COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF KENTUCKY UTILITIES COMPANY FROM NOVEMBER 1, 2018 TO OCTOBER 31, 2020	))))	**CASE NO. 2021-00055**

In the Matter of:

AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF LOUISVILLE GAS AND ELCTRIC COMPANY FROM NOVEMBER 1, 2018 TO OCTOBER 31, 2020	)))))	**CASE NO. 2021-00056**

DIRECT TESTIMONY OF
DELBERT BILLITER
MANAGER – LG&E AND KU FUELS
KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: MARCH 22, 2021

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

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

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 March 4, 2021 ("Order"), directing the Companies to file written direct testimony on a number of issues relating to fuel procurement during the two-year period ended October 31, 2020 ("Review Period").

Q. Please comment generally on the reasonableness of the Companies' fuel procurement practices during the Review Period.

A. The Companies' coal procurement practices are sufficiently flexible to allow for an effective response to changes in market conditions while maintaining a reliable low-cost coal supply. Although the Companies typically issue formal, sealed-bid solicitations to meet its coal consumption and inventory needs, under its written fuel procurement procedures, they may solicit offers through more informal means, or may respond to unsolicited offers to the extent prices and terms and conditions of such offers are competitive with existing market conditions. These practices, by which the Companies are able to make optimal use of the market, are memorialized in the Companies' written Corporate Fuels and By-Products Procurement Procedures. As noted in response to the Commission's Order, Item No. 11, the fuel procurement procedures were last updated effective April 1, 2017 and were provided to the Commission in response to Question No. 15 in Case No. 2017-00285 for LG&E and Case No. 2017-00284 for KU.

During the Two-Year Review Period, the Companies conducted five (5) written and no oral coal supply solicitations in the competitive marketplace. The solicitations and associated bid tabulation sheets have been filed in each of the prior six-month review periods. The information for the last six-month period ended October 31, 2020, is contained in the response to the Commission's Order, Item No. 4 (a) and (b). In addition, each vendor from whom the Companies purchased coal under long-term contract during the six-month period ended October 31, 2020, and the quantities and current price, are identified in response to the Commission's Order, Item No. 2.

Q. Did the Companies comply with these fuel procurement procedures during the Review Period?

A. Yes.

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

A. Generally, performance compared to contract was been very good for the Companies' suppliers during the Review Period. However, one supplier, Hartshorne Mining Group, LLC ("Hartshorne") experienced extreme difficulties developing their mine, and significantly underperformed their contract obligations after filing Chapter 11 bankruptcy in early 2020. Hartshorne was not able to successfully reorganize and closed their operations in July 2020 and the contract was terminated. White Stallion

Energy and Eagle River Coal filed Chapter 11 bankruptcy in December 2020 and January 2021 respectively. Their operations are currently idled and no shipments are being made while they evaluate their options. The Companies have a long-term joint contract with these companies for fifty thousand tons per month through July 2024. A list of all of the Companies' purchases under long-term fuel contracts compared to the ratable contract obligation is contained in the response to the Commission's Order, Item No. 2.

Q. What were the Companies' efforts to ensure the coal suppliers' adherence to contract delivery schedules during the Review Period?

A. The Companies regularly communicate with its vendors to identify any potential problems in meeting agreed-upon delivery schedules. This includes daily correspondence between logistics personnel and periodic on-site mine visits by the Companies' representatives. When suppliers experience issues meeting the delivery schedule, the Companies work with suppliers to explore options to meet the contract requirement. These options include adjusting future schedule quantity, allowing deliveries from alternate sources, and/or utilizing alternative transportation options or a combination of these options.

The Companies also work with its suppliers on deliveries and make-up of force majeure events. This has proven to be an effective strategy over time that results in reasonably priced coal being delivered to our generation stations.

Q. Please describe the Companies' efforts to maintain the adequacy of its coal supplies in light of any coal supplier's inability or unwillingness to make contract coal deliveries.

A. If, after making efforts to mitigate a supplier's inability to make contract deliveries, as described above, a supplier is unable to make contract deliveries or if a supplier is unwilling to make contract deliveries, the Companies could, as necessary, solicit the coal market to purchase additional coal to offset the delivery deficits. The Companies could also utilize its on-site inventory to address delivery deficits. In addition, the Companies would exercise its contractual rights to address any delivery deficits with the supplier.

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

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

Q. Were there any changes in coal market conditions that occurred during the Review Period, or that the Companies expects to occur within the next two years that have significantly affected or will significantly affect the Companies' coal procurement practices?

A. The coal market has experienced and continues to undergo changes. Although these changes can affect the Companies' bargaining power with suppliers, they did not alter, nor are they expected to alter, the Companies' coal procurement practices. The

Companies' fuel procurement practices allow the Companies to respond effectively to changes in market conditions.

U.S. coal demand in 2020 was significantly lower than 2019 driven by lower demand in both the power sector and the export market. The worldwide pandemic impacted the consumption of coal in all markets. U.S. coal production is estimated to be 537 million tons in 2020, a decrease of 168 million tons compared to 2019 U.S. coal production. Coal production is expected to rebound by 66 million tons in 2021 primarily driven by economic recovery and an increased demand from the power sector as a result of higher natural gas prices.

The U.S. Energy Information Administration's ("EIA") *Short-Term Energy Outlook* released January 12, 2021 effectively confirms the 2020 decrease in production and notes the changes expected in the U. S. coal market over the next couple of years:

Coal Supply:

> EIA estimates U.S. coal production fell by 168 million short tons (MMst) (24%) in 2020 to total 537 MMst for the year. The decline in production was primarily caused by less power sector demand for coal amid low natural gas prices. Coal production declined by an estimated 40 MMst (30%) in the Interior region, 79 MMst (21%) in the Western region, and 50 MMst (26%) in the Appalachian region. EIA expects U.S. coal production to rise as natural gas prices increase in 2021, increasing demand for coal in the electric power sector. EIA expects coal production in 2021 to be 603 MMst, a 12% increase from 2020 levels. EIA expects increases in coal production to moderate in 2022, rising by 25 MMst (4%), as forecast coal consumption growth slows.

Coal Consumption:

> EIA estimates that coal consumption for all sectors totaled 476 MMst in 2020, a110 MMst (19%) decline from the previous year. U.S. coal consumption in the electric power sector for 2020 declined by 104 MMst (19%), driving the decrease in overall coal consumption. Coal consumption at coke plants decreased from 18 MMst in 2019 to an estimated 15 MMst in 2020. EIA expects a 61 MMst rise in coal consumption from all sectors in 2021, largely driven by an increase in demand from the electric power sector, which is expected to consume 494 MMst of coal in 2021. In 2022, EIA forecasts total U.S. coal consumption to increase by 44 MMst to 581 MMst.

Coal Trade:

> Because of reduced demand from major international consumers, EIA estimates total U.S. coal exports declined by 26 MMst (28%) in 2020 to 66 MMst. This total is the second lowest annual amount exported over the past 10 years. EIA estimates metallurgical coal exports were 42 MMst in 2020, 24% lower than the previous year, and steam coal exports were 24 MMst, a decrease of 35% from 2019 levels. U.S. exports of both metallurgical and steam coal to India, a major consumer of U.S. coal, were down by 15% in 2020 through October compared with the same period in 2019. Japan, another major destination for U.S. coal exports, reduced imports of U.S. coal by 50% through October 2020. Exports to Europe have also decreased. U.S. Energy Information Administration | Short-Term Energy Outlook January 2021 18 EIA expects total U.S. coal exports to increase by 15 MMst (23%) in 2021, as a result of economic growth in major coal importers that are emerging from lower demand because of the pandemic in 2020. EIA expects coal exports to increase by 10 MMst (12%) in 2022 as market conditions continue to normalize following the pandemic. However, EIA expects that coal exports will total 92 MMst in 2022, slightly less than 2019 levels.

Q. Were the Companies' cost of fuel for the Review Period reasonable?

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

Q. **Were the Companies' fuel purchases and practices during the Review Period reasonable?**

A. Yes. In my opinion, the Companies' fuel purchases and practices were reasonable during the Review Period.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

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

Delbert Billiter

Delbert Billiter

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 18th day of March 2021.

Judy Schooler

Notary Public

Notary Public ID No. 603967

My Commission Expires:

July 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

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In the Matter of:

AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF KENTUCKY UTILITIES COMPANY FROM NOVEMBER 1, 2018 TO OCTOBER 31, 2020	**)))))**	**CASE NO. 2021-00055**

In the Matter of:

AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF LOUISVILLE GAS AND ELCTRIC COMPANY FROM NOVEMBER 1, 2018 TO OCTOBER 31, 2020	**)))))**	**CASE NO. 2021-00056**

DIRECT TESTIMONY OF
CHARLES R. SCHRAM
DIRECTOR, POWER SUPPLY
KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: MARCH 22, 2021

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

A. My name is Charles R. Schram. I am the Director – Power Supply for LG&E and KU Services Company, which provides services to Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively "the 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 6-month Fuel Adjustment Clause proceedings and the 2019 two-year FAC review.

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 March 4, 2021 ("Order"), directing the Companies to file written direct testimony on a number of topics relating to fuel procurement practices during the two-year period ended October 31, 2020 ("Review Period").

Q. Please describe the Companies' business strategy for the procurement of natural gas as a fuel source for the generation of electricity?

A. The Companies procure natural gas for their Cane Run 7 ("CR7") combined cycle unit as well as their 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. The Companies' 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 the Companies' 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 Companies' 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 do the Companies purchase natural gas for their 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, KU 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 do the Companies coordinate their 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 requriements for coal units and CR7, procurement activities of each fuel are coordinated through market solicitations that generally occur each quarter.

Q. For the forward gas purchases during the review period, what was the Companies' 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 the Companies experience any issues with natural gas deliveries during the February 2021 cold weather in Texas?

A. While outside of the review period, from February 15 to February 19, 2021, the Companies experienced reductions in deliveries of 24% of the forward purchased gas and 9% of gas purchased on the spot market. The Companies maintained reliability through management of the gas transportation services that include pipeline storage and pipeline imbalance provisions. The Companies are enforcing the contracts' performance provisions and are currently pursuing recovery of liquidated damages from the applicable counterparties.

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

A. Yes. The Companies 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 the Companies' natural gas fuel procurement practices during the Review Period.

A. The Companies' natural gas procurement practices are reasonable and sufficiently flexible to allow the Companies to respond effectively to changes in market conditions and support reliability.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Charles R. Schram**, being duly sworn, deposes and says that he is 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 that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Charles R Schram

Charles R. Schram

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 10th day of March 2021.

Judy Schooler

Notary Public

Notary Public ID No. **603967**

My Commission Expires:

July 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

Leadership Louisville – Bingham Fellows class of 2020

COMMONWEALTH OF KENTUCKY

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In the Matter of:

AN ELECTRONIC EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF LOUISVILLE GAS AND ELCTRIC COMPANY FROM NOVEMBER 1, 2018 TO OCTOBER 31, 2020	)))))	CASE NO. 2021-00056

DIRECT TESTIMONY OF
STUART A. WILSON
DIRECTOR – ENERGY PLANNING, ANALYSIS & FORECASTING
KENTUCKY UTILITIES COMPANY AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: MARCH 22, 2021

Q. Please state your name and business address.

A. My name is Stuart A. Wilson. My position is Director – Energy Planning, Analysis, and Forecasting for LG&E and KU Services Company, which provides services to Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively "the 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. What is the purpose of your testimony?

A. I am submitting this testimony in accordance with the Order entered in this proceeding by the Commission on March 4, 2021 ("Order"), directing the Companies to file written direct testimony to address any changes in the wholesale electric power market that significantly affected, or will significantly affect, the Companies' electric power procurement practices.

Q. Were there any changes in the wholesale electric power market during the period November 1, 2018 through October 31, 2020 that significantly affected the Companies' electric power procurement practices?

A. No. The Companies' electric power procurement practices were not significantly affected by any changes in the wholesale electric power market during this period.

Q. How have prices developed in the wholesale power market during the current two-year period (November 1, 2018 through October 31, 2020)?

A. The average monthly electric power price during the current two-year period was $24.80/MWh, compared to $32.65/MWh during the previous two-year period

(November 1, 2016 through October 31, 2018).[1] Electricity prices remained low during the current and previous review periods largely due to the fact that natural gas prices averaged below $3.00/MMBtu for both periods. The Companies continue to look for opportunities to purchase hourly power from the wholesale market when the cost is lower than their own resources and when import of this power is supported by adequate transmission availability and other operational parameters.

Q. What changes do the Companies expect to occur in the wholesale power market within the next two years that may significantly affect their electric power procurement practices?

A. The Companies do not expect changes in the wholesale power market in the next two years that would significantly affect their power procurement practices. Natural gas continues to set marginal on-peak electricity prices in the region. On-shore shale gas supplies continue to be a growing part of the U.S. gas supply. Most forecasters continue to believe that gas prices will avoid sustained periods of volatility given the demonstrated responsiveness of shale gas supplies.

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

Q. Does this conclude your testimony?

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[1] Based on average monthly around-the-clock prices for PJM West Hub.

A. Yes.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is 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 that 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 17th day of March 2021.

Notary Public

Notary Public ID No. 603967

My Commission Expires:

July 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