COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILTIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES, A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO DEPLOY ADVANCED METERING INFRASTRUCTURE, APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS, AND ESTABLISHMENT OF A ONE-YEAR SURCREDIT	)))))))))	CASE NO. 2020-00349

COMMISSION STAFF'S EIGHTH REQUEST FOR INFORMATION TO KENTUCKY UTILITIES COMPANY

Kentucky Utilities Company (KU), pursuant to 807 KAR 5:001, is to file with the Commission an electronic version of the following information. The information requested is due on August 13, 2021. The Commission directs KU to the Commission's July 22, 2021 Order in Case No. 2020-00085[1] regarding filings with the Commission. Electronic documents shall be in portable document format (PDF), shall be searchable, and shall be appropriately bookmarked.

Each response shall include the name of the witness responsible for responding to the questions related to the information provided. Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the

[1] Case No. 2020-00085, *Electronic Emergency Docket Related to the Novel Coronavirus COVID-19* (Ky. PSC July 22, 2021), Order (in which the Commission ordered that for case filings made on and after March 16, 2020, filers are NOT required to file the original physical copies of the filings required by 807 KAR 5:001, Section 8).

preparer or the 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.

KU shall make timely amendment to any prior response if KU obtains information that indicates the response was incorrect when made or, though correct when made, is now incorrect in any material respect. For any request to which KU fails or refuses to furnish all or part of the requested information, KU shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

Careful attention shall be given to copied material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request. When applicable, the requested information shall be separately provided for total company operations and jurisdictional operations. When filing a paper containing personal information, KU shall, in accordance with 807 KAR 5:001, Section 4(10), encrypt or redact the paper so that personal information cannot be read.

1. Refer to the Supplemental Testimony of Robert M. Conroy (Supplemental Conroy Testimony), page 10, lines 16–20. Explain why KU is removing the lines that tie NMS-2 compensation to Rider SQF rates and instead maintaining a fixed $/kWh, even when the SQF 2-year rates change.

2. Refer to the Supplemental Testimony of William Steven Seelye (Supplemental Seelye Testimony) in general.

a. Confirm whether KU is still proposing an instantaneous netting approach for NMS-2 customers. In other words, confirm whether customer-generators will only be able to "self-supply", i.e., use their own production kWh to offset their billed consumption kWh, during the precise intervals when their generators are producing. If KU is not proposing instantaneous netting, explain the proposed netting approach in detail and provide a numerical example.

b. Explain whether KU is proposing to compensate at the avoided cost export rate all excess generation that customer-generators supply to the grid, or whether the excess kWh generation will directly reduce billed kWh during other time intervals when consumption exceeds production.

c. In the first day of the billing period, from 12–1 p.m., if a customer-generator produces 10kWh and consumes only 7 kWh, explain whether the customer will be able to utilize those excess 3 kWh to offset their billable kWh later in the evening.

3. Refer to the Supplemental Seelye Testimony, page 2, lines 12–14. Mr. Seelye states loss of load probability (LOLP) "is a key measure that has been used by KU and LG&E for many years to plan their generation resources."

a. Describe how and why the LOLP is useful for generation resource planning.

b. Describe how KU calculates LOLPs for generation planning and how those values are an input in planning processes.

c. Provide the number of years LOLP values have been calculated by KU, and how these values have change based on differences in planned generation resources.

d. Provide the LOLP values that KU has calculated for each year of the planning time horizon, in this case and within KU's previous IRPs. Provide all workpapers for calculating LOLP values and all workpapers using those values in the planning process.

4. Refer to the Supplemental Seelye Testimony in general. In regards to the LOLP, explain whether KU has historically used the LOLP to calculate a Loss of Load Expectation (LOLE) or Expected Load Carrying Capacity (ELCC) for distributed resources.

5. Refer to the Supplemental Seelye Testimony, page 26, line 6, and page 27, lines 17–18. Explain how KU determines what transmission and distribution plant investment is related to load growth. Provide all workpapers and documents used to support this position. Also provide the source of all planning information and calculations (including supporting filings and internal analysis), with page numbers or cell references, as applicable.

6. Refer to the Supplemental Seelye Testimony, Exhibit WSS-1.

a. Provide all planned transmission investment (separated by year and utility) over the next ten years, not just investment related to capacity or load growth. Provide the source of all planning information and calculations (including supporting filings and internal analysis), with page numbers or cell references, as applicable.

b. Provide descriptions of all planned investment, including capacity investment, and its purpose. Provide the source of all planning information and calculations (including supporting filings and internal analysis), with page numbers or cell references, as applicable.

7. Refer to the Supplemental Testimony of David S. Sinclair (Supplemental Sinclair Testimony), page 8, lines 3–5, where Mr. Sinclair states that it is "the Companies' longstanding process for procuring capacity, namely going to the market for new capacity options and comparing the market to the cost of self-building new capacity."

a. Define "the market."

b. Provide actual examples of when the Companies have made these comparisons and include all documentation of the process of comparing.

8. Refer to the Supplemental Sinclair Testimony, page 9, lines 12–13, where Mr. Sinclair states: "A CT is often thought of as a proxy for capacity cost because it can be quickly started to meet a reliability need any hour of the day throughout the year." Explain why KU uses a combustion turbine (CT) as a "proxy for capacity cost" rather than using an natural gas combined cycle (NGCC), which is the resource KU has identified as the least-cost source of replacement capacity in the longer term in the most recent Integrated Resource Filing (2018 IRP).[2]

9. Refer to the Supplemental Sinclair Testimony, Exhibit DSS-1.

a. Explain whether the 2021 technology-differentiated avoided energy costs calculated using the same PROSYM approach as the avoided energy cost were originally filed in the 2020 proceeding. If there are any changes in the 2021 PROSYM modeling approach, describe them in detail and provide all workpapers and supporting files related to the altered modeling approach.

[2] Case No. 2018-00348, *Electronic 2018 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company* (Ky. PSC Oct. 2, 2020) at 5-39.

b. Confirm that Generation Planning & Analysis 2020 (Sinclair Attachment to Filing Requirement Tab 16 - 807 KAR 5:001 Sec. 16(7)(c), as originally filed), continues to apply to the 2021 amended and technology-specific PROSYM avoided energy cost modeling.

10. Refer to the Supplemental Sinclair Testimony, Exhibit DSS-1.

a. Confirm that SO2 and NOx are PROSYM inputs. Explain whether SO2 and NOx costs are included in the incremental cost of the units and whether they impact dispatch decisions.

b. Confirm that CO2 pricing is not a PROSYM input nor otherwise a component of the avoided energy cost calculation.

c. Describe in detail how PROSYM includes the opportunity cost for coal combustion residual (CCR) revenues. Provide these costs and all workpapers supporting this methodology.

d. Provide a breakdown of all cost components of the modeled variable operation and maintenance (O&M) costs, including detailed descriptions of each component and itemized component costs in $/MWh.

e. Provide all emission allowance prices and emission rates per unit, as modeled in PROSYM and represented in Supplemental Exhibit DSS-1. Break out by data by specific emissions type (ex: SOx, NO2, CO2).

f. Explain whether the dispatch cost of the marginal unit is the same as the avoided energy cost for a given hour. In other words, explain whether KU's dispatch cost equal the sum of vole-ohm-millimeter (VOM) and fuel cost in the modeled PROSYM avoided energy cost or if it includes additional components. Describe in detail.

11. Refer to the Supplemental Sinclair Testimony, Exhibit DSS-2, page 7, footnote 6.

a. Provide the direct link or hard copy for the specific spreadsheet(s) from National Renewable Energy Laboratory's 2020 Annual Technology Baseline that supply the CT capital and fixed operating costs.

b. Specify which CT technology and scenario the Companies used and why (ex: high/medium/low CF, advanced/moderate/conservative, etc.).

12. Refer to the Supplemental Testimony of John K. Wolfe (Supplemental Wolfe Testimony), pages 1–3, where Mr. Wolfe outlines the conceptual framework for avoided distribution capacity costs. Provide the following:

a. All state commissions that have adopted a similar framework for determining avoided distribution capacity costs with line citations to support your claim; and

b. All literature and reports that supports the conceptual framework.

13. Refer to Supplemental Wolfe Testimony, page 3, lines 5–7. Identify the benefits/savings that are "likely eliminated" by limiting distributed energy resources (DER) penetrations on line sections. Provide all research KU has undergone studying these benefits and how to realize them for ratepayers.

14. Refer to Supplemental Wolfe Testimony, page 3, lines 3–9. Provide the incremental kWs or MWs that were analyzed. Provide all references that are available that support the incremental kW or MW evaluated was in line with best practice.

15. Refer to Supplemental Wolfe Testimony, in general. Discuss whether and, if so, how KU has attempted to influence the location of DERs on the distribution system. Provide support documentation.

16. Refer to Supplemental Wolfe Testimony, in general. Provide the actual capacity-related distribution costs in total and by distribution system planning region for most recent five calendar years. For each year, provide the quantity of distribution system capacity increased in total and by distribution system planning region.

17. Refer to Supplemental Wolfe Testimony, in general. Provide the forecasted capacity-related distribution investments in total and by distribution system planning region for the next ten years. For each year provide the quantity of distribution system capacity increases in total and by distribution system planning region.

18. Refer to Supplemental Wolfe Testimony, in general. Provide a categorization framework or decision tree showing how specific types of distribution projects are categorized within KU's distribution system planning (or other) process (e.g., non-capacity related, customer driven, asset health, etc.).

19. Refer to the Supplemental Testimony of Beth McFarland. For the most recent five calendar years available, provide the $/MW-year rates for firm point-to-point transmission service within the Company's applicable open access transmission tariff (OATT). Provide the source documents in native format and where applicable, provide in Excel spreadsheet format with all rows, columns, and formulas unprotected and fully accessible.

20. Refer to KU's Response to the Attorney General and Kentucky Industrial Utility Customers (KIUC) First Request for Information, Item 172, Attachment 2. Also

refer to the Supplemental Sinclair Testimony, Exhibit DSS-1. Provide equivalent support for the 2021 updated avoided energy costs that now differ by generating technologies in Excel spreadsheet format with all rows, columns, and formulas unprotected and fully accessible. Ensure that the equivalent spreadsheet includes at least as much detail as contained in response to Item 172, confidential attachment 2.

21. Refer to the May 14, 2021 Order in Case No. 2020-00174,[3] Appendix B. Calculate KU's avoided cost of carbon using the same methodology that the Commission used in that Order, using the most recent available data for KU, and providing references for each input. Provide all workpapers used for the calculation.

22. Refer to the Application, Tab 16, "Generation Forecast Process, Generation Planning & Analysis 2020," page 3, where it states that a generation forecast is prepared annually.

a. Explain whether this forecast is used for the calculation of the avoided energy cost component as this is described in attachment DSS-1. If not, explain in detail each different input, assumption, and modeling constraint in the two forecasts.

b. Explain whether this same annual generation forecast is used for the fuel burn & fuel expense forecast that informs KU's fuel cost recovery filings. If not, explain in detail each different input, assumption, and modeling constraint in the two forecasts.

[3] Case No. 2020-00174, *Electronic Application of Kentucky Power Company for (1) A General Adjustment of Its Rates for Electric Service; (2) Approval of Tariffs and Riders; (3) Approval of Accounting Practices to Establish Regulatory Assets and Liabilities; (4) Approval of a Certificate of Public Convenience and Necessity; and (5) All Other Required Approvals and Relief*, (Ky. PSC May 14, 2021).

c. Refer to the generation forecast informing the avoided cost calculation as described in attachment DSS-1. Provide all the PROSYM input files containing the information described in Figure 1 of the Generation Forecast Process document (generation input files, fuel inputs, energy requirements, market Inputs, resource expansion plan, system constraints).

d. Explain whether the coal cost included in the dispatch decision in the PROSYM generation forecast includes the total coal cost as defined in each unit's coal supply agreement and the associated transportation agreement. If the coal cost as included in the dispatch decision for PROSYM is not equal to the CSA and transportation cost, explain how the two differ and why.

e. Provide all PROSYM output files including the generation forecast for each unit and the system's marginal price on an 8760 basis for all years simulated.

f. Provide a table with the forecasted generation in MWh, fuel consumption in MMBtu, and fuel expenses that KU seeks to recover per generating unit through the most recent fuel docket.

23. Explain whether KU has conducted any forward-looking research on the proportion of residential and commercial solar facilities that will be paired with energy storage. If yes, provide the research and supporting documents and spreadsheets. If no, explain why not and whether storage could impact the long-term value provided by customer-sited generation.

24. Refer to the 2018 IRP. Confirm that the marginal capacity unit used in the IRP is an NGCC. If not, provide line citations within the IRP record to the determined marginal capacity unit.

25. Provide all PROSYM input files in Excel spreadsheet format with all rows, columns, and formulas unprotected and fully accessible.

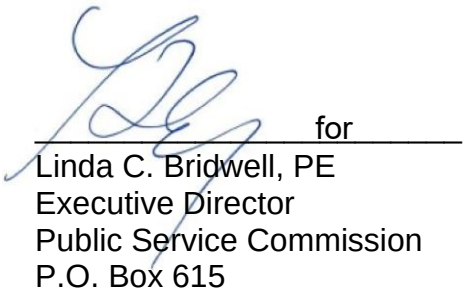
26. Provide all current coal supply agreements/contracts.

27. Provide all projected annual costs associated with all CCR and steam electric effluent limitations guidelines (ELG) compliance projects for the expected lifetime of all of KU's coal plants.

28. Provide the projected annual capacity factors for the expected lifetime of all of KU's coal plants.

29. For each plant related FERC account functionalized as transmission and distribution, provide monthly balances from January 2015 through December 2020 in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

30. Provide KU's environmental compliance costs, broken out by type of cost (e.g., CCR, ELG), for the past five years in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible. Provide the underlying workpapers and data in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible. Provide links or copies of all references used to support the workpapers. Describe the source and purpose for each of these costs including the regulation to which each is responsive. Explain how each cost category was calculated (ex: what portion of the total is based on fixed vs variable compliance costs and how those individual components are calculated). List all assumptions made in projecting these costs.



_____ for _____
Linda C. Bridwell, PE
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, KY 40602

DATED AUG 03 2021

cc: Parties of Record

*Honorable Allyson K Sturgeon
Managing Senior Counsel - Regulatory &
LG&E and KU Energy LLC
220 West Main Street
Louisville, KENTUCKY 40202

*Honorable David Edward Spenard
Strobo Barkley PLLC
239 South 5th Street
Ste 917
Louisville, KENTUCKY 40202

*John Horne
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Angela M Goad
Assistant Attorney General
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Emily W Medlyn
General Attorney
U.S. Army Legal Services Agency Regul
9275 Gunston Road
Fort Belvoir, VIRGINIA 22060

*Honorable Kurt J Boehm
Attorney at Law
Boehm, Kurtz & Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OHIO 45202

*Barry Alan Naum
Spilman Thomas & Battle, PLLC
1100 Brent Creek Blvd., Suite 101
Mechanicsburg, PENNSYLVANIA 17050

*Thomas J FitzGerald
Counsel & Director
Kentucky Resources Council, Inc.
Post Office Box 1070
Frankfort, KENTUCKY 40602

*Honorable Kendrick R Riggs
Attorney at Law
Stoll Keenon Ogden, PLLC
2000 PNC Plaza
500 W Jefferson Street
Louisville, KENTUCKY 40202-2828

*Clay A. Barkley
Strobo Barkley PLLC
239 South 5th Street
Ste 917
Louisville, KENTUCKY 40202

*G. Houston Parrish
Labor Law Attorney
Office of the Staff Judge Advocate, B
50 3rd Avenue
Fort Knox, KENTUCKY 40121

*Larry Cook
Assistant Attorney General
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Carrie H Grundmann
Spilman Thomas & Battle, PLLC
110 Oakwood Drive, Suite 500
Winston-Salem, NORTH CAROLINA 27103

*James W Gardner
Sturgill, Turner, Barker & Moloney, PLLC
333 West Vine Street
Suite 1400
Lexington, KENTUCKY 40507

*Matt Partymiller
President
Kentucky Solar Industries Association
1038 Brentwood Court
Suite B
Lexington, KENTUCKY 40511

*Honorable David J. Barberie
Managing Attorney
Lexington-Fayette Urban County Government
Department Of Law
200 East Main Street
Lexington, KENTUCKY 40507

*Jody M Kyler Cohn
Boehm, Kurtz & Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OHIO 45202

*Matthew Miller
Sierra Club
50 F Street, NW, Eighth Floor
Washington, DISTRICT OF COLUMBIA 20001

*Don C Parker
Spilman Thomas & Battle, PLLC
300 Kanawha Blvd, East
Charleston, WEST VIRGINIA 25301

*Joe F. Childers
Childers & Baxter PLLC
300 Lexington Building, 201 West Sho
Lexington, KENTUCKY 40507

*J. Michael West
Office of the Attorney General Office of Rate
700 Capitol Avenue
Suite 20
Frankfort, KENTUCKY 40601-8204

*Honorable Michael L Kurtz
Attorney at Law
Boehm, Kurtz & Lowry
36 East Seventh Street
Suite 1510
Cincinnati, OHIO 45202

*Kentucky Utilities Company
220 W. Main Street
P. O. Box 32010
Louisville, KY 40232-2010

*Rick LoveKamp
Kentucky Utilities Company
220 W. Main Street
P. O. Box 32010
Louisville, KY 40202

*M. Todd Osterloh
Sturgill, Turner, Barker & Moloney, PLLC
333 West Vine Street
Suite 1400
Lexington, KENTUCKY 40507

*Honorable Robert C Moore
Attorney At Law
Stites & Harbison
421 West Main Street
P. O. Box 634
Frankfort, KENTUCKY 40602-0634

*Robert Conroy
Vice President, State Regulation and Rates
LG&E and KU Energy LLC
220 West Main Street
Louisville, KENTUCKY 40202

*Randal A. Strobo
Strobo Barkley PLLC
239 South 5th Street
Ste 917
Louisville, KENTUCKY 40202

*Sara Judd
Senior Corporate Attorney
LG&E and KU Energy LLC
220 West Main Street
Louisville, KENTUCKY 40202

*Susan Speckert
Lexington-Fayette Urban County Government
Department Of Law
200 East Main Street
Lexington, KENTUCKY 40507