. Provide a copy of the Companies' policy regarding privacy of customer data. If the policy does not address whether the Companies would ever sell such data (whether anonymized, de-identified or otherwise), provide such a discussion including the precise circumstances under which the Companies might or could sell such data.
 - a. Explain whether full deployment of the proposed AMS project would or could change any existing policy of the Companies in this regard.