COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

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

JOINT APPLICATION

Louisville Gas and Electric Company (“LG&E”) and Kentucky Utilities Company (“KU”) (collectively “the Companies”) hereby petition the Kentucky Public Service Commission (“Commission”) pursuant to KRS 278.285 to issue an Order approving their proposed 2019-2025 Demand-Side Management and Energy Efficiency Program Plan (“Proposed DSM-EE Program Plan”) and the proposed Demand-Side Management Cost Recovery Mechanism (“DSM Mechanism”) tariff sheets filed herewith that will permit recovery of the costs associated with the proposed programs. The Companies respectfully ask the Commission to issue an order by June 1, 2018, approving the proposed continuation of the School Energy Managers Program, and to issue a final order approving the remainder of the Proposed DSM-EE Program Plan and revised DSM Mechanism tariff sheets by September 1, 2018, with the Companies’ revised tariff sheets to be effective on January 1, 2019.

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:

<table>
<thead>
<tr>
<th>Adair</th>
<th>Edmonson</th>
<th>Jessamine</th>
<th>Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson</td>
<td>Estill</td>
<td>Knox</td>
<td>Oldham</td>
</tr>
<tr>
<td>Ballard</td>
<td>Fayette</td>
<td>Larue</td>
<td>Owen</td>
</tr>
<tr>
<td>Barren</td>
<td>Fleming</td>
<td>Laurel</td>
<td>Pendleton</td>
</tr>
<tr>
<td>Bath</td>
<td>Franklin</td>
<td>Lee</td>
<td>Pulaski</td>
</tr>
</tbody>
</table>
6. Copies of all orders, pleadings and other communications related to this proceeding should be directed to:

Robert M. Conroy  
Vice President, State Regulation and Rates  
LG&E and KU Services Company  
220 West Main Street  
Louisville, Kentucky 40202  
robert.conroy@lge-ku.com  

Allyson K. Sturgeon  
Senior Corporate Attorney  
Sara V. Judd  
Senior Corporate Attorney  
LG&E and KU Services Company  
220 West Main Street  
Louisville, Kentucky 40202  
allyson.sturgeon@lge-ku.com  
sara.judd@lge-ku.com  

Kendrick R. Riggs  
W. Duncan Crosby III  
Joseph T. Mandlehr  
Stoll Keenon Ogden PLLC  
2000 PNC Plaza  
500 West Jefferson Street  
Louisville, Kentucky 40202  
kendrick.riggs@skofirm.com  
duncan.crosby@skofirm.com  
joseph.mandlehr@skofirm.com
Current Demand-Side Management/Energy Efficiency Programs

7. The Companies' initial Demand-Side Management and Energy Efficiency ("DSM-EE") programs were implemented in 1994. Since then, the Companies have worked with their Energy Efficiency Advisory Group ("DSM Advisory Group"), a group of customer-stakeholders that includes representatives from the Kentucky Department of Energy Development and Independence, the Kentucky Attorney General, the Kentucky Industrial Utility Customers, Inc., the Kentucky School Boards Association, environmental advocacy groups, commercial customers, and low-income advocates, to grow and improve the Companies' set of DSM-EE offerings, obtaining Commission approval for those offerings in 1996, 1998, 2001, 2008, 2011, and 2014.

8. Today, the Companies have a suite of successful DSM-EE programs, which the Commission approved in its November 14, 2014 Order in Case No. 2014-00003. The Companies' current DSM-EE programs are:

- Smart Energy Profile Program
- Residential Load Management/Demand Conservation Program
- Residential Refrigerator Removal Program
- Residential Low Income Weatherization Program ("WeCare")
- Program Development and Administration
- Commercial Load Management/Demand Conservation Program
- Residential Incentives Program
- Customer Education and Public Information Program

---

Commercial Conservation/Commercial Incentives Program

Residential Conservation/Home Energy Performance

In addition, the Companies offer and operate through their DSM-EE portfolio the Advanced Metering Systems ("AMS") Customer Offering, which the Commission also approved in Case No. 2014-00003.

9. Through October 2017, the Companies’ DSM-EE programs have produced cumulative energy and gas savings of approximately 1,077 GWh and 5.9 million Ccf, along with a cumulative demand reduction of over 450 MW.2 In accordance with past practice, the Companies’ 2018 Integrated Resource Plan ("IRP") will include not only these already-achieved demand reductions, but also the projected reductions from the Proposed DSM-EE Program Plan. The Proposed DSM-EE Program Plan is Exhibit GSL-1 to the testimony of Gregory S. Lawson.

The Companies Now Propose to Build on their DSM-EE Success in Accordance with Commission Orders, Companies’ Research, and Program Modifications

10. The Commission has repeatedly expressed its clear policy to promote greater development and deployment of DSM-EE programs. In its February 17, 2011 Final Order in Case No. 2010-00222, the Commission stated:

The Commission believes that conservation, energy efficiency and DSM, generally, will become more important and cost-effective as there will likely be more constraints placed upon utilities whose main source of supply is coal-based generation.

... [T]he Commission believes that it is appropriate to strongly encourage Meade, and all other electric energy providers, to make

2 450 MW is a gross demand reduction number. For purposes of generation planning, the Companies most recently used 331 MW in demand reduction attributable to DSM-EE programs. This reduced number takes into account two estimates regarding the Companies’ Load Control programs: (1) an estimate of switches that have been disconnected, and (2) an estimate of compressors that are not running when a Load Control event is triggered. When applied to the cumulative demand reduction figure of 450 MW, these estimates result in the demand reduction figure of 331 MW.
a greater effort to offer cost-effective DSM and other energy efficiency programs.³

And in the Companies’ 2014 DSM-EE proceeding, the Commission directed the Companies to conduct a study in their service territories to determine the potential for additional demand and energy savings through DSM-EE programming targeted at industrial customers: “Within three months of the issuance of this Order, the Companies shall commission an industrial potential or market-characterization study.”⁴

11. In response to the Commission’s order and as part of the Companies’ own DSM-EE program review and evaluation processes, the Companies commissioned The Cadmus Group, Inc. (“Cadmus”) to perform three studies concerning the Companies’ current and future DSM-EE programming.

12. The first such study is the Energy Efficiency Industrial Potential Study (“EE Industrial Potential Study”), which Companies initiated in early 2015 and filed it with the Commission on May 26, 2016.⁵ The Companies commissioned the EE Industrial Potential Study to comply with the Commission’s Order in Case No. 2014-00003 quoted above. The EE Industrial Potential Study involved separate assessments of energy-efficiency potential for electricity and natural gas in the industrial sectors, considering a wide range of energy-efficiency technologies. The EE Industrial Potential Study examined a 20-year planning horizon from 2016-2035, and results indicate the potential to achieve electricity savings representing 6.7% of baseline sales.⁶

³ In the Matter of: Application of Meade County Rural Electric Cooperative Corporation to Adjust Electric Rates, Case No. 2010-00222, Order at 15-16 (Feb. 17, 2011).
⁴ Case No. 2014-00003, Order at 32 (Nov. 14, 2014)
⁶ Id. at 6.
13. The second study the Companies commissioned Cadmus to perform is the *Residential and Commercial Energy and Efficiency Potential Study* ("EE Residential and Commercial Potential Study"), which is Exhibit GSL-3 to Mr. Lawson's testimony. The *EE Residential and Commercial Potential Study* explores the potential of energy efficiency programming in the Companies' service territory and quantifies the amount of energy and demand that could be saved in the Companies' service territory from 2019 to 2038. The *EE Residential and Commercial Potential Study* involved separate assessments of energy-efficiency potential for electricity and natural gas in the commercial and residential sectors, considering a wide range of energy-efficiency technologies, and the results indicate the potential to achieve electricity savings representing 6.1% of baseline sales in the commercial sector and 5.5% of baseline sales in the residential sector.

14. The third study the Companies commissioned Cadmus to perform is the *Louisville Gas & Electric/Kentucky Utilities Company DSM Program Review* ("Program Review"), which is Exhibit GSL-2 to Mr. Lawson's testimony. Cadmus performed the Program Review contemporaneously with the *EE Residential and Commercial Potential Study*, and in consultation with the Companies' DSM Advisory Group. The Program Review involved consideration of the Companies' existing programs, a gap analysis to identify any potential new program measures and delivery options, secondary research of program topics, and development of recommendations for each program moving forward. Overall, the Program Review offered a number of recommendations for modifying or ending certain programs, which recommendations the Companies took into account in their Proposed DSM-EE Program Plan. However, the recommendations from the Program Review do not take into consideration cost-effectiveness at the program level, but rather look at cost-effectiveness of measures based on achievable
potential. DSM-EE programming included in the Proposed DSM-EE Program Plan is based on cost-effectiveness at the program level that includes various costs to run programs.

15. The Proposed DSM-EE Program Plan is supported by the aforementioned studies, and was formulated in collaboration with the Companies’ DSM Advisory Group. The Companies held meetings with the DSM Advisory Group three times in 2016 and twice in 2017 to discuss the EE Industrial Potential Study, the EE Residential and Commercial Potential Study, and the ongoing internal efforts to review the existing DSM-EE portfolio and develop the Proposed DSM-EE Program Plan.

16. As more fully explained in the testimony of David E. Huff, significant changes in market conditions relevant to DSM-EE programming have made it more challenging for utility-run DSM-EE programs to be cost-effective. Increasing customer adoption of energy-efficiency measures and declining avoided costs of energy and capacity have necessitated a substantial reduction in the Companies’ DSM-EE offerings. These reductions are reflected in the Companies’ November 29, 2017 budget filing for the 2018 DSM-EE program year and in this Application.

The Companies’ November 29, 2017 DSM-EE Filing

17. On November 29, 2017, the Companies filed their routine annual budget filing for the 2018 DSM-EE program year, which covers calendar year 2018. That filing contains significant reductions and alterations to existing DSM-EE incentives.

18. Based on the results of the Program Review, and due to the aforementioned unprecedented changes in market conditions, the Companies determined it was prudent to revise the incentive level to $0 for the Residential Incentives Program for qualifying purchases made after March 31, 2018, and to cease issuing energy profiles under the Smart Energy Profile
Program effective April 1, 2018. In addition, the Companies proposed reductions to the following Commission-approved DSM-EE programs: Residential Load Management/Demand Conservation, Commercial Load Management/Demand Conservation, Commercial Conservation/Commercial Incentives, and Residential Conservation/Home Energy Performance Program.

19. Although these programs were approved in their current form through the end of 2018, the Companies determined that it was prudent to change the incentive related to these programs early due to changed circumstances and reduced cost-effectiveness.

**The Proposed 2019-2025 Demand-Side Management and Energy Efficiency Program Plan**

20. The Companies are proposing to continue the following programs: Low Income Weatherization Program (WeCare) (previously filed as Residential Low Income Weatherization Program (WeCare), Residential and Small Nonresidential Demand Conservation Program (previously filed as the Residential Load Management/Demand Conservation Program), Large Nonresidential Demand Conservation Program (previously filed as Commercial Load Management/Demand Conservation Program), Nonresidential Rebates Program (previously filed as Commercial Conservation/Commercial Incentive Program), the School Energy Management Program, and Advanced Metering Systems Customer Service Offering. The support for continuing these programs is contained in Exhibit GSL-1, and the testimony of Mr. Lawson describes the Companies’ proposal to revise some programs and continue others unchanged.

21. Beginning in 2019, industrial customers will be included in the Companies’ DSM Mechanism, and will be eligible for all nonresidential program offerings unless they elect to opt out and meet the opt-out criteria for energy-intensive industrial customers in accordance with KRS 278.285(3); such customers will be able to opt out only certain eligible meters, not all
meters serving such customers. As described in the testimony of Mr. Huff, the aforementioned *EE Industrial Potential Study* supports expansion of the nonresidential programs to include industrial customers.

22. The Companies will allow the following programs to expire because they will have reached the end of their approval cycle and useful life by the end of 2018: Residential Conservation Program/Home Energy Performance Program, Residential Refrigerator Removal Program, and Customer Education and Public Information Program. The support for each program's expiration is in Exhibit GSL-1.

23. The Companies applied to their existing DSM-EE programs the industry-standard cost-benefit tests set out in the California Standard Practice Manual, which the Commission explicitly requires utilities to apply: "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]." The results of the cost-benefit tests are discussed in the testimony of Mr. Lawson and included in Exhibit GSL-1. The Companies are not relying on the cost-benefit tests to support their Advanced Metering Systems Customer Service Offering consistent with KRS 278.285(1)(h) and the Commission's 2014 approval of the offering.\(^8\)

24. The Companies project that the Proposed DSM-EE Program Plan will produce the following annual energy, demand, and gas savings:

---


Note that the demand savings shown in the table above do not reflect the entirety of the demand savings that will continue to persist from past DSM-EE investments; rather, they reflect only the demand savings related to DSM-EE measures supported by the Proposed DSM-EE Program Plan, including all demand savings related to the Companies’ Demand Conservation Programs.

To achieve these benefits, the Companies project a total DSM-EE portfolio cost of $98.25 million from 2019 to 2025.

25. Although the Companies propose significant reductions to their DSM-EE programming, the Companies have been and remain committed to pursuing cost-effective DSM-EE programming. Recent significant decreases in customer load projections, decreases in marginal energy costs, and increases in baseline energy efficiency in the marketplace all make it increasingly challenging to develop and deploy cost-effective DSM-EE programs. But the Companies routinely evaluate DSM-EE opportunities, and will continue to do so.

**DSM Tariff Matters**

26. The DSM Mechanism is the means to recover all applicable costs related to DSM-EE programs approved by the Commission. The DSM Mechanism has operated successfully for many years, providing customers a clear line item on their bills for the Companies’ DSM-EE programs. The Companies do not propose any changes to the DSM Mechanism other than to adjust the rates to account for the Proposed DSM-EE Program Plan. This will include recovering capital costs associated with the Demand Conservation Programs and Advanced Metering Systems Customer Service Offering through the DSM Capital Cost Recovery component, though
at a reduced return on equity of 10.20% (reduced from the current 10.50% return on equity for DSM-EE-related capital). The reduced return on equity provides a 50-basis-point incentive compared to the Commission’s most recently awarded base-rate return on equity for the Companies of 9.70%. Also, as Rick E. Lovekamp describes in his testimony, by routine operation of the existing DSM Mechanism, the projected incentive component of the DSM Mechanism for calendar year 2019 is zero, though a non-zero incentive component could eventuate if DSM-EE programs’ costs or savings change in the future.

27. The Companies propose changes to the descriptive language contained in the Programmatic Customer Charges section of the Companies’ tariff sheets. These proposed changes to the descriptions of the Companies’ DSM-EE programs and the incentives available to customers who participate reflect the changes in the Proposed DSM-EE Program Plan.

28. In addition, the Companies propose several changes to address the inclusion of industrial customers in nonresidential programs, the definition of energy-intensive industrial customers, and the administration of the industrial-customer opt-out process. The testimony of Mr. Lovekamp explains the proposed tariff changes.

29. Clean and redlined versions of the Companies’ revised tariff sheets reflecting all of the changes discussed above, as well as the supporting calculations for revised sheets, are Exhibits REL-1 (for KU), REL-2 (for LG&E electric), and REL-3 (for LG&E gas) to the testimony of Mr. Lovekamp in this proceeding. Also, Mr. Lovekamp sponsors revised Fluctuating Load Service (Rate FLS) tariff sheets for both Companies (Exhibit REL-4 for KU;
Exhibit REL-5 for LG&E), the only change to which is adding the DSM Mechanism to the adjustment clauses applicable to service under Rate FLS.

30. The proposed tariffs provide a 30-day notice through a proposed effective date of January 5, 2018. The Companies request that the Commission enter an order by June 1, 2018, approving the School Energy Management Program, thereby permitting the program to continue uninterrupted. The Companies further request that, after the Commission completes its investigation in this proceeding, the Commission enter a final order by September 1, 2018, approving the remainder of the proposed programming, budgets, and metrics to be effective January 1, 2019.

31. The Companies project that the monthly bill impact of the new DSM-EE programs and program revisions will be $1.47 for an LG&E residential electric customer with average usage of 957 kWh/month and $1.23 for a KU residential electric customer with average usage of 1,179 kWh per month. For the same average-usage customers, the current DSM-EE charge for LG&E residential electric customers is $3.31 and $3.42 for KU residential electric customers. In other words, an LG&E electric customer using 957 kWh per month will see a DSM-EE-related bill decrease of $1.84 per month, and a KU electric customer using 1,179 kWh per month will see a DSM-EE-related bill decrease of $2.19 per month.

32. The Companies project that the monthly gas bill impact of the new DSM-EE programs and program enhancements will be $0.05 for an LG&E residential gas customers with average usage of 55 Ccf per month. For the same average-usage customers, the current DSM-EE charge for LG&E residential gas customers is $1.03. In other words, an LG&E gas customer using 55 Ccf per month will see a DSM-EE-related bill decrease of $0.98 per month.

Supporting Testimony and Request for Final Order
33. Gregory S. Lawson, the Companies' Manager, Energy Efficiency Planning/Development, presents testimony that describes the results the Companies' DSM-EE programs have produced to date, as well as the need to continue, allow to expire, or revise DSM-EE programs. He sponsors the Proposed DSM-EE Program Plan and describes each program therein, as well as the process the Companies used to formulate the review, including performing cost-benefit analyses, interacting with customer, government, and industry stakeholders, and taking into account the Companies' most recent Integrated Resource Plan. Also, Mr. Lawson sponsors the Louisville Gas and Electric/Kentucky Utilities Company DSM Program Review by The Cadmus Group, Inc. and the Energy and Efficiency Residential and Commercial Potential Study, also by Cadmus.

34. David E. Huff, the Companies' Director of Customer Energy Efficiency and Emerging Technologies, presents testimony that describes the circumstances that led to the changes proposed in this Application and explains how the Companies' industrial customers will participate in the Proposed DSM-EE Program Plan. Also, he co-sponsors the Proposed DSM-EE Program Plan.

35. Rick E. Lovekamp, the Companies' Manager of Regulatory Affairs/Tariffs, presents testimony that discusses the Companies' DSM Mechanism and revised tariff sheets. He explains the industrial-customer opt-out process, and sponsors the Companies' revised tariff sheets and supporting calculations.

36. The Companies respectfully request that the Commission issue an order by June 1, 2018, approving the School Energy Management Program, thereby permitting the program to continue uninterrupted. The Companies further respectfully request the Commission to complete its investigation and issue a final order in this proceeding approving the remainder of the
Proposed DSM-EE Program Plan and revised DSM Mechanism tariff sheets by September 1, 2018, with the Companies’ revised tariff sheets to be effective on January 1, 2019.

WHEREFORE, Louisville Gas and Electric Company and Kentucky Utilities Company respectfully request the Commission to issue an order by June 1, 2018, approving the School Energy Management Program and to issue an order approving the remainder of the Companies’ Proposed DSM-EE Program Plan and the proposed revised DSM Mechanism tariff sheets by September 1, 2018, with the Companies’ revised tariff sheets to be effective for service rendered on and after January 1, 2019.

Dated: December 6, 2017

Respectfully submitted,

Kendrick R. Riggs
W. Duncan Crosby III
Joseph T. Mandlehr
Stoll Keenon Ogden PLLC
2000 PNC Plaza
500 West Jefferson Street
Louisville, Kentucky 40202
Telephone: (502) 333-6000
Facsimile: (502) 627-8722
kendrick.riggs@skofirm.com
duncan.crosby@skofirm.com
joseph.mandlehr@skofirm.com

Allyson K. Sturgeon
Senior Corporate Attorney
Sara V. Judd
Senior Corporate Attorney
LG&E and KU Energy LLC
220 West Main Street
Louisville, KY 40202
Telephone: (502) 627-2088
Facsimile: (502) 627-3367
allyson.sturgeon@lge-ku.com
sara.judd@lge-ku.com

Counsel for Louisville Gas and Electric Company and Kentucky Utilities Company
CERTIFICATE OF COMPLIANCE

In accordance with 807 KAR 5:001 Section 8(7), this is to certify that Louisville Gas and Electric Company and Kentucky Utilities Company’s December 6, 2017 electronic filing is a true and accurate copy of the documents being filed in paper medium; that the electronic filing was transmitted to the Commission on December 6, 2017; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; that an original and six copies of the filing will be hand-delivered to the Commission on or before December 8, 2017; and that on December 6, 2017, electronic mail notification of the electronic filing will be provided to the following:

Rebecca Goodman
Lawrence W. Cook
Office of the Attorney General
Office of Rate Intervention
700 Capitol Avenue, Suite 20
Frankfort, KY 40601
Rebecca.Goodman@ky.gov
Larrv.Cook@ky.gov

Michael L. Kurtz
Boehm, Kurtz & Lowry
36 East Seventh Street, Suite 1510
Cincinnati, OH 45202
mkurtz@BKLlawfirm.com

Counsel for Louisville Gas and Electric
Company and Kentucky Utilities Company

[Signature]