

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

**JOINT APPLICATION OF LOUISVILLE GAS AND ELECTRIC)
COMPANY AND KENTUCKY UTILITIES COMPANY FOR) CASE NO.
CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY) 2018-00005
FOR FULL DEPLOYMENT OF ADVANCED METERING SYSTEMS)**

ATTORNEY GENERAL’S SUPPLEMENTAL DATA REQUEST

Comes now, the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, and submits these Supplemental Data Requests to Kentucky Utilities Company and Louisville Gas and Electric Company [hereinafter “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 the Companies 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, please 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, please 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, please 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, please 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) Please 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

A handwritten signature in blue ink, appearing to read "K.A. Chandler".

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1. Reference the Malloy testimony regarding the Companies' five years of experience with AMS (page 11).
 - a. Describe the meters and related infrastructure devices deployed in the 2012 deployment of 1,500 advanced meters in downtown Louisville, including counts of each type of meter or infrastructure device deployed.
 - b. For each type of meter or infrastructure device deployed, how many have been replaced, for whatever reason, since the initial deployment?
 - c. Reference the Malloy testimony, page 10. Did those meters have an estimated 20-year life as those proposed in this matter?
 - i. Explain the Companies' current outlook on the original life of the deployed meters, whether they will meet or exceed their expected life, and how that impacts the expected life for those it proposes to deploy in the future.
2. Describe any experience the Companies' parent, PPL Corporation, and/or any of its other affiliates have had with AMS.
3. Reference the Malloy testimony regarding non-technical loss recovery benefits from AMS. Mr. Malloy reports the Companies collected \$163,552 in tampering fees billed in 2017 through November. What was the amount of tampering fees collected in December, 2017?
4. Reference the "AMS Cost-Benefit Summary (2018-2040)", Malloy testimony page 15.
 - a. Provide the Companies' estimates of non-technical loss recovery benefits from AMS by year from 2018-2040 which results in the benefit net present value of \$196.8 million projected in the Companies' AMS Business Case.
 - b. Provide the revenue projections by customer class (or rate class) by year on which the Companies' estimates of non-technical loss recovery benefits were based.
 - c. The Attorney General understands that the non-technical loss recovery benefits from AMS by year from 2018-2040 were calculated by: total revenues x 2% theft x 60% detection rate x 60% collection rate. If this is not the case, please explain.
5. Reference the "AMS Cost-Benefit Summary (2018-2040)", Malloy testimony page 15. Recalculate the Net Present Value column of this table using all projected Nominal Values in the current business case using a 15-year and 18-year benefit period rather

than a 23-year benefit period. Retain all current assumptions (such as discount rate) in your response as were used to develop the original figures in the Summary on Malloy testimony page 15.

6. Reference witness Lovekamp's response to AG-DR-1-07, in which the witness states "If the Companies achieve any AMS operational savings shown in the AMS Business Case, those savings will be implicit in the Companies' future test years and rates."
 - a. The witnesses' use of the word "if" in his response indicates that operational savings from AMS may not be achieved, or may not be achieved to the extent anticipated by the Companies in their AMS business case. Explain why the AMS CPCN should be approved, and the Companies' cost recovery and profits virtually assured, given that customer savings and a favorable AMS business case for customers are not assured.
 - b. Explain how customers will receive operating benefits, in the form of reduced rates, between the time the AMS business case indicates the first benefits will be delivered (2018 per business case page 44) and the time of the Companies' next rate case, the filing of which is dictated by the Companies..
 - c. Explain how the Companies will ensure that AMS-related operational savings "implicit in the Companies' future test years and rates" will be at least as large or larger than the Companies indicate in the business case.
 - d. If AMS operational savings (if any) are "implicit," identify how they can be objectively identified and verified.

7. Reference witness Huff's response to AG-DR-1-09, in which the witness states the AMS Offering was promoted to all customers in each rate class referenced in the data request. Provide the count of customers by rate class as of December 31, 2017:
 - a. RS
 - b. RTOD-E
 - c. GS

8. Reference the Companies' proposal to offer the MyMeter e-Portal to all AMS customers in the event the Companies' AMS CPCN is approved.
 - a. Describe the promotional efforts the Companies will undertake to make customers aware of the MyMeter e-Portal capability should the AMS CPCN be approved.
 - b. Describe the promotional efforts the Companies will make specifically toward low-income customers in this regard.

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9. Refer to witness Huff's response to AG-DR-1-14. Describe the units (kWh? MWh? Percentage change in usage? Etc.) associated with figures 7.2073 and 1.0084 in the "Estimate" column.

10. Refer to the TetraTech analysis of active My Meter users, provided as Appendix A-10. Table 1 indicates that 4.5% (116/2569) of the treatment group were removed from the analysis as "outliers", while 13.3% (57/428) of the contrast group were removed from the analysis as "outliers".
 - a. Provide the definitions used to eliminate "outliers" from the treatment group.
 - b. Provide the definitions used to eliminate "outliers" from the contrast group.
 - c. Provide the pre- and post-consumption values for each of the 116 outliers removed from the treatment group.
 - d. Provide the pre- and post-consumption values for each of the 57 outliers removed from the contrast group.

11. The Companies' response to AG-DR-1-17c is not responsive. Provide the statistical outputs of the difference of differences regression results without the HDD and CDD adjustment as requested. "Statistical Outputs" means, for each variable, the Estimate, Standard Error, t value, t test, and significance of the regression results as the Companies provided in the response to AG-DR-1-14.

12. Refer to witness Malloy's response to AG-DR-1-20, in which witness Malloy provides a schedule indicating that the revenue requirement (including carrying costs) of \$320 million in project capital balloons to \$515 million to be collected from customers. The same schedule indicates that the revenue requirement (including carrying costs) of \$43.8 million in recurring capital balloons to \$63 million to be collected from customers.
 - a. Provide all documentation, calculations, estimates, assumptions, workpapers, etc. which translates \$320 million in nominal project capital into a net present value of \$357.1 million.
 - b. Provide all documentation, calculations, estimates, assumptions, workpapers, etc. which translates \$515 million in nominal project capital revenue requirement into a net present value of \$342.5 million.
 - c. Is the discount rate used to calculate the NPV in (a) above the same as the discount rate used to calculate the NPV in (b)? If not, please recalculate the

- NPV of (b) using the same discount rate used to calculate (a), and provide both discount rates.
- d. Provide all documentation, calculations, estimates, assumptions, workpapers, etc. which translates \$43.8 million in nominal recurring capital into a net present value of \$22.3 million.
 - e. Provide all documentation, calculations, estimates, assumptions, workpapers, etc. which translates \$63 million in nominal recurring capital revenue requirement into a net present value of \$20.9 million.
 - f. Is the discount rate used to calculate the NPV in (d) the same as the discount rate used to calculate the NPV in (e)? If not, please recalculate the NPV of (e) using the same discount rate used to calculate (d), and provide both discount rates.
 - g. If carrying costs were included in the cost estimates supplied by the Companies in the AMS Business Case, explain why carrying costs were not listed as one of the costs considered in the “robust and extensive analysis efforts” to develop detailed cost estimates as described in Malloy testimony page 14.
13. The AMS Cost-Benefit Summary indicates \$108.8 million in nominal, recurring O&M costs from 2018-2040 (Malloy testimony page 15). Per AMS Business Case page 40, these costs range from about \$5 million annually in 2023 to about \$7 million annually by 2040. For a typical year during this period, provide a list of the O&M departments included in the recurring O&M figure as well as the annual dollar amounts for each department and a brief description of the reasons for the associated O&M increases for each department.
14. The Companies' Excel worksheet response to AG-DR-1-21 included the impact of operating savings which are not assured, and if achieved, for which the Companies provide no plans to deliver to customers in the form of lower rates until some future rate case of unspecified timing is prosecuted.
- a. Recalculate and provide the Companies' Excel worksheet response to AG-DR-1-21 with no (zero dollars) anticipated operating expense reductions.
 - b. Indicate whether the bill impact calculations provided by the Companies in the updated response to AG-DR-1-21 (without anticipated operating expense reductions) are:
 - i. Cumulative year-over-year (each year's figure is simply added to baseline to obtain that year's bill impact).
 - ii. Independent year-by-year (each year's figure must be added to previous years' figures to obtain a given year's bill impact).

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- iii. Alternatively, present the estimated average monthly bill by year including the impact of both the capital revenue requirement and O&M but not the anticipated operating expense reduction (rather than presenting the incremental impact by year).
15. Refer to witness Malloy's response to AG-DR-1-22, which states that today, non-technical losses are billed through a tampering charge or a customer account adjustment.
 - a. In 2017, what was the count of instances in which tampering charges were billed, and what was the size of the average charge in dollars?
 - b. In 2017, what was the count of instances in which a customer's account was adjusted for unbilled amounts, and what was the size of the average adjustment in dollars?
 - c. Describe how the unbilled amounts are estimated for account adjustments. If tampering charges vary, describe how tampering charges are determined.
16. The response to AG-DR-1-28c states "the Companies recommend against being required to offer Peak Time Rebates or any other rate structure or feature as a condition of approving full AMS deployment." Explain why the Companies would recommend against offering a Peak Time Rebate if the AMS CPCN is approved.
17. Refer to the Companies' response to AG-DR-1-32, in which the Companies estimate approximately \$160,000 in annual crew time and mileage reductions resulting from more rapid outage detection through AMS upon full deployment (2023). This appears to be enough to support a reduction of 1-2 headcount among troublemen and linemen. Please confirm the Companies will reduce headcount among troublemen and linemen by 1-2 upon full AMS deployment if approved due to AMS's rapid outage detection capabilities.
18. Refer to the Companies response to AG-DR-1-33, in which the Companies estimate about \$272,000 in annual crew time and mileage reductions resulting from fewer "Ok On Arrival" calls through AMS upon full deployment (2023). This appears to be enough to support a reduction of about 2-3 headcount among troublemen and linemen. Please confirm the Companies will reduce headcount among troublemen and linemen by 2-3 upon full AMS deployment if approved due to AMS's remote "meter status check" capabilities.

19. Refer to the Companies' AMS Business Case, which indicates significant reductions in the cost to remotely disconnect and reconnect service (Business Case page 40). Currently, the Companies charge \$28 to reconnect service. Provide the reduced reconnection fee the Companies will charge for customers with AMS meters if the CPCN is approved.
 - a. Refer to Duke Response to AG-DR-2-40 in Case No. 2017-00321, in which Duke Energy of Kentucky certified that its reconnection fee would be \$3.45. If the Companies' reduced disconnect and reconnect service cost is not as low as Duke's, provide a complete explanation as to why that is the case.

20. One potential benefit of an AMS deployment is avoiding costs through coincident peak demand reduction rates such as Peak Time Rebate.
 - a. What avoided capacity cost (in \$) per MW did the Companies assume in their most recent demand-side management program filing which included an avoided capacity cost assumption? Provide each component individually:
 - i. Avoided generation capacity cost per MW
 - ii. Avoided transmission capacity cost per MW
 - iii. Avoided distribution capacity cost per MW
 - b. Provide all documentation, calculations, assumptions, workpapers, etc. used to justify the avoided capacity cost dollar estimate per MW from (a) above.
 - c. What do the Companies estimate as the average kW per residential customer at coincident peak?
 - d. What is the Companies' current peak generation capacity, in MW, from all sources (owned generation capacity plus purchased generation capacity)?
 - e. Provide the annual coincident system peak forecast from the Companies' most recent Integrated Resource Plan.

21. Reference the response to CAC-DR-1-5. Does LG&E have this information available for its customers?
 - a. Have the Companies considered conducting a survey of its customers to obtain this information?
 - b. Have one or both of the Companies ever conducted any such surveys as set forth in subpart a. to this question? If so, please provide results. If not, why not?

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22. Reference the business case, p. 18. Are the Companies aware of any other outdoor products having a 20-year battery life? If so, please provide descriptions of such products.
23. Have the companies investigated the potential for synergies and cost savings, given that their affiliate PPL Electric Distribution in Pennsylvania is currently deploying its own AMS network? Provide a discussion.
24. Reference the response to AG-DR-1-25. Are the Companies willing in their next base rate case to identify, quantify, and document both the precise quantifications and alleged savings the proposed AMS program would bring, and to identify precisely where those entries or adjustments could be located in the Applications? If the Companies are not willing to do so, why not?
25. Are the Companies requesting cost recovery in this matter?
 - a. If not, do the Companies believe the costs to customers, and the recovery of those costs, are at issue in this matter and should be addressed?
26. If the Commission should approve the CPCN in whole or in part, will the meters the Companies intend to install comply with IEEE Standard 1547 (revised)?¹
 - a. It is the Attorney General's understanding that this standard is currently undergoing revisions, including but not limited to: (i) the interoperability/communications requirements for Distributed Energy Resources; (ii) bulk systems; and (iii) the provision of a standardized non-proprietary communication interface. Provide a discussion of the extent to which the AMS meters and related infrastructure, including software and firmware, can be upgraded in order to meet the anticipated revisions to this standard.

¹ The Electric Power Research Institute has a publicly-accessible fact sheet regarding IEEE 1547, accessible at the following website: <https://www.epri.com/#/pages/product/00000003002011346/>