COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC JOINT APPLICATION OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND SITE COMPATIBILITY CERTIFICATES AND APPROVAL OF A DEMAND SIDE MANAGEMENT PLAN	))))))))	CASE NO. 2022-00402

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT'S AND LOUISVILLE/JEFFERSON COUNTY METRO GOVERNMENT'S JOINT REQUEST FOR INFORMATION TO THE JOINT APPLICANTS

In accordance with the Public Service Commission's ("Commission") January 6, 2023, Order, Intervenors Lexington-Fayette Urban County Government ("LFUCG") and Louisville/Jefferson County Metro Government ("Louisville Metro") propound the following data requests upon the Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E")(collectively, "Joint Applicants" or "Companies"). The Joint Applicants shall respond to these requests in accordance with the provisions of the Commission's January 6, 2023, 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 LFUCG's and 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 LFUCG and 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 the Joint Applicants object to any request on any grounds, please notify counsel for LFUCG and 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 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,

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1. Refer to the Crockett Testimony at page 1, which stated that the various supply-side proposals were consistent with the Companies' CO_2 goals but that such goals were not considered an objective function in the economic analysis. Given the testimony of other representatives of LG&E/KU regarding the need to diversify generation assets and potential impact of CO_2 regulations (including testimony on page 3 acknowledges the "growing certainty…that the future of electric generation in the United States and the Commonwealth will likely be lower carbon emitting" and on page 4 where it is stated, "At my direction…the Companies took a comprehensive and holistic approach to researching and analyzing a wide variety of demand- and supply-side options for continuing to provide the safe, reliable service at the lowest reasonable cost…"), explain why the Companies chose not to consider CO_2 goals as an "objective function" in the Companies' economic analysis.

2. De the economic analyses (for generation and DSM plans) consider cost impacts for customers (not just the Companies)? If so, what are these cost impacts for customers?

3. Refer to the Crockett Testimony at pages 2-3, which stated that the current load forecast shows a 6.5 percent increase from the 2021 IRP load forecast beginning in 2027 due to addition of BlueOval SK Battery Park as well as higher penetration of electric vehicles and electric space heating and that summer and winter peak demand are approximately 4 percent and 6 percent higher, respectively. Confirm that the comparable increase in seasonal peak demand is primarily due to the addition of the BlueOval SK Battery Park load.

4. Does the BlueOval SK Battery Park have renewable energy targets which it must meet at that facility? If so, what are those targets? How much if any of those targets are expected to be met on site by self-generation by BlueOval?

5. Is the Battery Electric Storage System, which will be located near generation at the E.W. Brown Generation station, considered best practice for the BESS? Please explain your answer.

6. Refer to the Crockett Testimony at page 8, which states that the Companies' "goal" is to be net-zero GHG by 2050 and a "commitment" not to burn unabated coal by 2050. Explain why the Companies are not committed to achieve net-zero GHG by 2050 but rather only aspire to achieve that "goal" by 2050.

7. Refer to the Crockett Testimony at page 8, which states that the plan to retire nearly 1,200 MW of coal-fired generation by 2028 is consistent with the Companies' net-zero emission goal by 2050. Explain in detail and quantify how these early coal plant retirements coupled with a proposal to construct two natural gas combined cycle units is consistent with the Companies' net-zero GHG goals.

8. Refer to the Crockett Testimony at page 8, which stated that the NGCC proposals also comport with Companies' environmental commitments and goals because these units will produce up to 65 percent less CO_2 per MWh than the soon-to-be retired coal-fired units. Explain and quantify how the NGCC proposals will enable the Companies to achieve net-zero GHG emissions by 2050 or to otherwise meet the two interim targets of 70 percent reduction by 2035 and 80 percent reduction by 2040.

9. Refer to the Crockett Testimony at page 8, regarding the Southeast Hydrogen Hub. Explain what the Southeast Hydrogen Hub is and what is its purpose. Further explain how research into hydrogen development allows the Companies to offset the carbon emissions of the proposed NGCC units and enables the Companies to achieve their net-zero carbon emissions goal by 2050. Explain whether the Companies anticipate this technology becoming economically available at scale within the next decade.

10. Are hydrogen hub efforts specifically focused on the development of green hydrogen technologies? Describe in detail.

11. Refer to the Crockett Testimony at page 8, regarding the full-scale carbon capture feasibility study at the Cane Run NGCC facility. Provide the status of this study and state when it is expected to be completed. Do the Companies anticipate the results of this study to be any different than the Brown Station carbon capture project? Also, do the Companies anticipate this technology becoming economically available at scale in the next decade?

12. Refer to the Crockett Testimony at page 9, which stated that the proposals would reduce the Companies' carbon emissions by over 6 million metric tons or nearly 25 percent annually compared to the Companies' carbon emissions in 2021. Explain and quantify how the reduction in the Companies' carbon emissions of more than 6 million metric tons annually was determined. Also, what is the percentage of carbon emissions reduction when compared to the baseline year used in setting the Companies' net-zero carbon reduction goal by 2050 as opposed to using the Companies' carbon emissions in 2021?

13. Do the Companies anticipate the newly proposed NGCC plants becoming stranded assets as they make progress towards their net zero goals?

14. Refer to the Bellar Testimony at pages 2-3, regarding the Companies' request to U.S. EPA to allow the option of evaluating replacement generation for Mill Creek 2 and Ghent 2 as a Good Neighbor Plan compliance alternative. Provide a copy of this request and state when the Companies anticipate a response from the U.S. EPA.

15. Refer to the Bellar Testimony at page 4, regarding the continued operation of the remaining existing coal-fired plants (those plants other than Mill Creek 1 & 2, Ghent 2, and Brown 3) is expected until their respective anticipated retirement dates "absent significant new regulatory requirements, extraordinary needs due to individual unit condition, or a significant reduction in customer demand." Provide examples and quantify the threshold of what would be considered "significant new regulatory requirements," "extraordinary investment needs," or "significant reduction in customer demand" as characterized in the testimony.

16. Refer to the Bellar Testimony at page 11, which stated that, as the carbon capture technology develops in the coming years, NGCC allows for better capture of CO_2 at relatively lower cost due to the flue gas properties of gas-fired emissions compared to coal-fired emissions. Provide in more detail how the Companies have supported research and development around carbon capture for NGCC plants and explain whether the Companies have conducted any geological studies to determine whether the proposed NGCC sites at Mill Creek and Brown are capable of sequestering and storing the captured CO_2.

17. Refer to the Bellar Testimony at page 11, which stated that all original equipment manufacturers that provide NGCC technology are designing their gas turbines to combust hydrogen in the future should it become economically viable or mandated. Do the Companies have any expectation when hydrogen will become "economically viable or mandated" and how much of a reduction in CO_2 emissions will result from using hydrogen as a fuel source?

18. Refer to the Bellar Testimony at page 19, regarding the land acquisition for the proposed Mercer County Solar Facility. State when the Companies intend to begin the land acquisition phase and how many property owners comprise the approximately 900 acres needed for the Mercer County Solar Facility.

19. Refer to the Bellar Testimony at pages 20-21, regarding the land acquisition for the proposed Marion County Solar Facility. State how many acres have been acquired by the third-party developer and approximately when LG&E/KU anticipates that the developer will acquire all the necessary acreage needed for the construction of the Marion County Solar Facility.

20. Refer generally to the Petition for Full Intervention for the Mercer County Fiscal Court. Have the Companies studied alternatives to the use of the Mercer County Industrial Park for the development of solar? If yes, which parcels have been analyzed? And what were the results? If not, why not?

21. Refer to the Bellar Testimony at pages 16-17.

a. Regarding a new natural gas transmission pipeline needed for the proposed Mill Creek NGCC. Explain whether the Companies anticipate that there will be any issues with respect to easements for this new gas pipeline to supply the Mill Creek NGCC as a result of crossing environmentally or culturally sensitive sites. If yes, please describe the anticipated location of the pipeline and what issues that may arise.

b. Confirm that no new natural gas transmission pipeline is needed to be constructed for the proposed Brown NGCC.

22. Refer to the Sinclair Testimony at pages 5-6, which stated that the Companies could not wait to address the future of the retired units to ensure reliable service, pointing to the responses to the June 2022 RFP which showed that the earliest start date for a new fully dispatchable generating unit is April 2026, just before the Good Neighbor Plan, as proposed, would require Mill Creek 2 and Ghent 2 to severely curtail or cease operating altogether during the summer months. State why the reference point for the Companies need to address its future capacity shortfall is based upon responses to the June 2022 RFP associated with fully dispatchable resources rather than the earliest start date for non-dispatchable resources or a combination of non-dispatchable resources and battery energy storage resources.

23. Refer to the Sinclair Testimony at pages 20-22, regarding execution risk associated with the proposed solar PPAs. Explain why the Companies did not consider more self-build solar generation capacity rather than rely on the proposed 637 MW of solar PPAs. Should one or more of the proposed solar PPA projects fail to come to fruition, how would this impact the Companies in terms of reliably serving its customers at the least reasonable cost?

24. Refer to the Sinclair Testimony at page 31, which stated that the proposed resources "will lay a strong operational foundation for future coal unit retirements." Explain further regarding the statement that the proposed generation resources will result in future coal retirements for the Companies.

25. Refer to the Wilson Testimony at pages 22-23 and Table 5, regarding the reserve margins achieved by the 10 portfolios developed by the Companies. The testimony indicates that Portfolio 8 consisting of all renewables, batteries, and dispatchable DSM did meet the minimum total reserve capacity requirements but looking at dispatchable assets only Portfolio 8 shows potentially insufficient capacity. If minimum total reserve requirements are met, state whether fully excluding intermittent generation to assess only dispatchable generation is reasonable or justified, especially as this seems to be assessing a path that does not include storage.

26. Refer to the Wilson Testimony, page 23, Table 5, which shows that Portfolio 8 consisting of all renewables, batteries, and dispatchable DSM would result in a Fully Dispatchable Reserve Margin for summer at -3.9 percent. Refer also to the Wilson Testimony at page 5, which stated that the proposed unit retirements with no further action to adjust capacity would leave the Companies' summer reserve margin at 7 percent. Explain whether the information provide in Table 5 is inconsistent with the statement made on page 5 of the Wilson Testimony.

27. Refer to the Wilson Testimony at pages 24-26, regarding the second step of Stage Two of the Resource Assessment. Provide a narrative explanation for Table 7 which shows Portfolio 1 having a lower total CO_2 emission as compared to Portfolio 8 which consists of all renewables. Provide a narrative explanation for Table 8 which shows coal units providing more energy under Portfolio 8 – All Renewables as compared to Portfolio 1 – MC NGCC, BR NGCC and 637 MW Solar PPAs. Also provide a narrative explanation as to the decrease in energy provided by NGCC under Portfolio 8 as compared to Portfolio 1.

28. Refer to the Wilson Testimony at pages 29-30, regarding the first step of Stage Three of the Resource Assessment. Provide in detail how the Companies arrived at 120 MW as the right capacity size for the self-build and the acquisition solar options.

29. Refer to the Wilson Testimony, Exhibit SAW-1, pages 45-46, Tables 26 and 27, as well as Application, page 10, Table 1. Does the data in Peak Load row of the Tables include the cumulative impact of the proposed DSM-EE programs in the Application as well as demand reductions previously approved in prior cases such as AMI? If yes, please describe those reductions by amount and type of program.

30. Refer to the Wilson Testimony, Exhibit SAW-1, page 5, paragraph 3.a.: Solar PPA execution risk analysis. In the event the execution risk materializes and one or more of the proposed solar PPAs do not come to fruition, is adding 240 MW of solar owned by the Companies sufficient to mitigate the loss of any of the solar PPAs? In other words, if a portion of the 637 MW of solar PPAs cannot be obtained, how does this impact Companies' ability to reliably serve its customers?

31. Please provide a list of every renewable generation project currently in operation to or for the benefit of the Companies.

a. For each such project, please provide the county in which it is located; the type of generation (e.g., solar, wind); the nameplate capacity; whether it is company owned; leased or PPA (and if it is a PPA, who is the counterparty).

b. Please provide the same information requested above for which the Companies expect to be in operation during the next term (10) years.

32. Refer to the Application, page 20, paragraph 31. The Companies refer to the PPA contracts as "energy only." Please define what that phrase means. Specifically, who will own the renewable energy credits ("RECs"). If the Companies will own the RECs, will the RECs be retired by the Companies. If they will be retired, will the benefits from the credits flow to customers in the respective FAC proceedings as a credit to customers? Please explain your answer.

33. How much carbon is expected to be generated by the two NGCC units over the period 2025-2050?

34. Refer to the Jones Testimony at page 4, regarding the 2022 CPCN Load Forecast reflecting updated information since the 2021 IRP Load Forecast, such as updated actual load and customer data, updated national and regional economic forecasts and regulations, and updated model parameters. What are these updated model parameters and what is the trend in the updated national and regional economic forecasts and regulations?

35. Refer to the Jones Testimony at page 8, regarding the increase in distributed generation, including qualifying facilities, from 34.4 MW to almost 217 MW by 2052. Explain what is driving the projected increase in distributed generation capacity.

36. Refer to the Jones Testimony at pages 25-26, regarding projected electric vehicles in operation in the Companies' service territories to be around 300,000 by 2052, which is more than double the projections made in the 2021 IRP. Explain why the projections for EVs in the 2022 CPCN Load Forecast is more than twice the projections from the 2021 IRP.

37. Refer to the Bevington Testimony at pages 9-10, regarding the scoring rubric.

a. Provide a detailed explanation of how each rubric objective was developed and the reason why an objective was assigned either a High, Medium, or Low priority.

b. Provide a copy of the results of the evaluation conducted by the Companies and Cadmus showing how each of the 39 possible program was scored by criteria with a breakdown of how each program was scored by criteria by the three representatives of the Companies and the three representatives of Cadmus.

38. Refer to the Bevington Testimony at page 11, regarding the Total Resource Cost test.

a. Confirm that the test was applied according to industry standard methods.

b. Given that the new DSM cost recovery line item appeared to incorporate a Lost Sales Recovery component to recoup costs and the cost effectiveness tests evaluated costs to both the Companies and the customers, confirm that these reduced-sale costs are not double-counted as costs borne to both the utility and customer.

39. Refer to the Bevington Testimony at pages 48-50, regarding the proposed Peak Time Rebates program. Explain in detail the methodology that the Companies intend to implement to measure customer-participant demand savings, including how the Companies will establish a participating customer's baseline for comparison to a peak event performance and whether the determination of a customer's baseline will be adjusted for weather.

40. Refer to the Bevington Testimony, Exhibit JB-1, LG&E/KU 2024-2030 DSM/EE Plan.

a. On pages 1-2, it is stated that the DSM/EE plans either during development or when implemented recognizes and aims to improve the comfort and indoor health of homes and buildings throughout the Companies' territories as well as addressing environmental concerns. Provide in detail how the proposed DSM/EE programs will improve indoor health and comfort and address environmental concerns.

b. At the bottom of page 2, it is stated that "At the outset of development of this DSM/EE Program Plan, the Companies sought to identify opportunities to curtail demand to compensate for planned fossil fuel generation retirements." Explain whether the Companies' developed the proposed DSM/EE Plan with a goal of deferring the need to construct fossil fuel generation and identify how that goal was incorporated into the DSM/EE Plan development process. If not, explain why not.

41. Refer to Application, page 16.

a. Describe the "Midstream Lighting" and identify who is eligible to participate in this program.

b. Describe the "Bring-Your-Own Devices" and identify who is eligible to participate in this program.

42. The Inflation Reduction Act (IRA) provides incentive bonuses for clean energy projects located near retired coal infrastructure which offer new, additional savings and reinvestment opportunities. State whether the Companies took into account these locational incentive bonuses in determining the economics of a renewable generation resource as compared to a natural gas combined cycle resource. If yes, please explain how the Companies took these bonuses into account. If no, explain why not.

43. The IRA also provides reinvestment financing opportunities to allow utilities and other power plant operators to access low-cost government-backed loans to reduce the rate impacts associated with large capital expenditures required to transition from coal to clean and stimulate local economic development. The IRA created two programs to support utilities in transition: one is through the U.S. Department of Energy's Loan Programs Office via the Energy Infrastructure Reinvestment program that supports $250 billion in loan-making authority to facilitate refinancing and reinvestment in capital projects at fossil infrastructure sites, using below-market interest rates. Funds can be used flexibly to replace fossil infrastructure across the entire energy industry. State whether the Companies factored this financing incentive in evaluating the economics of renewable generating resources, particularly the self-build proposals. If yes, please explain how the Companies factored this financing incentive. If no, explain why not.

44. Are there any changes as a result of the IRA that necessitate a new evaluation of the programs presented to the Commission with this Application.

45. Refer to the Sinclair Testimony, pages 27-28, discussing pumped hydro storage.

a. State what, if any, financial incentives the IRA has for developing pumped hydro storage facilities.

b. State whether the Companies' determination that pumped hydro storage was not cost effective factored in financial incentives from the IRA.

46. In the 2021 IRP, the Companies assumed that natural gas combined cycle resources would need to be equipped with carbon capture and sequestration technologies. In the instant matter, the Companies did not require the proposed NGCCs to be equipped with CCS technologies. Explain why the change in assumption regarding the need for equipping NGCC with CCS technology and state whether this had an impact on the economic analysis.

47. Did the Companies engage major account holders such as the cities to encourage them to be partners with the Companies in renewable projects? If yes, please describe what the Companies did. If not, please describe why not?

48. Refer to the Companies' Green Tariff, Option #3 Renewable Power Agreement, requires a threshold of a minimum monthly billing load of 10 MVA (or MW as is appropriate). Can customers aggregate accounts from the same customer and be eligible? If not, why not? Can different customers aggregate loads together to qualify? If not, why not?

49. Do the Companies intend to help Louisville achieve its science-based targets of net zero greenhouse gas emissions by 2040 and 50% reduction in emissions by 2030, that have been established through Mayoral Executive Order and Metro Council Resolution

50. Have the Companies considered the installation of renewable-energy generation on brownfield sites within Jefferson or Fayette Counties? If so, please provide a detailed explanation as to the Companies' consideration of this issue.

51. Did the Companies prepare an RTO analysis for this Application to evaluate whether the joining an RTO would be cost-effective. If so, please provide it. If not, please explain why not?