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**

JOINT APPLICATION

Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively "Companies"), pursuant to KRS Chapter 278, including KRS 278.020(1), and applicable sections of 807 KAR Chapter 5, hereby apply to the Kentucky Public Service Commission ("Commission") for Certificates of Public Convenience and Necessity ("CPCN") for the construction of two 621 MW net summer rating natural gas combined cycle combustion turbine ("NGCC") facilities, one at LG&E's Mill Creek Generating Station in Jefferson County, Kentucky ("Mill Creek NGCC") and the other at KU's E.W. Brown Generating Station in Mercer County, Kentucky ("Brown NGCC"), including on-site natural gas and electric transmission construction associated with those facilities and Site Compatibility Certificates pursuant to KRS 278.216 for the Mill Creek NGCC and the Brown NGCC.

The Companies further apply to the Commission pursuant to KRS Chapter 278 and applicable sections of 807 KAR Chapter 5 for a CPCN to construct a 120 MWac solar photovoltaic ("PV") electric generating facility in Mercer County, Kentucky, ("Mercer County Solar Facility"). The Companies also apply under KRS Chapter 278 and applicable sections of 807 KAR Chapter 5 for a CPCN to acquire a 120 MWac solar facility to be built by a third-party solar developer in Marion County, Kentucky ("Marion County Solar Facility").

The Companies further apply to the Commission pursuant to KRS Chapter 278 and applicable sections of 807 KAR Chapter 5 for a CPCN to construct a 125 MW, 4-hour (500 MWh) battery energy storage system ("BESS") facility at KU's E.W. Brown Generating Station ("Brown BESS").

Pursuant to KRS 278.285, the Companies apply to the Commission for approval of their proposed 2024-2030 Demand-Side Management and Energy Efficiency Program Plan ("Proposed DSM-EE Program Plan") and related changes to the Companies' Demand-Side Management Cost Recovery Mechanism ("DSM Mechanism") tariff sheets to be effective January 1, 2024.

Finally, the Companies request a declaratory order that their entry into non-firm energy-only power-purchase agreements ("PPAs") for the output of four solar PV facilities with a combined capacity of 637 MW does not require Commission approval, but rather will be treated in the same manner, including Fuel Adjustment Clause ("FAC") cost recovery, as the 25 MW portion of the non-firm energy-only PPA the Companies entered into with Rhudes Creek Solar, LLC that will serve native load customers, which the Commission addressed in Case No. 2020-00016 and determined did not require Commission approval and provided for FAC cost recovery.[1]

A summary list of the Companies' requests and proposals is below for ease of reference:

[1] *Electronic Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Approval of a Solar Power Contract and Two Renewable Power Agreements to Satisfy Customer Requests for a Renewable Energy Source Under Green Tariff Option #3*, Case No. 2020-00016, Order (Ky. PSC Dec. 16, 2020); Case No. 2020-00016, Order (Ky. PSC June 18, 2020); Case No. 2020-00016, Order (Ky. PSC May 8, 2020).

- two new 1-on-1 natural gas-fired combined cycle ("NGCC") generation units (621 MW summer-net each):
    - the Mill Creek NGCC to be built and on-line by summer 2027; and
    - the Brown NGCC to be built and on-line by summer 2028;
- the Mercer County Solar Facility is to be built and on-line in 2026;
- the Brown BESS is to be built and on-line in 2026;
- the Marion County Solar Facility is to be built by BrightNight, LLC and purchased and on-line in 2027; and
- Site Compatibility Certificates for the Mill Creek NGCC and the Brown NGCC.

The Companies are also pursuing four solar Purchase Power Agreements ("PPAs"), which they presently expect to have finalized and executed by the end of January 2023:

- a 138 MW 30-year PPA with ibV Energy Partners for a project to be built in Hopkins County and named Grays Branch;
- a 280 MW 30-year PPA with ibV Energy Partners for a project to be built in Hardin County and named Nacke Pike;
- a 104 MW 20-year PPA with Clearway Energy for a project to be built in Ballard County and named Song Sparrow; and
- a 115 MW 20-year PPA with BrightNight, LLC for a project to be built in Ballard County and named Gage Solar.

As presented in the Application and discussed in Robert M. Conroy's testimony, the Companies are requesting a declaratory order that no approval of these PPAs from the Commission is required consistent with previous orders. And as discussed in Mr. Conroy's testimony, the Companies are requesting the approval of the regulatory asset treatment for the difference between AFUDC accrued at the Companies' weighted average cost of capital and AFUDC accrued using the methodology approved by the Federal Energy Regulatory Commission ("FERC") during the construction period of the two NGCCs, Mercer County Solar Facility, and Brown BESS.

In support of this Joint Application, the Companies respectfully state:

1. Addresses: Applicant LG&E's full name and post office address is: Louisville Gas and Electric Company, 220 West Main Street, Post Office Box 32010, Louisville, Kentucky 40202.

Applicant KU's full name and business address is: Kentucky Utilities Company, One Quality Street, Lexington, Kentucky 40507. KU's mailing address is Kentucky Utilities Company c/o Louisville Gas and Electric Company, 220 West Main Street, Post Office Box 32010, Louisville, Kentucky 40202.

The Companies may be reached by electronic mail at the electronic mail addresses of their counsel set forth below.

2. LG&E is incorporated in the Commonwealth of Kentucky, and attests it is in good corporate standing. LG&E was incorporated in Kentucky on July 2, 1913.

3. KU is incorporated in the Commonwealth of Kentucky and the Commonwealth of Virginia, and attests it is in good corporate standing in both states. KU was incorporated in Kentucky on August 17, 1912, and in Virginia on November 26, 1991.

4. LG&E is a public utility, as defined in KRS 278.010(3)(a), engaged in the electric and gas business. LG&E generates and purchases electricity, and distributes and sells electricity at retail in Jefferson County and portions of Bullitt, Hardin, Henry, Meade, Oldham,

Shelby, Spencer, and Trimble Counties. LG&E also purchases, stores, and transports natural gas, and distributes and sells natural gas at retail in Jefferson County and portions of Barren, Bullitt, Green, Hardin, Hart, Henry, Larue, Marion, Meade, Metcalfe, Nelson, Oldham, Shelby, Spencer, Trimble, and Washington Counties.

5. KU is a public utility, as defined in KRS 278.010(3)(a), engaged in the electric business. KU generates and purchases electricity, and distributes and sells electricity at retail in the following counties in Central, Northern, Southeastern, and Western Kentucky:

Adair	Edmonson	Jessamine	Ohio
Anderson	Estill	Knox	Oldham
Ballard	Fayette	Larue	Owen
Barren	Fleming	Laurel	Pendleton
Bath	Franklin	Lee	Pulaski
Bell	Fulton	Lincoln	Robertson
Bourbon	Gallatin	Livingston	Rockcastle
Boyle	Garrard	Lyon	Rowan
Bracken	Grant	Madison	Russell
Bullitt	Grayson	Marion	Scott
Caldwell	Green	Mason	Shelby
Campbell	Hardin	McCracken	Spencer
Carlisle	Harlan	McCreary	Taylor
Carroll	Harrison	McLean	Trimble
Casey	Hart	Mercer	Union
Christian	Henderson	Montgomery	Washington
Clark	Henry	Muhlenberg	Webster
Clay	Hickman	Nelson	Whitley
Crittenden	Hopkins	Nicholas	Woodford
Daviess			

6. Pursuant to 807 KAR 5:001 Section 8, on November 18, 2022, the Companies filed with the Commission notice of their intent to use electronic filing procedures in this proceeding. Copies of all orders, pleadings and other communications related to this proceeding should be directed to:

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A Comprehensive Approach to Addressing Unprecedented Change

14. The Companies recognize that Kentucky, the United States, and indeed the world are in a time of unprecedented change concerning electric supply. Although there is room for disagreement concerning the precise timing and mechanisms by which it will come about, there is no reasonable doubt that the future of electric supply, at least in the United States, will be lower carbon. Under current and reasonably foreseeable regulatory and economic circumstances, the reliable and low-cost coal-fired generation that has served Kentucky well for generations has a limited remaining economic life; barring significant unforeseeable regulatory, technological, or economic changes, all existing coal units are on a trajectory for retirement, and the chance that new coal units will be built in the United States is at best remote.

15. In this overall context of change, the Companies must address pressing resource decisions to ensure ongoing safe, reliable, and economical service for their customers. As discussed below, the recently issued federal Good Neighbor Plan concerning nitrogen oxide

("NOx") emissions requires making immediate resource decisions concerning the future of Mill Creek Unit 2 and Ghent Unit 2, which lack NOx-controlling selective catalytic reduction ("SCR") equipment to comply with the Good Neighbor Plan. In addition, E.W. Brown Unit 3, which has the highest operating costs of the Companies' coal fleet, will require a $28 million overhaul in 2027 if it is to operate safely beyond 2028. These pressing resource decisions must be addressed now.

16. The Companies' analysis demonstrates it is economical to retire all three of the coal units discussed above. But as the Companies' 2022 CPCN Load Forecast (Exhibit TAJ-1 to the testimony of Tim A. Jones) shows, these retirements will occur as customers' energy and demand requirements will be increasing due to the addition of the BlueOval SK Battery Park, even when accounting for the effects of the Inflation Reduction Act (increasing energy efficiency and distributed generation, as well as increased electric heating and electric vehicle penetrations) and the energy-efficiency effects of the proposed DSM-EE Program Plan. In short, these economical unit retirements will leave an energy and demand gap the Companies must address to ensure reliable service continues for their customers.

17. In this Joint Application, the Companies are proposing a comprehensive, "all of the above" approach to meet both this pressing resource need and the challenges and opportunities of a lower-carbon future. The Companies' proposed DSM-EE Program Plan helps ensure that customer demand and energy requirements will be right-sized by deploying a broad array of voluntary DSM-EE programs that make the most of reasonably achievable DSM-EE potential while remaining cost-effective at the portfolio level. To ensure that customers' remaining demand and energy requirements are met at the lowest reasonable cost, the Companies are proposing two NGCC units, which have significantly lower carbon

emissions than the coal-fired units that will retire and are fully dispatchable to provide customers energy when they need it, including cloudy but hot summer days and frigid, dark winter nights. The Companies further propose to own and operate two solar PV generating facilities with 240 MWac of combined peak output and to enter into non-firm energy-only (as available) PPAs with four solar PV facilities with a combined peak output of 637 MW AC or a total of 877 MWac to provide low-cost and zero-carbon energy to optimize the cost of serving customers' energy needs and decrease the use of fossil-fueled units, providing a hedge against fuel-cost and carbon-regulation risk. Finally, the Companies propose to construct the Brown BESS, which will be a 125 MW, 4-hour (500 MWh) battery storage facility to optimize portfolio value and gain experience with such facilities at utility scale.

CPCN Requests

9. Statement of Need (807 KAR 5:001, Section 15(2)(a)). As explained in the testimony of Lonnie E. Bellar and David S. Sinclair, the Companies' economic analysis shows that under current and reasonably foreseeable fuel price, regulatory, and avoided cost scenarios, it is consistent with providing lowest reasonable cost service to retire several coal-fired generating units in the near future. Specifically, consistent with the Companies' previous unit retirement analysis supplied to the Commission in the Companies' 2020 base rate cases, it remains economical to retire Brown Unit 3 in 2028.[2] In addition, due to the U.S. Environmental Protection Agency's recently promulgated Good Neighbor Plan discussed in the testimony of Philip A. Imber, the Companies now propose to advance the planned retirement of Mill Creek Unit 2 to 2027 and the planned retirement of Ghent Unit 2 to 2028.

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[2] *See* Case Nos. 2020-00349 and 2020-00350, Testimony of Lonnie E. Bellar Exh. LEB-2 (Nov. 25, 2020).

In total, these retirements, in addition to the planned retirement of Mill Creek Unit 1 in 2024, will result in a loss of coal-fired capacity of approximately 1,500 MW by the end of 2028.

To continue to serve customers safely and reliably at the lowest reasonable cost in view of the Companies' load projections—net of the effects of the Companies' proposed 2024-2030 DSM-EE Program Plan—will require capacity additions to ensure adequate energy supply is available to meet customers' needs at every moment of every day, regardless of the weather or temperature. Tables 1 and 2 below reflect the capacity need beginning in 2028 based on minimum reserve margins of 17% in the summer and 24% in the winter.[3]

[3] Note the following for Tables 1 and 2:

1. Mill Creek 1 and 2 cannot be operated simultaneously during ozone season due to NOx limits, which results in a reduction of available summer capacity through 2024. Mill Creek 1 will be retired by the end of 2024. OVEC's contract term ends in 2040.
2. "Small-Frame SCCTs" assumes Haefling 1-2 and Paddy's Run 12 will be retired in 2025.
3. Existing dispatchable DSM ("Existing Disp. DSM") reflects expected load reductions on an average peak day.
4. "Solar PPAs" assumes 100 MW of solar capacity is added in 2024 (Rhudes Creek), and an additional 125 MW of solar capacity is added in 2025 (Ragland). Capacity values reflect 78.6% expected contribution to summer peak capacity and 0% expected contribution to winter peak capacity.
5. "Coal" includes assumed retirements of Mill Creek 2, Ghent 2, and Brown 3 in 2028.

Table 1 – Summer Peak Demand and Resource Summary (MW)

	2023	2024	2025	2026	2027	2028	2030	2040	2050
Peak Load	**6,162**	**6,197**	**6,248**	**6,253**	**6,347**	**6,319**	**6,305**	**6,262**	**6,218**
Intermittent/Limited-Duration Resources									
Existing Resources	105	105	105	105	105	105	105	105	105
Existing CSR	128	128	128	128	128	128	128	128	128
Existing Disp. DSM	62	60	56	52	49	46	42	28	24
Retirements/Additions									
Solar PPAs	0	79	177	177	177	177	177	177	177
Total	294	371	466	462	459	456	451	438	434
Dispatchable Generation Resources with Assumed Unit Retirements									
Existing Resources	7,583	7,612	7,612	7,612	7,612	7,612	7,612	7,612	7,612
Retirements/Additions									
Coal	-300	-300	-300	-300	-300	-1,494	-1,494	-1,646	-1,646
Large-Frame SCCTs	0	0	0	0	0	0	0	0	0
Small-Frame SCCTs	0	0	-47	-47	-47	-47	-47	-47	-47
Total	7,283	7,312	7,265	7,265	7,265	6,071	6,071	5,919	5,919
Reserve Margin	18.2%	18.0%	16.3%	16.2%	14.5%	-3.9%	-3.7%	-5.5%	-4.8%
Total Supply	**7,577**	**7,683**	**7,730**	**7,727**	**7,724**	**6,527**	**6,522**	**6,357**	**6,353**
Total Reserve Margin	**23.0%**	**24.0%**	**23.7%**	**23.6%**	**21.7%**	**3.3%**	**3.4%**	**1.5%**	**2.2%**

Table 2 – Winter Peak Demand and Resource Summary (MW)

	2023	2024	2025	2026	2027	2028	2030	2040	2050
Peak Load	**5,910**	**5,908**	**6,011**	**6,003**	**6,107**	**6,104**	**6,102**	**6,113**	**6,127**
Intermittent/Limited-Duration Resources									
Existing Resources	72	72	72	72	72	72	72	72	72
Existing CSR	128	128	128	128	128	128	128	128	128
Existing Disp. DSM	22	22	22	22	22	22	22	22	22
Retirements/Additions									
Solar PPAs	0	0	0	0	0	0	0	0	0
Total	221	221	221	221	221	221	221	221	221
Dispatchable Generation Resources with Assumed Unit Retirements									
Existing Resources	7,901	7,909	7,909	7,909	7,909	7,909	7,909	7,909	7,909
Retirements/Additions									
Coal	-300	-300	-300	-300	-300	-1,499	-1,499	-1,657	-1,657
Large-Frame SCCTs	0	0	0	0	0	0	0	0	0
Small-Frame SCCTs	0	0	-55	-55	-55	-55	-55	-55	-55
Total	7,601	7,609	7,554	7,554	7,554	6,355	6,355	6,197	6,197
Reserve Margin	28.6%	28.8%	25.7%	25.8%	23.7%	4.1%	4.1%	1.4%	1.1%
Total Supply	**7,822**	**7,830**	**7,774**	**7,774**	**7,774**	**6,575**	**6,575**	**6,417**	**6,417**
Total Reserve Margin	**32.3%**	**32.5%**	**29.3%**	**29.5%**	**27.3%**	**7.7%**	**7.8%**	**5.0%**	**4.7%**

To meet customers' needs reflected in these tables, the Companies issued a request for proposals ("RFP") in June 2022 for electric energy and capacity and sent the RFP to numerous potential suppliers. The Companies also began developing self-build generation options.

Twenty-two companies responded to the RFP with more than 100 different proposals for 39 different projects (including the Companies' self-build proposals). Notably, no Kentucky utilities (other than the Companies) responded to the RFP. The proposals included new build proposals and power purchase agreements from a broad spectrum of generation technologies. The testimony of Charles R. Schram and the Resource Assessment attached to the testimony of Stuart A. Wilson describe in detail the Companies' consideration and analysis of the RFP responses, as well as the Companies' work with respondents to seek refinements and improvements to their bids to achieve the best value for customers. As reflected in the Resource Assessment, the Companies considered all technology options offered in response to the RFP along with the impact of expected DSM-EE programs while also considering the impacts of various fuel price and carbon price scenarios, as well as other key uncertainties such as solar project execution risk.

At the conclusion of the Companies' analysis, they determined that, in addition to the expanded portfolio of DSM-EE programs the Companies are proposing, the most robust portfolio for meeting customers' expected demand and energy needs safely and reliably across a wide variety of possible futures at the lowest reasonable cost is to:

- construct two 621 MW NGCC units, one at the Mill Creek Generating Station and another at the E.W. Brown Generating Station;
- construct a 120 MWac solar PV facility in Mercer County, Kentucky;
- acquire through a built-to-transfer agreement a 120 MWac solar PV facility in Marion County, Kentucky;
- enter into four non-firm energy-only PPAs for a total of 637 MW of additional solar production in Kentucky; and
- construct a 125 MW, 4-hour (500 MWh) battery storage facility at the E.W. Brown Generating Station.

A detailed description of the Companies' analysis is set forth in Mr. Wilson's testimony and in the Resource Assessment attached to his testimony.

10. Permits from Public Authorities (807 KAR 5:001, Section 15(2)(b)). The Companies will be required to obtain certain environmental and construction-related permits associated with the construction of the Mill Creek NGCC, Brown NGCC, Mercer County Solar Facility, and Brown BESS. Because the Companies propose to acquire the Marion County Solar Facility through a build-to-transfer agreement, they will not need to obtain environmental or construction-related permits to construct the facility; the developer will obtain the necessary permits. The required permits and the process for obtaining those permits are discussed in the direct testimonies of Messrs. Bellar and Imber, which accompany this Joint Application and are incorporated herein by reference. Copies of those permits will be filed with the Commission, as obtained, to the extent required by law or requested by the Commission. The permits described by Messrs. Bellar and Imber are the only permits that will be necessary for the projects for which approval is sought in this case.

11. Location of Proposed Construction (807 KAR 5:001, Section 15(2)(c)). The Mill Creek NGCC will be located at LG&E's Mill Creek Generating Station in Jefferson County, Kentucky; the Brown NGCC and the Brown BESS will be located at KU's E.W. Brown Generating Station in Mercer County, Kentucky; and the Mercer County Solar Facility will be located in Mercer County, Kentucky. Although the Companies will not be constructing it, the Marion County Solar Facility will be located in Marion County, Kentucky. There are no like facilities in the vicinity of any of the proposed facilities, and the Companies do not anticipate that any of the proposed facilities will compete with any other public utilities, corporations, or persons.

12. Manner of Proposed Construction (807 KAR 5:001, Section 15(2)(c)). As explained in detail in the direct testimony of Mr. Bellar, the Companies will construct the Mill Creek NGCC, Brown NGCC, Mercer County Solar Facility, and Brown BESS primarily through a self-build process. The Companies have selected an engineering firm to perform engineering services, optimize design for the Companies' needs, support environmental permitting, and to assist the Companies in their procurement efforts. The Companies anticipate beginning construction of each project soon after receiving a CPCN and other required regulatory and environmental approvals. The Companies anticipate completing construction of the Mill Creek NGCC in the second quarter of 2027 to allow it to be on-line by summer 2027 and the Brown NGCC in the second quarter of 2028 to allow it to be on-line by summer 2028. The Companies anticipate completing construction of the Mercer County Solar Facility and the Brown BESS facility in 2026.

13. Maps and Plans, Specifications and Drawings (807 KAR 5:001, Section 15(2)(d)). The required maps and the conceptual plans, specifications, and drawings for the Mill Creek NGCC, Brown NGCC, Mercer County Solar Facility, and Brown BESS Facility are attached as Joint Application Exhibits 1, 2, 3, and 4, respectively. Since the Companies are not constructing the Marion County Solar Facility, the requirement of maps, plans, specifications, and drawings is not applicable.

14. Financing Plans (807 KAR 5:001, Section 15(2)(e)). The total projected capital cost for the Mill Creek NGCC, including related gas and electric transmission work, is approximately $662 million. The total projected capital cost for the Brown NGCC, including related gas and electric transmission work, is approximately $700 million. The total projected capital cost for the Mercer County Solar Facility is approximately $243 million. The total

projected capital cost for the Marion County Solar Facility is approximately $220 million. The total projected capital cost for the Brown BESS facility is approximately $270 million. The Companies' proposed financing of such costs is discussed in the direct testimony of Mr. Conroy, which accompanies this Joint Application and is incorporated herein by reference.

15. Estimated Cost of Operation (807 KAR 5:001, Section 15(2)(f)). The estimated annual cost of operation of the proposed construction projects is set forth in the direct testimony of Mr. Bellar, which accompanies this Joint Application and is incorporated herein by reference.

16. Ownership. Subject to the necessary approvals: KU will own 69% and LG&E will own 31% of the Mill Creek NGCC; KU will own 69% and LG&E will own 31% of the Brown NGCC; KU will own 63% and LG&E will own 37% of the Mercer County Solar Facility; KU will own 63% and LG&E will own 37% of the Marion County Solar Facility; and LG&E will own 100% of the Brown BESS facility. Ownership of all facilities will comply with the Companies' Power Supply System Agreement dated October 9, 1997. The ownership allocation decisions are described in more detail in the testimony of Messrs. Conroy and Wilson.

17. Site Compatibility Certificates (KRS 278.216). As explained by Mr. Imber and Mr. Conroy, the Companies are requesting Site Compatibility Certificates under KRS 278.216 for the Mill Creek NGCC and Brown NGCC. Attached as Joint Application Exhibits 5 and 6 are the required Site Assessment Reports with the content required by KRS 278.708.

Current Demand-Side Management and Energy Efficiency Programs

18. The Commission approved the Companies' current DSM-EE Program Plan (the 2019-2025 DSM-EE Program Plan) in an Order dated October 5, 2018 in Case No. 2017-

00441.[4] As of the date of this Joint Application, the Companies are almost four years into the seven-year term of their current DSM-EE Program Plan. All of the programs the Commission approved in the 2019-2025 DSM-EE Program Plan are performing well and within plan parameters with the notable exception of the Nonresidential Rebates Program, which is performing well beyond forecasted expectations.[5] But due to significant changes in assumptions that underlie the cost-effectiveness of DSM-EE programs, particularly the Companies' avoided cost of capacity, it is now appropriate to seek approval for a new and expanded DSM-EE Program Plan.

The Companies' Proposed 2024-2030 DSM-EE Program Plan

19. As it began to appear that the Companies could have a capacity need beginning in 2028, the Companies accelerated their DSM-EE Program Plan development. The Direct Testimonies of John Bevington and Lana Isaacson discuss the Companies' process for developing the proposed DSM-EE Program Plan, including the Companies' collaborative process with their DSM-EE Advisory Group and the Companies' cost-benefit analysis to select the programs. As Ms. Isaacson discusses further in her testimony, the Companies commissioned Cadmus, their DSM-EE consultant, to perform an update to their existing DSM-EE potential studies for residential, commercial, and industrial customers.

20. Using ongoing market research, utility benchmarking, and working with input from the DSM-EE Advisory Group, the Companies and Cadmus formulated the proposed 2024-2030 DSM-EE Program Plan by beginning with a pool of 39 possible programs that other

[4] *Electronic Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Review, Modification, and Continuation of Certain Existing, Demand-Side Management and Energy Efficiency Programs*, Case No. 2017-00441, Order (Ky. PSC Oct. 5, 2018).
[5] *Electronic Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company to Enhance the Budget of an Existing Demand-Side Management and Energy Efficiency Program*, Case No. 2022-00123, Order (Ky. PSC May 20, 2022).

utilities across the nation have implemented. Using a scoring rubric, the Companies and Cadmus narrowed that pool to 14 possible programs for cost-benefit analysis by Cadmus. Then, based on the results of the cost-benefit analyses and discussions with the DSM-EE Advisory Group, the Companies finalized their proposed 2024-2030 DSM-EE Program Plan, which includes the following programs:

- Energy Efficiency Programs
  - Income-Qualified Solutions
    - Low-Income Weatherization (formerly known as WeCare)
    - Whole-Building Multifamily
  - Appliance Recycling
  - Residential Online Audit
  - Business Solutions
    - Nonresidential Rebates
    - Small Business Audit and Direct Install
    - Nonresidential Midstream Lighting
- Demand Response Programs
  - Connected Solutions
    - Residential and Small Nonresidential Demand Conservation Program
    - Bring-Your-Own Device ("BYOD")
    - Optimized Charging
    - Online Transactional Marketplace
  - Peak Time Rebates
  - Nonresidential Demand Response
- Program Development and Administration

21. The Companies project that the 2024-2030 DSM-EE Program Plan will achieve peak cumulative demand savings of approximately 377 MW in 2030 from energy efficiency and demand response programs and energy savings of 878 GWh, and 170,000 Mcf by 2030, putting the Companies well on pace to reach the DSM-EE program potential targets identified by Cadmus by 2030 at a total cost of $341 million. The DSM-EE Program Portfolio is cost-effective taken as a whole according to the Total Resource Cost test, and the total portfolio scores within ranges of other DSM-EE portfolios the Commission has previously approved

with regard to the other three California Standard Practice Manual tests the Commission requires for DSM-EE programs.[6]

DSM Tariff Matters

22. The DSM Mechanism is the means to recover all applicable costs related to DSM-EE programs approved by the Commission. The Companies do not propose any changes to the DSM Mechanism in this proceeding.

23. The Companies propose changes to the program descriptions contained in the Companies' tariff sheets to account for all of the programs and related incentives the Companies propose to offer.

24. Clean and redlined versions of the Companies' revised tariff sheets reflecting all of the changes discussed above, are Exhibits RMC-1 (for KU), RMC-2 (for LG&E electric), and RMC-3 (for LG&E gas) to the testimony of Mr. Conroy in this proceeding. The supporting calculations for the revised sheets are attached as Exhibits LI-3 (for KU), LI-4 (for LG&E electric, and LI-5 (for LG&E gas) to the testimony of Ms. Isaacson in this proceeding.

25. The proposed tariffs provide a 30-day notice through a proposed effective date of January 14, 2023; however, the Companies request that, after the Commission completes its investigation in this proceeding, consistent with prior practice, the Commission enter a final order approving the proposed programming, budgets, and metrics to be effective January 1, 2024.

[6] *See Joint Application of the Members of the Louisville Gas and Electric Company Demand-Side Management Collaborative for the Review, Modification, and Continuation of the Collaborative, DSM Programs, and Cost Recovery Mechanism*, Case No. 1997-00083, Order at 20 (Ky. PSC Apr. 27, 1998) ("Any new DSM program or change to an existing DSM program shall be supported by … [t]he results of the four traditional DSM cost-benefit tests [Participant, Total Resource Cost, Ratepayer Impact, and Utility Cost tests].").

26. The following tables show for all affected rate classes the current DSM-EE rates and those proposed to be effective on January 1, 2024:[7]

KU Rate Classes	Current Rates ($/kWh)	Proposed Rates ($/kWh)
RS, RTOD-Energy, RTOD-Demand, VFD	0.00074	0.00120
GS, GTOD-Energy, GTOD-Demand	0.00062	0.00156
AES	0.00363	0.00849
PS, TODS, TODP, RTS, FLS, OSL	0.00079	0.00198

LG&E Electric Rate Classes	Current Rates ($/kWh)	Proposed Rates ($/kWh)
RS, RTOD-Energy, RTOD-Demand, VFD	0.00137	0.00196
GS, GTOD-Energy, GTOD-Demand	0.00110	0.00256
PS	0.00297	0.00659
TODS, TODP, RTS, FLS, OSL	0.00035	0.00078

LG&E Gas Rate Classes	Current Rates ($/Ccf)	Proposed Rates ($/Ccf)
RGS, VFD	0.00412	0.00722
CGS, IGS, AAGS, SGSS, FT	0.00107	0.00165

27. The current DSM-EE charge for LG&E residential electric customers using an average of 918 kWh per month is $1.26, and the current DSM-EE charge for KU residential customers using an average of 1,193 kWh per month is $0.88. The Companies project that the monthly bill impact of the current and new DSM-EE programs will be $1.80 for LG&E residential electric customers using an average of 918 kWh per month and $1.43 for KU residential customers using an average of 1,193 kWh per month. Therefore, an LG&E electric customer using an average of 918 kWh per month will see a DSM-EE-related bill increase of

[7] The Companies' proposed rates to be effective January 1, 2024, do not reflect the DSM Balance Adjustment (DBA) component, which cannot be known until calendar year 2022 ends and the Companies file their DBA adjustments for calendar year 2022. The Companies typically file their DBA adjustments at the end of February following the calendar year that is the subject of the adjustment, with the new DBA components to take effect April 1.

$0.54 per month, and a KU customer using an average of 1,193 kWh per month will see a DSM-EE-related bill increase of $0.55 per month.

28. The current DSM-EE charge for LG&E residential gas customers using an average of 49 ccf per month is $0.20. The Companies project that the monthly gas bill impact of the current and new DSM-EE programs will be $0.35 for LG&E residential gas customers using an average of 49 ccf per month. Therefore, an LG&E gas customer using an average of 49 ccf per month will see a DSM-EE-related bill increase of $0.15 per month.

Request for Declaratory Order

29. The Companies propose to enter into four non-firm energy-only PPAs for the full output of the following solar PV facilities to be built in Kentucky with a total capacity of 637 MW (collectively "Solar PPAs"):

- A 138 MW 30-year PPA with ibV Energy Partners for a project to be built in Hopkins County and named Grays Branch;
- A 280 MW 30-year PPA with ibV Energy Partners for a project to be built in Hardin County and named Nacke Pike;
- A 104 MW 20-year PPA with Clearway Energy for a project to be built in Ballard County and named Song Sparrow; and
- A 115 MW 20-year PPA with BrightNight, LLC for a project to be built in Ballard County and named Gage Solar.

30. In Case No. 2020-00016, which concerned a non-firm energy-only PPA among the Companies and Rhudes Creek Solar, LLC for the full output of a 100 MW solar facility, the Commission's Orders concerning the portion of the PPA that would serve all native load customers addressed both the lack of necessity for Commission approval for such PPAs and

the cost recovery for such PPAs' costs.[8] More specifically, the Commission stated that its approval was not necessary under KRS 278.020 or KRS 278.300 for non-firm energy-only PPAs lacking minimum obligations or take-or-pay provisions, which PPAs do not have the same financial or operational impact on customers as constructing new generation.[9] The Commission further held that the Companies could recover the cost of the PPA insofar as it served all customers through the Companies' FAC mechanisms subject to the "highest cost unit calculation" approach, allowing the Companies to "recover the cost of the PPA energy as long as it is less than the avoidable variable generation cost of LG&E/KU's highest cost generating unit available to serve native load during that FAC expense month."[10]

31. As Charles R. Schram explains in his testimony, the Solar PPAs are in all relevant material respects identical to the solar PPA at issue in Case No. 2020-00016: they are for non-firm energy only, not firm energy or capacity; the Companies will have no capital, operating, or maintenance obligations with respect to the solar facilities; and the Companies will have no minimum purchase obligations of any kind. Instead, under each of the Solar PPAs the Companies will purchase the as-available output at a fixed price per MWh, just as the Companies' PPA with Rhudes Creek Solar, LLC provides.

32. Out of an abundance of caution and because the Solar PPAs are in all relevant material respects identical to the PPA among the Companies and Rhudes Creek Solar, LLC, the Companies respectfully ask the Commission to declare that (1) the Solar PPAs do not require Commission approval and (2) the Companies may recover the costs of the Solar PPAs

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[8] *See Electronic Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Approval of a Solar Power Contract and Two Renewable Power Agreements to Satisfy Customer Requests for a Renewable Energy Source Under Green Tariff Option #3*, Case No. 2020-00016, Order at 9-12 (Ky. PSC May 8, 2020); Case No. 2020-00016, Order at 5-6 (Ky. PSC Dec. 16, 2020).
[9] Case No. 2020-00016, Order at 9-12 (Ky. PSC May 8, 2020).
[10] Case No. 2020-00016, Order at 5-6 (Ky. PSC Dec. 16, 2020).

through their FAC mechanisms under the same "highest cost unit calculation" approach applicable to the PPA with Rhudes Creek Solar, LLC.

<u>Supporting Testimony</u>

33. The Companies support their requests in this Joint Application with the verified testimony and exhibits of the following persons:

- John R. Crockett III, President
- Lonnie E. Bellar, Chief Operating Officer
- Robert M. Conroy, Vice President, State Regulation and Rates
- Philip A. Imber, Director Environmental and Federal Regulatory Compliance
- David S. Sinclair, Vice President, Energy Supply and Analysis
- Charles R. Schram, Director, Power Supply
- Stuart A. Wilson, Director, Energy Planning, Analysis, and Forecasting
- Tim A. Jones, Manager, Sales Analysis and Forecasting
- John Bevington, Director, Business and Economic Development
- Lana Isaacson, Manager, Emerging Business Planning and Development

<u>Requested Order Date</u>

34. As explained in Mr. Bellar's testimony, to ensure the Companies can timely construct their proposed facilities and deploy their proposed DSM-EE programs to continue to provide safe and reliable service at the lowest reasonable cost, the Companies respectfully as the Commission to enter a final order granting all relief requested in this Joint Application on or before October 1, 2023.

WHEREFORE, Louisville Gas and Electric Company and Kentucky Utilities Company respectfully requests the Kentucky Public Service Commission to enter an order by October 1, 2023:

1. Granting the Companies a Certificate of Public Convenience and Necessity to construct a 621 MW net summer rating natural gas combined cycle combustion turbine at LG&E's Mill Creek Generating Station, including related gas and electric transmission construction at the station;

2. Granting the Companies a Certificate of Public Convenience and Necessity to construct a 621 MW net summer rating natural gas combined cycle combustion turbine at KU's E.W. Brown Generating Station, including related gas and electric transmission construction at the station;

3. Granting the Companies a Certificate of Public Convenience and Necessity to construct an approximately 120 MWac solar photovoltaic facility in Mercer County, Kentucky;

4. Granting the Companies a Certificate of Public Convenience and Necessity to acquire a 120 MWac solar photovoltaic facility in Marion County, Kentucky;

5. Granting the Companies a Certificate of Public Convenience and Necessity to construct a 125 MW, 4-hour (500 MWh) battery storage facility at KU's E.W. Brown Generating Station;

6. Granting the Companies Site Compatibility Certificates pursuant to KRS 278.216 for the NGCCs proposed to be constructed at the Mill Creek Generating Station and at the E.W. Brown Generating Station;

7. Approving the Companies' proposed 2024-2030 DSM-EE Program Plan and the proposed revised Demand Side Management cost recovery tariff sheets to be effective for service rendered on and after January 1, 2024;

8. Declaring that (a) the proposed Solar PPAs do not require Commission approval and (d) the Companies may recover the costs of the Solar PPAs through their FAC mechanisms under the same "highest cost unit calculation" approach applicable to the PPA with Rhudes Creek Solar, LLC as approved by the Commission in Case No. 2020-00016;

9. Approving the regulatory asset treatment for the difference between AFUDC accrued at the Companies' weighted average cost of capital and AFUDC accrued using the methodology approved by the FERC during the construction period of the two NGCCs, Mercer County Solar Facility, and Brown BESS; and

10. Granting any and all other relief to which the Companies may be entitled.

Dated: December 15, 2022

Respectfully submitted,

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Counsel for Kentucky Utilities Company and Louisville Gas and Electric Company

CERTIFICATE OF COMPLIANCE

In accordance with the Commission's Order of July 22, 2021 in Case No. 2020-00085 (Electronic Emergency Docket Related to the Novel Coronavirus COVID-19), this is to certify that the electronic filing has been transmitted to the Commission on December 15, 2022; and that there are currently no parties in this proceeding that the Commission has excused from participation by electronic means.

Kendrick R Riggs

Counsel for Kentucky Utilities Company and Louisville Gas and Electric Company