

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

**AN EXAMINATION OF THE APPLICATION OF )  
THE FUEL ADJUSTMENT CLAUSE OF )  
LOUISVILLE GAS AND ELCTRIC COMPANY ) CASE NO. 2019-00005  
FROM NOVEMBER 1, 2016 TO OCTOBER 31, )  
2018**

**DIRECT TESTIMONY OF  
DELBERT BILLITER  
MANAGER – LG&E AND KU FUELS  
LG&E AND KU SERVICES COMPANY**

**Filed: FEBRUARY 25, 2019**

1 **Q. Please state your name, position and business address.**

2 A. My name is Delbert Billiter. I am the Manager, LG&E and KU Fuels for LG&E and  
3 KU Services Company, which provides services to Louisville Gas and Electric  
4 Company (“LG&E”) or (“the Company”) and Kentucky Utilities Company (“KU”)  
5 collectively (“the Companies”). My business address is 220 West Main Street,  
6 Louisville, Kentucky 40202. A statement of my education and work experience is  
7 attached to this testimony as Appendix A.

8 **Q. What is the purpose of your testimony?**

9 A. I am submitting this testimony in response to the Order entered in this proceeding by  
10 the Commission on February 11, 2019 (“Order”), directing LG&E to file written  
11 direct testimony on a number of issues relating to fuel procurement during the two-  
12 year period ended October 31, 2018 (“Review Period”).

13 **Q. Please comment generally on the reasonableness of LG&E’s fuel procurement**  
14 **practices during the Review Period.**

15 A. LG&E’s coal procurement practices are sufficiently flexible to allow the Company to  
16 respond effectively to changes in market conditions while maintaining a reliable low  
17 cost coal supply. Although LG&E typically issues formal, sealed-bid solicitations to  
18 meet its coal consumption and inventory needs, under its written fuel procurement  
19 procedures, it may solicit offers through more informal means, or may respond to  
20 unsolicited offers to the extent prices and terms and conditions of such offers are  
21 competitive with existing market conditions. These practices, by which LG&E is  
22 able to make optimal use of the market, are memorialized in LG&E’s written  
23 Corporate Fuels and By-Products Procurement Procedures. As noted in response to

1 the Commission's Order, Item No. 11, the fuel procurement procedures were last  
2 updated effective April 1, 2017 and were provided to the Commission in response to  
3 Question No. 15 in Case No. 2017-00285.

4 During the Two-Year Review Period, LG&E conducted four (4) written and  
5 no oral coal supply solicitations in the competitive marketplace. The solicitations and  
6 associated bid tabulation sheets have been filed in each of the prior six-month review  
7 periods. The information for the last six-month period ended October 31, 2018, is  
8 contained in the response to the Commission's Order, Item No. 4 (a) and (b). In  
9 addition, each vendor from whom LG&E purchased coal under long-term contract  
10 during the six-month period ended October 31, 2018, and the quantities and current  
11 price, are identified in response to the Commission's Order, Item No. 2.

12 **Q. Did LG&E comply with these fuel procurement procedures during the Review**  
13 **Period?**

14 A. Yes.

15 **Q. Please describe the coal suppliers' adherence to contract delivery schedules**  
16 **during the Review Period.**

17 A. Generally, performance compared to contract has been very good for LG&E's  
18 suppliers. Because of record rainfall in 2018, some suppliers experienced  
19 operational issues and our barge transportation contractor had significant problems  
20 because of flooding, river closures and lock restrictions and outages. These issues  
21 interrupted deliveries throughout the year. However, delivery schedules were  
22 adjusted and all but one contract was at or above 98% of their ratable quantity at the  
23 end of 2018 (the one contract not at 98% was 95% of ratable). A list of all of

1 LG&E's purchases under long-term fuel contracts compared to the ratable contract  
2 obligation is contained in the response to the Commission's Order, Item No. 2.

3 **Q. What were LG&E's efforts to ensure the coal suppliers' adherence to contract**  
4 **delivery schedules during the Review Period?**

5 A. LG&E regularly communicates with its vendors to identify any potential problems in  
6 meeting agreed-upon delivery schedules. This includes daily correspondence  
7 between logistics personnel and periodic on-site mine visits by LG&E  
8 representatives. When suppliers experience issues meeting the delivery schedule,  
9 LG&E works with suppliers to explore options to meet the contract requirement.  
10 These options include adjusting future schedule quantity, allowing deliveries from  
11 alternate sources, and/or utilizing alternative transportation options or a combination  
12 of these options.

13 LG&E continues to work with its suppliers on deliveries and make-up of force  
14 majeure events. This has proven to be an effective strategy over time that results in  
15 reasonably priced coal being delivered to our generation stations.

16 **Q. Please describe LG&E's efforts to maintain the adequacy of its coal supplies in**  
17 **light of any coal supplier's inability or unwillingness to make contract coal**  
18 **deliveries.**

19 A. If, after making efforts to mitigate a supplier's inability to make contract deliveries,  
20 as described above, a supplier is unable to make contract deliveries or if a supplier is  
21 unwilling to make contract deliveries, LG&E could, as necessary, solicit the coal  
22 market to purchase additional coal to offset the delivery deficits. LG&E could also

1 utilize its on-site inventory to address delivery deficits. In addition, LG&E would  
2 exercise its contractual rights to address any delivery deficits with the supplier.

3 To mitigate potential delivery issues with any one supplier, LG&E maintains,  
4 when operationally possible and economically practical, a diversity of suppliers. This  
5 diversity assists in maintaining an adequate supply by limiting the impact of a  
6 delivery shortfall from an individual supplier. Maintaining supplier diversity has  
7 become increasing more difficult as the number of coal suppliers continue to decline  
8 because of falling coal demand and industry consolidation.

9 These efforts, coupled with ongoing procurement pursuant to the Company's  
10 procedures, produced adequate coal supplies through the end of the Review Period.

11 **Q. Were there any changes in coal market conditions that occurred during the**  
12 **Review Period, or that LG&E expects to occur within the next two years that**  
13 **have significantly affected or will significantly affect the Company's coal**  
14 **procurement practices?**

15 A. The coal market has experienced and continues to undergo changes. Although these  
16 changes can affect LG&E's bargaining power with suppliers, they did not alter, nor  
17 are they expected to alter, the Company's coal procurement practices. LG&E's fuel  
18 procurement practices allow the Company to respond effectively to changes in market  
19 conditions.

20 U.S. coal demand in 2018 remained substantially the same as 2017 as lower demand  
21 from the power sector was offset by higher demand in the export market. The same  
22 U.S. coal demand coupled with lower coal production resulted in tight supply  
23 conditions and increased spot prices during the second half of 2018. U.S. coal

1 production is estimated at 754 million tons in 2018, a decrease of 20 million tons  
2 compared to 2017 U.S. coal production. Coal production is expected to decrease by  
3 an additional 25 million tons in 2019 primarily driven by a further reduction in  
4 demand from the power sector.

5 The U.S. Energy Information Administration’s (“EIA”) *Short-Term Energy*  
6 *Outlook*, released January 15, 2019 effectively confirms the 2018 decrease in  
7 production and the changes expected in the U. S. coal market over the next couple of  
8 years:

9 **Coal Supply.** EIA estimates that coal production declined by 20  
10 million short tons (MMst) (3%) in 2018, despite a 19 MMst increase in  
11 U.S. coal exports. Appalachian region coal production, based largely on  
12 the strength of growth in coal exports, increased for the second year in  
13 a row, but Interior and Western region production declined by 5% and  
14 3% in 2018, respectively. In both 2019 and in 2020, EIA expects total  
15 U.S. coal production to decline by 3% and 7%, respectively, because of  
16 anticipated declines in both exports and domestic consumption. The  
17 2020 forecast production of 680 MMst would be the first time annual  
18 production totaled less than 700 MMst since 1978.

19  
20 **Coal Consumption.** EIA estimates that coal consumption in the  
21 electric power sector for 2018 declined by 24 MMst (4%), despite a 4%  
22 increase in overall electricity generation. EIA expects power sector coal  
23 consumption to decline by 52 MMst (8%) in 2019 and by 44 MMst (7%)  
24 in 2020. The decrease in power sector consumption reflects increasing  
25 shares of electricity generation from both natural gas and renewable  
26 energy sources.

27  
28 **Coal Trade.** The United States, with excess coal production and export  
29 terminal capacity, is a swing supplier of coal to the global market. When  
30 market conditions are favorable (high global coal prices, low shipping  
31 costs, disruptions in supply from other exporters, and/or increased  
32 demand from major consumers), U.S. coal exports often expand.  
33 However, exports often contract with a reversal of these market factors.  
34 EIA estimates that U.S. coal exports were 116 MMst in 2018, 20% higher  
35 than the amount exported in 2017, marking the fourth time on record  
36 that annual exports exceeded 110 MMst. EIA expects that some market  
37 conditions that favor U.S. coal exports will diminish and forecasts that  
38 coal exports will decline to 102 MMst in 2019 and to 94 MMst in 2020.  
39 Despite EIA’s overall forecast decline in U.S. coal exports, exports to

1 Asia, particularly to India, Japan, and South Korea, are expected to  
2 remain strong. Exports to these three countries accounted for 33% (29  
3 MMst) of the coal exported in 2018 through September. Coal exports to  
4 other countries/regions have also increased recently. U.S. coal exports  
5 to North Africa, particularly Egypt and Morocco, have risen, and they  
6 accounted for 7% of total exports in 2018 through September.  
7 Comparatively, coal exports to Canada and Mexico accounted for 9% of  
8 total exports during the same period.  
9

10 **Q. Were LG&E's costs of fuel for the Review Period reasonable?**

11 A. Yes. LG&E cost of coal is reasonable and is below the mid-range, on a cents/MMBtu  
12 basis, of other similar electric utilities in the region on an overall price comparison  
13 which includes high, medium and low-sulfur coal. LG&E continues to follow the  
14 same sound coal procurement practices previously reviewed by the Commission. The  
15 reported coal cost data for other local utilities, suggest that demand and prices in the  
16 coal market impacted all utilities and that the prices LG&E is paying for fuel are  
17 reasonable based on market conditions.

18 **Q. Were LG&E's fuel purchases and practices during the Review Period**  
19 **reasonable?**

20 A. Yes. In my opinion, LG&E's fuel purchases and practices were reasonable during the  
21 Review Period.

22 **Q. Does this conclude your testimony?**

23 A. Yes.

**VERIFICATION**

**STATE OF KENTUCKY    )**  
**) SS:**  
**COUNTY OF JEFFERSON)**

The undersigned, **Delbert Billiter**, being duly sworn, deposes and says that he is the Manager, Fuels Risk Management, LG&E and KU Services Company and that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
\_\_\_\_\_  
**Delbert Billiter**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 25<sup>th</sup> day of February, 2019.

 (SEAL)  
\_\_\_\_\_  
Notary Public

My Commission Expires:  
**Judy Schooler**  
**Notary Public, ID No. 603967**  
~~State at Large, Kentucky~~  
**Commission Expires 7/11/2022**

## Appendix A

### **Delbert D. Billiter**

Manager, LG&E and KU Fuels  
LG&E and KU Services Company  
220 W. Main Street  
Louisville, KY 40202

### **Work Experience**

#### **LG&E and KU**

Manager, LG&E and KU Fuels	2017 – Present
Manager, Fuels Risk Management	2011 – 2017
Manager, Fuels Technical Services	2005 – 2011
Lead Mining Engineer	1996 – 2005

#### **Arch Coal**

Manager, Engineering and Preparation	1995 – 1996
Various engineering positions in IL, KY and WV	1988 – 1995

### **Education**

Bachelor of Science – Mining Engineering  
University of Kentucky, 1988

### **Professional**

Registered Professional Engineer in KY

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

<b>AN EXAMINATION OF THE APPLICATION )</b>	
<b>OF THE FUEL ADJUSTMENT CLAUSE OF )</b>	
<b>LOUISVILLE GAS AND ELECTRIC )</b>	<b>CASE NO. 2019-00005</b>
<b>COMPANY FROM NOVEMBER 1, 2016 )</b>	
<b>THROUGH OCTOBER 31, 2018 )</b>	

**DIRECT TESTIMONY OF**  
**CHARLES R. SCHRAM**  
**DIRECTOR, POWER SUPPLY**  
**KENTUCKY UTILITIES COMPANY**

**Filed: FEBRUARY 25, 2019**

**Q. Please state your name, position and business address.**

A. My name is Charles R. Schram. I am the Director – Power Supply for Louisville Gas and Electric Company (“LG&E” or “Company”) and an employee of LG&E and KU Services Company, which provides services to LG&E and Kentucky Utilities (“KU”) (collectively “Companies”). My business address is 220 West Main Street, Louisville, Kentucky 40202. A complete statement of my education and work experience is attached to this testimony as Appendix A.

**Q. Please describe your current job responsibilities.**

A. As Director – Power Supply, I have responsibility for the Companies’ economic joint dispatch of their generating units to reliably meet customers’ energy demands, the Companies’ sales of excess power when market conditions are favorable, and the Companies’ purchases of power from the market during periods when low cost power is available. The Power Supply business group also purchases natural gas that is used to fuel the Companies’ gas fired generating units.

**Q. Have you previously testified before this Commission?**

A. Yes. I have previously testified before this Commission on several occasions, including the prior Fuel Adjustment Clause proceedings. In my prior role as Director – Energy Planning, Analysis & Forecasting, I also testified in the Companies’ 2016 environmental cost recovery proceedings (Case Nos. 2016-00026 (KU) and 2016-00027 (LG&E)).

**Q. What is the purpose of your testimony?**

A. I am submitting this testimony in response to the Order entered in this proceeding by the Commission on February 11, 2019 (“Order”), directing LG&E to file written direct

testimony on a number of topics relating to fuel procurement practices during the two-year period ended October 31, 2018 (“Review Period”).

**Q. Please describe LG&E’s business strategy for the procurement of natural gas as a fuel source for the generation of electricity?**

A. LG&E procures natural gas for its Cane Run 7 (“CR7”) combined cycle unit as well as its simple cycle peaking units. CR7’s high efficiency coupled with low natural gas prices makes the unit competitive with coal-fired base load units. While the 640 MW CR7 unit operated as one of the Companies’ lowest units based on the low gas prices during the review period, CR7 is required to operate a minimum amount to meet the projected baseload electric demand, regardless of gas price. LG&E’s fuel procurement strategy considers the increased use of natural gas and the relationship between coal and natural gas volumes. The strategy establishes guidelines for key metrics related to fuel procurement activities, risk elements and fuel transportation.

**Q. Please describe LG&E’s transportation of natural gas for electric generation.**

A. Natural gas for CR7 and the simple cycle natural gas-fired units is transported from the producing regions to the LG&E generating units by the natural gas interstate pipeline system. Some units are served by a single interstate pipeline and some are served by two interstate pipelines. Appropriate amounts of firm natural gas transportation capacity to support system reliability are procured on a long-term basis for those units that are served by only one interstate pipeline.

**Q. How and when does LG&E purchase natural gas for its peaking generation?**

A. The need for peaking generation is determined by weather, load, generation availability, and market prices. The variability of these factors makes it difficult to

precisely forecast the specific days and hours when peaking generation is needed. Because of this significant uncertainty regarding the volume of natural gas required, LG&E continues to purchase physical natural gas for peaking generation on an “as-needed” basis, typically in the day-ahead or intra-day spot market.

**Q. How does LG&E coordinate its procurement of natural gas for CR7 and coal for electric generation?**

A. The minimum projected fuel requirement for gas and coal is first established during the annual planning process and is used to guide procurement decisions. To manage the potential swings in fuel requirements for coal units and CR7, procurement activities of each fuel are coordinated through quarterly market solicitations. Longer-term purchases of a portion of natural gas for CR7 began in mid-2016.

**Q. For the forward gas purchases, what has been LG&E’s experience with suppliers and the execution of the agreements?**

A. During the review period, the Companies made various purchases of up to 50,000 MMBtu/day of natural gas on a forward basis for delivery in the months of November 2016 through October 2018 that are part of this review period. The Companies experienced no issues with the forward purchases and deliveries of natural gas.

**Q. Did LG&E comply with the fuel strategy guidelines and procurement policies for natural gas purchases during the Review Period?**

A. Yes. LG&E complied with the fuel strategy guidelines and procurement policies for natural gas purchases to support the fuel requirements for electricity generation.

**Q. Please comment generally on the reasonableness of LG&E’s natural gas fuel procurement practices during the Review Period.**

A. LG&E's natural gas procurement practices are reasonable and sufficiently flexible to allow the Company to respond effectively to changes in market conditions.

**Q. Does this conclude your testimony?**

A. Yes.

**VERIFICATION**

**STATE OF KENTUCKY    )**  
**) SS:**  
**COUNTY OF JEFFERSON)**

The undersigned, **Charles R. Schram**, being duly sworn, deposes and says that he is the Director – Power Supply, for LG&E and KU Services Company and that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
**Charles R. Schram**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 25<sup>th</sup> day of February, 2019.

  
**Notary Public** (SEAL)

My Commission Expires:  
**Judy Schooler**  
**Notary Public, ID No. 603967**  

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**State at Large, Kentucky**  
**Commission Expires 7/11/2022**

## APPENDIX A

### **Charles R. Schram**

Director, Power Supply  
LG&E and KU Services Company  
220 West Main Street  
Louisville, Kentucky 40202  
(502) 627-3250

### **Professional Experience**

#### **LG&E and KU**

Director, Power Supply	May 2016 – Present
Director, Energy Planning, Analysis & Forecasting	2008 – 2016
Manager, Transmission Protection & Substations	2006 – 2008
Manager, Business Development	2005 – 2006
Manager, Strategic Planning	2001 – 2005
Manager, Distribution System Planning & Eng.	2000 – 2001
Manager, Electric Metering	1997 – 2000
Information Technology Analyst	1995 – 1997

#### **U.S. Department of Defense – Naval Ordnance Station**

Manager, Software Integration	1993 – 1995
Electronics Engineer	1984 – 1993

### **Education**

Master of Business Administration  
University of Louisville, 1995  
Bachelor of Science – Electrical Engineering  
University of Louisville, 1984  
E.ON Academy General Management Program: 2002-2003  
Center for Creative Leadership, Leadership Development Program: 1998

### **Civic Activities**

The Housing Partnership – Board of Directors, 2017 – Present

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

<b>AN EXAMINATION OF THE APPLICATION OF</b>	)	
<b>THE FUEL ADJUSTMENT CLAUSE OF</b>	)	
<b>LOUISVILLE GAS &amp; ELECTRIC COMPANY</b>	)	<b>CASE NO.</b>
<b>FROM NOVEMBER 1, 2016 THROUGH OCTOBER 31,</b>	)	<b>2019-00005</b>
<b>2018</b>	)	

**DIRECT TESTIMONY OF**  
**STUART A. WILSON**  
**DIRECTOR – ENERGY PLANNING, ANALYSIS & FORECASTING**  
**LG&E AND KU SERVICES COMPANY**

**Filed: FEBRUARY 25, 2019**

1 **Q. Please state your name and business address.**

2 A. My name is Stuart A. Wilson. My position is Director – Energy Planning, Analysis,  
3 and Forecasting for LG&E and KU Services Company, which provides services to  
4 Kentucky Utilities Company (“KU” or “the Company”) and Louisville Gas and  
5 Electric Company (“LG&E”) (collectively “the Companies”). My business address  
6 is 220 West Main Street, Louisville, Kentucky 40202. A complete statement of my  
7 education and work experience is attached to this testimony as Appendix A.

8 **Q. What is the purpose of your testimony?**

9 A. I am submitting this testimony in accordance with the Order entered in this  
10 proceeding by the Commission on February 11, 2019 (“Order”), directing LG&E  
11 to file written direct testimony to address changes in the wholesale electric power  
12 market that significantly affected, or will significantly affect, LG&E’s electric  
13 power procurement practices.

14 **Q. What changes have occurred in the wholesale electric power market during**  
15 **the period November 1, 2016 through October 31, 2018 that have significantly**  
16 **affected LG&E’s electric power procurement practices?**

17 A. LG&E’s electric power procurement practices were not significantly affected by  
18 any changes in the wholesale electric power market during this period.

19 **Q. How have prices developed in the wholesale power market during the current**  
20 **two-year period (November 1, 2016 through October 31, 2018)?**

21 A. The average monthly electric power price during the current two-year period was  
22 \$32.65/MWh, compared to \$32.52/MWh during the previous two-year period

1 (November 1, 2014 through October 31, 2016).<sup>1</sup> Electricity prices remained low  
2 during the current and previous review periods largely due to the fact that natural  
3 gas prices averaged below \$3.00/MMBtu for both periods. LG&E continues to  
4 look for opportunities to purchase hourly power from the wholesale market when  
5 the cost is lower than its own resources and when import of this power is supported  
6 by adequate transmission availability and other operational parameters.

7 **Q. What changes does LG&E expect to occur in the wholesale power market**  
8 **within the next two years that may significantly affect LG&E's electric power**  
9 **procurement practices?**

10 A. LG&E does not expect changes in the wholesale power market in the next two years  
11 that would significantly affect LG&E's power procurement practices. Natural gas  
12 continues to set marginal on-peak electricity prices in the region. On-shore shale  
13 gas supplies continue to be a growing part of the U.S. gas supply. Most forecasters  
14 continue to believe that gas prices will avoid sustained periods of volatility given  
15 the demonstrated responsiveness of shale gas supplies.

16 Regardless of the development of wholesale markets, electric transmission  
17 constraints and congestion may at times limit the Company's ability to import  
18 power from the wholesale market to serve native load, highlighting the continuing  
19 importance of the Company's ability to serve its customers with its own supply side  
20 resources to ensure security of supply.

21 **Q. Does this conclude your testimony?**

22 A. Yes.

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<sup>1</sup> Based on average monthly around-the-clock prices for PJM West Hub.

**VERIFICATION**

**STATE OF KENTUCKY    )**  
**) SS:**  
**COUNTY OF JEFFERSON)**

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is the Director, Energy Planning, Analysis & Forecasting for LG&E and KU Services Company and that he has personal knowledge of the matters set forth in the foregoing testimony, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

  
\_\_\_\_\_

**Stuart A. Wilson**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 25th day of February, 2019.

  
\_\_\_\_\_  
Notary Public (SEAL)

My Commission Expires:  
**Judy Schooler**  
**Notary Public, ID No. 603967**  
\_\_\_\_\_  
**State at Large, Kentucky**  
**Commission Expires 7/11/2022**

## Appendix A

### **Stuart A. Wilson, CFA**

Director, Energy Planning, Analysis, and Forecasting  
LG&E and KU Services Company  
220 West Main Street  
Louisville, KY 40202  
Telephone: (502) 627-4993

### **Previous Positions**

Manager, Generation Planning & Analysis	October 2009 – April 2016
Manager, Sales Analysis & Forecasting	May 2008 – October 2009
Supervisor, Sales Analysis & Forecasting	Aug 2006 – April 2008
Economic Analyst	Aug 2000 – July 2006
Compensation Analyst	Aug 1999 – July 2000
Business Analyst	June 1997 – July 1999

### **Civic Activities**

Barren Heights Christian Retreat – Board of Directors: 2015 – Present  
Big Brothers Big Sisters of Kentuckiana – Board of Directors: 2017 – Present

### **Professional Memberships**

CFA Society of Louisville

### **Education/Certifications**

E.ON Emerging Leaders Program: 2004-2006

CFA Charterholder: September 2003

LG&E Energy Leadership Development Program: 1997-2002

Master of Business Administration;  
Indiana University, May 1997

Master of Engineering in Electrical Engineering;  
University of Louisville, December 1995

Bachelor of Science in Electrical Engineering;  
University of Louisville, December 1995