COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:		
AN EXAMINATION OF THE APPLICATION OF THE FUEL ADJUSTMENT CLAUSE OF)	CASE NO. 2020-00006
KENTUCKY UTILITIES COMPANY FROM MAY 1, 2019 TO OCTOBER 31, 2019)	

RESPONSE OF KENTUCKY UTILITIES COMPANY TO COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION DATED FEBRUARY 11, 2020

FILED: FEBRUARY 25, 2020

COMMONWEALTH OF KENTUCKY)

OUNTY OF JEFFERSON)

SS:

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 responses for which he is identified as the witness, 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 Asthday of Achillary 2020.

(SEAL

Notary Public

My Commission Expires:

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

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Michael P. Drake**, being duly sworn, deposes and says that he is Director – Generation Services for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

Michael P. Drake

Notary Public

Notary Public, ID. No. 623869

(SEAL)

My Commission Expires:

5 23 2023

COMMONWEALTH OF KENTUCKY)	
)	SS:
COUNTY OF JEFFERSON)	

The undersigned, Andrea M. Fackler, being duly sworn, deposes and says that she is Manager, Revenue Requirement/Cost of Service for LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the responses for which she is identified as the witness, and the answers contained therein are true and correct to the best of her information, knowledge and belief.

Indiea M. Sackler

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 15th day of February 2020.

Jelely Schooler (SEAL)

Notary Public

COMMONWEALTH OF KENTUCKY)	
)	SS
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 responses for which he is identified as the witness, 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 15th day of February 2020.

Notary Public

July Choole (SEAL)

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

COMMONWEALTH OF KENTUCKY)	
)	SS:
COUNTY OF JEFFERSON)	

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is Director — Energy Planning, Analysis and Forecast for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, 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 15th day of February 2020.

Notary Public

Heldyschooler (SEAL)

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

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 1

Responding Witness: Delbert Billiter

- Q-1. For the period under review, provide the amount of coal purchased in tons, and the percentage of purchases that were spot versus contract.
- A-1. During the review period, KU purchased 2,898,752 tons of coal.

Spot: 1% 22,503 tons

Contract: 99% 2,876,249 tons

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 2

Responding Witness: Delbert Billiter

- Q-2. For the period under review, list each coal purchase made under a long-term contract (one year or greater). For each purchase, list:
 - a. Contract or purchase order number;
 - b. The supplier's name;
 - c. The location(s) of production facilities from which the coal is sourced;
 - d. The method of delivery, (i.e., barge, truck, rail, other);
 - e. The actual quantity received during the review period;
 - f. The tonnage requirement for the review period; and
 - g. Current price paid per ton.
- A-2. See attached. Page 1 of the attachment shows only the actual quantity received by KU under each contract, and page 2 shows the actual combined quantity received by KU and LG&E under each contract.

7700 7						
May 1, 201:	May 1, 2019 thru October 31, 2019					
(a)	(p)	(c)	(p)	(e)	(f)	(g)
		Location of	Delivery	Actual Quantity	Tonnage	Current Price **
Contract/PO	Supplier	Production Facility	Method	Received	Requirement*	(\$/ton)
J17002	Alliance Coal LLC	W-KY	Barge	377,630.60	1,000,000	\$44.31
J18003	Alliance Coal LLC	W-KY	Barge	234,782.80	200,000	\$39.83
J18009	Alliance Coal LLC	W-KY	Barge	345,097.90	583,333	\$37.09
J19001	Alliance Coal LLC	W-KY	Rail		425,000	\$40.00-Dotiki; \$41.50 Warrior
J14001B	Alliance Coal LLC	W-KY	Barge	22,849.80	80,111	\$37.85
J18008	Arch Coal Sales Company Inc.	W	Barge	312,637.30	300,000	\$12.65
J16018	Foresight Coal Sales LLC	=	Barge	89,214.25	291,667	\$42.35-IL
J18001	Hartshorne Mining Group LLC	W-KY	Barge	77,644.24	200,000	\$40.50
J18005	Knight Hawk Coal, LLC	1	Barge	166,069.00	250,000	\$36.44
J19003	Peabody COALSALES LLC	Z	Barge, Rail	219,614.72	180,000	\$40.00-B, \$37.75-R
J14001	Rhino Energy LLC	W-KY	Barge	141,660.70	106,266	\$38.00
J16006	The American Coal Company	IL, WV	Barge	324,627.51	325,000	\$39.86-IL, \$38.86-WV
J17004	The American Coal Company	=	Barge	233,220.72	575,000	\$36.50-IL
J19004	Western Ky Minerals, Inc	W-KY	Barge	14,556.10	90,000	\$38.50
J14010C	Western Ky Consolidated Resources, LLC	W-KY	Rail, Barge	•	20,000	\$42.00
J16017B	Western Ky Consolidated Resources, LLC	W-KY	Rail, Barge	1	100,000	\$40.25
J18002B	Western Ky Consolidated Resources, LLC	W-KY	Rail, Barge	218,391.00	750,000	\$44.74
J19002	White Stallion		Barge	98,252.60	210,000	\$41.60
				2,876,249		
Tonnage Requ	*Tonnage Requirement is a ratable volume for combined LG&E and KU coal station shipments	and KU coal station shipm	nents			
*Prices vary b	**Prices vary by source/transportation type. Prices as of 10/31/19	/19				
					Attachmen	Attachment to Response to Question No. 2
						BILLITER
						Page 1 of 2

May 1, 2019	May 1, 2019 thru October 31, 2019					
(a)	(q)	(c)	(p)	(e)	(f)	(g)
		Location of	Delivery	Actual Quantity	Tonnage	Current Price**
Contract/PO	Supplier	Production Facility	Method	Received	Requirement*	(\$/ton)
J17002	Alliance Coal LLC	W-KY	Barge	1,030,467	1,000,000	\$44.31
J18003	Alliance Coal LLC	W-KY	Barge	510,099	200,000	\$39.83
J18009	Alliance Coal LLC	W-KY	Barge	606,185	583,333	\$37.09
J19001	Alliance Coal LLC	W-KY	Rail	461,487	425,000	\$40.00-Dotiki; \$41.50 Warrior
J14001B	Alliance Coal LLC	W-KY	Barge	59,020	80,111	\$37.85
J18008	Arch Coal Sales Company Inc.	W	Barge	312,637	300,000	\$12.65
J16018	Foresight Coal Sales LLC	=	Barge	315,395	291,667	\$42.35-IL
J18001	Hartshorne Mining Group LLC	W-KY	Barge	182,884	200,000	\$40.50
J18005	Knight Hawk Coal, LLC	=	Barge	269,236	250,000	\$36.44
J19003	Peabody COALSALES LLC	Z	Barge, Rail	221,200	180,000	\$40.00-B, \$37.75-R
J14001	Rhino Energy LLC	W-KY	Barge	173,069	106,266	\$38.00
J16006	The American Coal Company	IL, WV	Barge	352,471	325,000	\$39.86-IL, \$38.86-WV
J17004	The American Coal Company	=	Barge	580,384	575,000	\$36.50-IL
J19004	Western Ky Minerals, Inc	W-KY	Barge	24,278	000'06	\$38.50
J14010C	Western Ky Consolidated Resources, LLC	W-KY	Rail, Barge	64,098	20,000	\$42.00
J16017B	Western Ky Consolidated Resources, LLC	W-KY	Rail, Barge	117,191	100,000	\$40.25
J18002B	Western Ky Consolidated Resources, LLC	W-KY	Rail, Barge	753,003	750,000	\$44.74
J19002	White Stallion	1	Barge	195,376	210,000	\$41.60
				6,228,481	6,316,377	
Tonnage Requi	*Tonnage Requirement is a ratable volume for combined LG&E	and KU coal station shipments	nents			
*Prices vary by	**Prices vary by source/transportation type. Prices as of 10/31/	/19			Attachmen	Attachment to Response to Question No. 2
						BILLITER
						Dage 2 of 2

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 3

Responding Witness: Delbert Billiter

Q-3.

- a. As of the last day of the review period, state the coal inventory level in tons, and in number of days' supply. Provide this information by generating station and in the aggregate.
- b. Describe the criteria used to determine number of days' supply.
- c. State the target coal inventory level for each generating station, and for the total system.
- d. If actual coal inventory exceeds the target inventory by ten days' supply, state the reasons for the excess inventory.
- e. (1) State whether any significant changes in the current coal inventory target are expected within the next 12 months.
 - (2) If so, state the expected change, and the reasons for this change.

A-3. a. As of October 31, 2019:

 EW Brown
 161,325 Tons; 40 Days
 Target 33-63 Days

 Ghent¹
 730,389 Tons; 35 Days
 Target 20-40 Days

 Trimble County²³
 270,754 Tons; 40 Days
 Target 21-43 Days

 Total
 1,162,468 Tons; 37 Days
 Target 22-44 Days

¹ Inventory listed for Ghent does not include the 200,000 tons sold to the Refined coal facility operator that remains in the onsite coal pile, as previously discussed in Case No. 2015-00264¹.

¹ <u>Application of Louisville Gas and Electric Company and Kentucky Utilities Company Regarding Entrance Into Refined Coal Agreements, For Proposed Accounting and Fuel Adjustment Clause Treatment, and For Declaratory Ruling.</u> Kentucky Public Service Commission, Case No. 2015-00264, filed August 19, 2015, Final Order November 24, 2015.

- ² Inventory listed for Trimble County does not include the 42,600 tons sold to the Refined coal facility operator that remains in the onsite coal pile, as previously discussed in Case No. 2015-00264.
- ³ Trimble County coal inventory tons include KU's allocated ownership of both PRB and high sulfur coals used for the jointly owned Unit 2. The days in inventory and target range are calculated on a combined generation plant basis regardless of ownership.
- b. The method of calculating days in inventory is based on each plant's coal burn capability (coal tons in inventory divided by 90% of each generating unit's heat input description from its air permit to operate).
 - Upper and lower days of inventory targets were established for each plant taking into consideration the plant's operating parameters. Each plant's "least cost" inventory range is established annually during the planning process taking into account the risk of coal delivery disruptions, potential coal burn volatility, procurement reaction time for short-term coal supply, cost of unserved energy, and current coal and electricity prices.
- c. See (a) above.
- d. Not applicable.
- e. (1) KU does not expect significant changes to its current coal inventory target levels; however, during the Companies' planning cycle minor adjustments may be made to the inventory targets if warranted.
 - (2) Not applicable.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 4

Responding Witness: Delbert Billiter

- Q-4. List each written coal-supply solicitation issued during the period under review.
 - a. For each solicitation, provide the date of the solicitation, the type of solicitation (contract or spot), the quantities solicited, a general description of the quality of coal solicited, the time period over which deliveries were requested, and the generating unit(s) for which the coal was intended.
 - b. For each solicitation, state the number of vendors to whom the solicitation was sent, the number of vendors who responded, and the selected vendor. Provide the bid tabulation sheet or corresponding document that ranked the proposals. (This document should identify all vendors who made offers.) State the reasons for each selection. For each lowest-cost bid not selected, explain why the bid was not selected.

A-4. a. **SOLICITATION 1**

Date: September 12, 2019

Contract/Spot: Contract

Quantities: No minimum or maximum specified

Quality: Suitable for KU's Ghent and E.W. Brown Stations, LG&E's

Mill Creek Station and KU's and LG&E's Trimble County

Station

Period: 2020 and beyond - Contract

Generating Units: All units at Ghent, E.W. Brown, Trimble County, and Mill

Creek Stations.

b. Number of vendors sent a solicitation: 72

Number of vendors responded: 8 companies / 19 offers

Selected vendor(s): The vendors selected were based upon the lowest evaluated delivered cost, operational and environmental requirements of the unit and other factors impacting coal supply reliability as noted on the bid evaluation sheets attached.

Response to Question No. 4
Page 2 of 2
Billiter

<u>High Sulfur Coal – Contract</u> Western Ky. Minerals -- J20006 Alliance Coal Warrior (rail) -- J21003

Alliance Coal River View (barge) -- J21004

The bid analysis information is confidential and proprietary and is being provided under seal pursuant to a petition for confidential protection.

The entire attachment is Confidential and provided separately under seal.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 5

Responding Witness: Delbert Billiter

- Q-5. List each oral coal-supply solicitation issued during the period under review.
 - a. For each solicitation, state why the solicitation was not written, the date(s) of the solicitation, the quantities solicited, a general description of the quality of coal solicited, the time period over which deliveries were requested, and the generating unit(s) for which the coal was intended.
 - b. For each solicitation, identify all vendors solicited and the vendor selected. Provide the tabulation sheet or other documents that rank the proposals. (This document should identify all vendors who made offers.) State the reasons for each selection. For each lowest-cost bid not selected, explain why the bid was not selected.
- A-5. There were no oral coal-supply solicitations during the period under review.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 6

Responding Witness: Charles R. Schram

- Q-6. For the period under review, list each vendor from whom natural gas was purchased for generation and the quantities and the nature of each purchase (i.e., spot or contract).
- A-6. See attached for the list of vendors, associated quantities, and the nature of each natural gas purchase.

Vendor	Type 1	MMBTU
BP Energy Company	Spot	711,722
Castleton Commodities Merchant Trading L.P.	Spot	78,800
CenterPoint Energy Services, Inc.	Spot	28,000
CIMA Energy, LP	Spot	440,700
Colonial Energy, Inc.	Spot	436,500
ConocoPhillips Company	Spot	1,475,586
Direct Energy Business Marketing, LLC	Spot	189,300
DTE Energy Trading, Inc.	Spot	107,900
Eco-Energy Natural Gas, LLC	Spot	123,766
EDF Trading North America, LLC	Spot	61,908
Engie Energy Marketing NA, Inc.	Spot	19,500
Exelon Generation Company, LLC	Spot	343,600
Hartree Partners, L.P.	Spot	37,100
J. Aron & Company LLC	Spot	16,994
Macquarie Energy, LLC	Spot	13,100
Mercuria Energy America, Inc.	Spot	9,800
NextEra Energy Marketing, LLC	Spot	2,061,448
NJR Energy Services Company	Spot	5,000
Range Resources - Appalachia, LLC	Spot	416,500
Sequent Energy Management, L.P.	Spot	445,880
Shell Energy North America (US), L.P.	Spot	5,006,064
Southwest Energy, L.P.	Spot	130,300
Spire Marketing Inc.	Spot	297,211
Tenaska Marketing Ventures	Spot	6,249,563
Tennessee Gas Pipeline Company, L.P.	Spot	3,988
Texla Energy Management, Inc.	Spot	93,700
TrailStone Energy Marketing, LLC	Spot	53,566
Twin Eagle Resource Management, LLC	Spot	64,100
Uniper Global Commodities North America LLC	Spot	15,000
United Energy Trading, LLC	Spot	36,100
Wells Fargo Commodities, LLC	Spot	63,400
Columbia Gas of Kentucky, Inc.	GSO Customer ²	-
LG&E Gas Supply	Special Contract ³	119,856
Engie Energy Marketing NA, Inc.	Forward	309,826
J. Aron & Company LLC	Forward	1,837,749
NextEra Energy Marketing, LLC	Forward	1,210,885
Uniper Global Commodities North America LLC	Forward	4,598,954
	Total Volume	27,113,366

¹ Spot refers to gas purchases delivered during the next gas day following the transaction. Friday transactions include Sat, Sun, & Mon (holiday weekends can cover four days). Forward refers to gas purchased for delivery periods typically starting after the current month.

 $^{^2}$ KU is a General Sales Other (GSO) customer of Columbia Gas of Kentucky for the Haefling Plant; no volume purchase commitments.

³ LG&E is the local gas distribution company; no volume purchase commitments.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 7

Responding Witness: Charles R. Schram

- Q-7. For the period under review, state if there were any instances in which a natural gas generating unit could not be operated when it otherwise would have run, due to pipeline constraints or natural gas being unavailable.
- A-7. There were no instances of generating unit restrictions due to pipeline constraints or natural gas unavailability.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 8

Responding Witness: Delbert Billiter / Charles R. Schram

- Q-8. State if there have been any changes to hedging activities for coal or natural gas purchases used for generation since the previous FAC review proceeding. If so, describe the changes in detail.
- A-8. There have been no changes to the physical hedging practices or guidelines since the previous review proceeding. KU does not engage in financial hedging activities for its coal or natural gas purchases.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 9

Responding Witness: Delbert Billiter / Charles R. Schram

Q-9.

- a. State whether KU has audited any of its fuel or transportation contracts during the period under review.
- b. If so, for each audited contract:
 - (1) Identify the contract;
 - (2) Identify the auditor; and
 - (3) State the results of the audit and describe the actions that KU took as a result of the audit.
- A-9. a. No. KU has not conducted any financial audits of fuel or transportation contracts.

KU's Manager Fuels Technical Services or KU's Mining Engineer conducts scheduled on-site reviews and inspections of the mining operations, scales and sampling systems of each vendor up to twice a year, and likewise may conduct unscheduled visits. Additionally, KU employees may visit a vendor as needed to address problems and issues at any time.

b. Not applicable.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 10

Responding Witness: Delbert Billiter / Charles R. Schram

Q-10.

- a. State whether KU is currently involved in any litigation with its current or former fuel suppliers or transportation vendors.
- b. If yes, for each litigation:
 - (1) Identify the supplier or vendor;
 - (2) Identify the contract involved;
 - (3) State the potential liability or recovery to KU;
 - (4) List the issues presented; and
 - (5) Provide a copy of the complaint or other legal pleadings that initiated the litigation and any answers or counterclaims. If a copy has previously been filed with the Commission, provide the date on which it was filed and the case in which it was filed.
- c. State the current status of all litigation with suppliers or vendors.

A-10.

- a. KU is not currently involved in any litigation with its fuel suppliers or transportation vendors.
- b. Not applicable.
- c. Not applicable.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 11

Responding Witness: Delbert Billiter / Charles R. Schram

Q-11.

- a. For the period under review, state if there have been any changes to KU's written policies and procedures regarding its fuel procurement.
- b. If yes:
 - (1) Describe the changes;
 - (2) Provide the written policies and procedures as changed;
 - (3) State the date(s) the changes were made; and
 - (4) Explain why the changes were made.
- c. If no, provide the date KU's current fuel procurement policies and procedures were last changed, when they were last provided to the Commission, and identify the proceeding in which they were provided.

A-11.

a-c. During the period under review, there were no changes to The Corporate Fuels and By-Products Procurement Procedures for coal. The Corporate Fuels and By-Products Procurement Procedures were last updated April 1, 2017 and were provided to the Commission in Case No. 2017-00284² in response to Question No. 15.

During the period under review, there were no changes to the Power Supply Commodity Policy – Natural Gas Fuel for Generation. The Power Supply Commodity Policy – Natural Gas Fuel for Generation was last updated

² Electronic Examination of the Application of the Fuel Adjustment Clause of Kentucky Utilities Company From November 1, 2016 Through April 30, 2017, Kentucky Public Service Commission, Case No. 2017-00284, filed August 30, 2017, Final Order January 10, 2018

August 1, 2017 and was provided to the Commission in Case No. 2018- 00020^3 in response to Question No. 11.

³ Electronic Examination of the Application of the Fuel Adjustment Clause of Kentucky Utilities Company From May 1, 2017 Through October 31, 2017, Kentucky Public Service Commission, Case No. 2018-00020, filed February 16, 2018, Final Order May 18, 2018

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 12

Responding Witness: Stuart Wilson

Q-12. For the period under review, list all firm power commitments for (a) purchases and (b) sales. This list shall identify the electric utility, the amount of commitment in MW, and the purpose of the commitment (i.e., peaking, emergency).

A-12.

a. Firm Purchases

The firm purchases from Ohio Valley Electric Corporation (OVEC) for the review period are shown in the table below. KU purchased its participation ratio (2.5%) of the OVEC released capacity for the months in question:

	Companies'	KU Portion	
Utility	Amt. (MW)	(MW)	Purpose
OVEC (May 2019)	~ 85	~ 26	Baseload
OVEC (Jun 2019)	~ 143	~ 44	Baseload
OVEC (Jul 2019)	~ 152	~ 47	Baseload
OVEC (Aug 2019)	~ 152	~ 47	Baseload
OVEC (Sep 2019)	~ 119	~ 37	Baseload
OVEC (Oct 2019)	~ 99	~ 30	Baseload

b. Sales - NONE

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 13

Responding Witness: Andrea M. Fackler

- Q-13. Provide a monthly billing summary of sales to all electric utilities for the period under review.
- A-13. See Page 2, Sheet 1 of 3 of the May 2019 through October 2019 monthly Form B filings that were previously filed with the Commission.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 14

Responding Witness: Andrea M. Fackler

- Q-14. Describe the effect on the FAG calculation of line losses related to:
 - a. Intersystem sales when using a third-party transmission system, and
 - b. Intersystem sales when not using a third-party transmission system.
- A-14. Line losses related to inter-system sales are calculated using a loss factor of 0.5% whether the inter-system sale requires a third-party transmission system or not. This practice is consistent with the Commission's June 7, 2013, Amended Order in Case No. 2012-00552⁴.

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⁴ <u>Electronic Examination of the Application of the Fuel Adjustment Clause of Kentucky Utilities Company From November 1, 2010 Through October 31, 2012</u>, Kentucky Public Service Commission, Case No. 2012-00552, filed February 13, 2013, Amended Order June 7, 2013

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 15

Responding Witness: Michael P. Drake

- Q-15. Provide a list, in chronological order, showing by unit, any scheduled, actual, and forced outages for the period under review.
- A-15. See attached.

Kentucky Utilities Company May 2019 through October 2019

Unit and Outage Type		Schedule	d	Ac	tual*	HOURS OF DURATION Scheduled Actual*		REASON FOR DEVIATION FROM SCHEDULED MAINTENANCE	
(F=Forced; S=Scheduled)		FROM	то	FROM	то	Scheduled	Actual*	OR REASON FOR FORCED OUTAGE AS APPROPRIATE	
E. W. Brown Unit 3 - Coal - 413 MW	S			5/10/2019 20:24	5/18/2019 20:25	0:00	192:01	Process Water System tie-in	
In-service July 1971	F			7/1/2019 10:56	7/3/2019 7:11			Turbine Vibration	
	F			7/19/2019 0:31	7/19/2019 14:21		13:50	Generator Relay Protection	
	S	8/21/2019 22:11	8/23/2019 10:51	8/21/2019 22:11	8/23/2019 10:51	36:40	36:40	Hot water recirculation system maintenance	
	S			10/4/2019 21:00	12/9/2019 0:01	0:00	1563:01	Major Turbine Overhaul	
Ghent Unit 1 - Coal - 479 MW	S	4/29/2019 0:00	5/9/2019 16:36	4/29/2019 0:00	5/9/2019 16:36	256:36	256:36	Minor turbine overhaul planned extension	
n-service February 1974	F			5/10/2019 13:54	5/11/2019 15:52		25:58	Generator Cooling System - Seal Repair	
	F			5/11/2019 18:00	5/14/2019 11:54		65:54	Increased Turbine/Generator Vibration	
	F			6/29/2019 3:18	6/29/2019 11:12		7:54	Pulverizer/burner piping fire	
	F			6/29/2019 11:54	6/29/2019 18:10		6:16	Pulverizer/Burner Piping Fire	
	S	8/3/2019 8:00	8/5/2019 6:51	8/3/2019 8:00	8/5/2019 6:51	46:51	46:51	Boiler Waterwall Tube Leak	
	S	9/4/2019 22:53	9/6/2019 3:21	9/4/2019 22:53	9/6/2019 3:21	28:28	28:28	Condenser Tube Leak repair	
Ghent Unit 2 - Coal - 486 MW	S	5/13/2019 22:59	5/14/2019 17:48	5/13/2019 22:59	5/14/2019 17:48	18:49	18:49	Boiler waterwall tube leak	
n-service April 1977	S			9/21/2019 0:23	11/19/2019 12:38	0:00	1428:15	Major turbine overhaul	
Ghent Unit 3 - Coal - 476 MW	S			10/4/2019 21:36	11/10/2019 7:19	0:00	873:43	Boiler Tube Replacement	
n-service May 1981									
ihent Unit 4 - Coal - 478 MW	S	6/14/2019 21:30	6/16/2019 19:10	6/14/2019 21:30	6/16/2019 19:10	45:40	45:40	Boiler Waterwall Tube Leak	
n-service August 1984									
rimble County Unit 2 - Coal - 570 MW	S	4/29/2019 0:00	5/6/2019 0:00	4/29/2019 0:00	5/6/2019 0:00	168:00	168:00	Major turbine overhaul	
n-service January 2011	F			5/6/2019 0:00	5/10/2019 11:26		107:26	Turbine/Generator Bearing Repair	
5% ownership share of 732 MW jointly owned with LG&E	F			5/10/2019 11:26	5/10/2019 19:47		8:21	Turbine/Generator Vibration	
	F			5/10/2019 19:47	5/12/2019 5:49		34:02	Turbine/generator vibration balance correction	
	F			5/12/2019 5:49	5/13/2019 12:02		30:13	Turbine/generator vibration balance correction	
	F			5/13/2019 14:04	5/14/2019 4:29		14:25	Turbine/generator vibration balance correction	
	F			5/14/2019 5:31	5/14/2019 14:32		9:01	Burner Management System Problem	
	F			5/14/2019 17:07	5/16/2019 1:30		32:23	Feedwater Pump Controls	
	F			5/16/2019 6:53	5/16/2019 14:52		7:59	Feedwater Pump Controls	
	F			5/16/2019 17:05	5/18/2019 10:13		41:08	Feedwater Pump Controls	
	S	5/22/2019 6:45	5/25/2019 17:15	5/22/2019 6:45	5/25/2019 17:15	82:30	82:30	Turbine/generator vibration balance correction	
	F			7/13/2019 3:45	7/13/2019 12:27		8:42	Feedwater Pump Control Problem	
	F			7/27/2019 16:11	7/30/2019 19:28		75:17	Boiler first reheater leak repair	
	F			8/10/2019 13:00	8/12/2019 16:49		51:49	Boiler waterwall tube leak repair	
	F			10/16/2019 23:00	10/18/2019 5:15		30:15	Boiler waterwall tube leak repair	
	S			10/18/2019 5:15	10/24/2019 9:35	0:00	148:20	Feedwater Pump Maintenance	
ane Run Unit 7 - Gas - 683 MW	S	6/7/2019 19:35	6/11/2019 0:00	6/7/2019 19:35	6/11/2019 0:00	76:25	76:25	Duct Expansion Joint Repair	
n-service June 2015									
ointly owned with LG&E									
. W. Brown Unit 5 - Gas CT - 130 MW	No	outages > or = 6 hours							
n-service June 2001									
Jointly owned with LG&E									

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E. W. Brown Unit 6 - Gas CT - 171 MW	S			4/11/2019 5:07	5/25/2019 0:00	0:00	1050:53	Combustion turbine overhaul
In-service August 1999	S	5/25/2019 0:00	5/31/2019 12:41	5/25/2019 0:00	5/31/2019 12:41	156:41		
Jointly owned with LG&E	S	6/1/2019 4:00	6/2/2019 10:06	6/1/2019 4:00	6/2/2019 10:06	30:06		Combustion turbine overhaul
	F			6/3/2019 8:35	6/4/2019 6:56		22:21	Fuel Gas System
	F			6/4/2019 9:16	6/4/2019 15:53			Fuel Gas System
	S	6/4/2019 18:25	6/5/2019 15:02	6/4/2019 18:25	6/5/2019 15:02	20:37		Combustion turbine overhaul
	S	6/6/2019 14:28	6/7/2019 11:42	6/6/2019 14:28	6/7/2019 11:42	21:14		Combustion turbine overhaul
	S	6/18/2019 8:17	6/18/2019 17:27	6/18/2019 8:17	6/18/2019 17:27	9:10		Gas Turbine Control System Inspection
	F	., .,		6/21/2019 18:57	6/22/2019 10:30			Combustion System Maintenance
	F			7/8/2019 19:23	7/9/2019 10:31			combustion system maintenance
	S	7/23/2019 6:37	7/23/2019 12:49	7/23/2019 6:37	7/23/2019 12:49	6:12		Gas line maintenance
	S	1,10,1010	1, = 1, = 1 12 12 12 13	9/5/2019 16:00	9/11/2019 7:30	0:00		Borescope Inspection
	F			10/10/2019 15:44	10/11/2019 9:06	2.50		Combustion Turbine Enclosure Ventilation System
	F			10/17/2019 5:06	10/17/2019 13:36			Fuel Gas System
E. W. Brown Unit 7 - Gas CT - 171 MW	S	6/7/2019 8:13	6/30/2019 9:00	6/7/2019 8:13	6/30/2019 9:00	552:47		Generator Maintenance and Testing
In-service August 1999	F	4,1,2010 0110	5,753,25355	6/30/2019 9:00	8/4/2019 13:26			Generator Maintenance and Testing
Jointly owned with LG&E	5			9/3/2019 16:00	9/13/2019 0:00	0:00		Boroscope Inspection
	5	9/13/2019 0:00	9/13/2019 13:58	9/13/2019 0:00	9/13/2019 13:58	13:58		Borescope inspection
E. W. Brown Unit 8 - Gas CT - 128 MW	No or	itages > or = 6 hours	3, 13, 2013 13.30	37 1372013 0.00	3, 13,2013 13.30	15.50	15.50	Soldscope inspection
In-service February 1995								
E. W. Brown Unit 9 - Gas CT - 138 MW	S	5/13/2019 6:02	5/13/2019 19:20	5/13/2019 6:02	5/13/2019 19:20	13:18	13:18	Lube oil system - inspect and repair
In-service January 1995	F			5/13/2019 19:20	5/14/2019 15:42			Lube Oil System - inspect and repair
	F			8/20/2019 15:54	8/22/2019 12:07			Ignition system repair
E. W. Brown Unit 10 - Gas CT - 138 MW	F			9/10/2019 11:33	9/11/2019 11:13			Ignition system repair
In-service December 1995								
E. W. Brown Unit 11 - Gas CT - 128 MW	No ou	itages > or = 6 hours						
In-service May 1996								
Haefling Unit 1 - Gas CT - 14 MW	S	5/9/2019 7:10	5/10/2019 9:57	5/9/2019 7:10	5/10/2019 9:57	26:47	26:47	Substation Maintenance
In-service October 1970								
Haefling Unit 2 - Gas CT - 14 MW	S	5/9/2019 7:10	5/10/2019 9:57	5/9/2019 7:10	5/10/2019 9:57	26:47	26:47	Substation Maintenance
In-service October 1970 Paddys Run Unit 13 - Gas CT - 175 MW	c			5/4/2019 5:28	5/27/2019 0:00	0:00	E46:22	Generator Maintenance and Vibration Monitoring System
In-service June 2001	5	5/27/2019 0:00	5/28/2019 17:00	5/27/2019 0:00	5/28/2019 17:00	41:00		<u> </u>
Jointly owned with LG&ELG&E	5	5/27/2019 0:00	5/28/2019 17:00			41:00		Generator Maintenance and Vibration Monitoring System
,	F			5/28/2019 17:00	6/10/2019 7:32 6/14/2019 8:56			Combustion Turbine/Generator Bearings Transmission System Voltage Issues
Trimble County Unit 5 Cos CT 170 MW	F	C /21 /2010 C:15	6 /21 /2010 12 50	6/13/2019 13:02		C.44		, 3
Trimble County Unit 5 - Gas CT - 179 MW In-service May 2002	2	6/21/2019 6:15	6/21/2019 12:59	6/21/2019 6:15	6/21/2019 12:59	6:44	6:44	Combustion Turbine Compressor Washing
Jointly owned with LG&E	 					-		
Trimble County Unit 6 - Gas CT - 179 MW	S	6/25/2019 5:11	6/25/2019 14:55	6/25/2019 5:11	6/25/2019 14:55	9:44	9:44	Hydraulic pump maintenance
In-service May 2002	S	9/26/2019 8:16	9/26/2019 19:12	9/26/2019 8:16	9/26/2019 19:12	10:56		Hydraulic pump maintenance
Jointly owned with LG&E	S	10/25/2019 20:05	10/29/2019 7:01	10/25/2019 20:05	10/29/2019 7:01	82:56		Combustion Turbine vibration balance correction
-	3	.5/25/2015 20.05	10,25,2015 1.01	. 3/ 23/ 2013 20.03	10/25/2015 1.01	0£.50	J2.30	compassion rathing vibration balance correction

Trimble County Unit 7 - Gas CT - 179 MW	S	5/14/2019 5:10	5/14/2019 15:13	5/14/2019 5:10	5/14/2019 15:13	10:03	10:03	Combustion Turbine vibration investigation
In-service June 2004	S	6/4/2019 6:15	6/4/2019 13:40	6/4/2019 6:15	6/4/2019 13:40	7:25	7:25	Combustion Turbine Compressor Washing
Jointly owned with LG&E	S			9/16/2019 20:02	9/21/2019 7:00	0:00	106:58	Maintenance outage on switchyard system protection devices
Trimble County Unit 8 - Gas CT - 179 MW	S			9/13/2019 22:16	9/29/2019 7:40	0:00	369:24	Exhaust Duct Repair/Refurbishment
In-service June 2004								
Jointly owned with LG&E								
Trimble County Unit 9 - Gas CT - 179 MW	S	6/19/2019 6:24	6/19/2019 12:38	6/19/2019 6:24	6/19/2019 12:38	6:14	6:14	Combustion Turbine Compressor Washing
In-service July 2004	F			9/14/2019 2:57	9/14/2019 10:45		7:48	Fuel piping and valves
Jointly owned with LG&E								
Trimble County Unit 10 - Gas CT - 179 MW	S	5/3/2019 5:15	5/3/2019 19:44	5/3/2019 5:15	5/3/2019 19:44	14:29	14:29	Lube Oil System Maintenace
In-service July 2004	S	6/14/2019 6:40	6/14/2019 13:04	6/14/2019 6:40	6/14/2019 13:04	6:24	6:24	Compressor washing
Jointly owned with LG&E								

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 16

Responding Witness: Stuart Wilson

Q-16. For the period under review, provide the monthly capacity factor at which each generating unit operated.

A-16. See table below.

	Capacity Factor (%) (Net MWh)/(period hours x MW rating)					
	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019	Oct 2019
Brown 3	31.1	7.1	43.4	31.7	44.6	
Brown 5	9.5	2.3	10.7	8.8	7.5	
Brown 6	0.3	9.5	22.5	16.2	18.2	
Brown 7	3.5	0.0	0.0	9.5	1.0	3.3
Brown 8	1.5	1.0	0.0	0.9	0.4	0.1
Brown 9	4.8	1.0	5.9	4.4	5.3	5.8
Brown 10	2.6	1.0	3.3	3.6	2.7	4.0
Brown 11	1.4	1.0	0.6	1.1	2.2	1.3
Brown Solar	23.9	25.5	27.9	26.8	25.6	18.7
Cane Run 7	78.7	77.6	91.4	89.9	88.4	93.9
Dix 1	4.8	46.7	0.4	0.0	0.0	2.0
Dix 2	4.8	46.2	0.4	0.0	0.0	2.0
Dix 3	0.0	44.9	0.0	0.0	0.0	2.0
Ghent 1	41.7	72.6	75.5	72.2	74.3	78.5
Ghent 2	72.2	75.3	79.3	79.0	47.9	0.0
Ghent 3	68.6	58.9	63.3	65.2	61.5	7.4
Ghent 4	62.4	55.7	65.6	62.2	63.1	63.8
Haefling 1-2	0.0	0.0	0.0	0.0	0.0	0.0
Paddy's Run 13	1.2	2.6	7.4	3.4	7.4	11.7
Trimble County 2	25.0	91.3	79.6	85.8	93.9	71.2
Trimble County 5	20.1	9.9	23.9	18.5	25.0	46.1
Trimble County 6	6.9	3.1	8.4	2.0	8.5	13.8
Trimble County 7	11.4	3.4	15.2	3.7	11.5	
Trimble County 8	0.0	0.9	5.3	4.0	5.0	13.8
Trimble County 9	3.4	2.8	4.5	7.6	17.3	29.8
Trimble County 10	0.6	9.6	9.6	0.5	2.9	1.8

Notes:

- 1 Trimble County values reflect 100% of the unit. Trimble County 2 is owned by KU (60.75%), LG&E (14.25%), IMPA (12.88%), and IMEA (12.12%).
- 2 The North American Electric Reliability Council Generation Availability Data System defines capacity factor as the value equal to the net MWh produced divided by the product of the hours in the period and the unit rating.
- 3 Jointly owned units are shown for both LG&E and KU and include Brown 5-7, Brown Solar, Cane Run 7, Paddy's Run 13, Trimble County 2, and Trimble County 5-10.
- 4 Brown 1 and Brown 2 retired effective 2/28/2019.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 17

Responding Witness: Michael P. Drake

Q-17.

- a. For the period under review, explain if KU made any changes to its maintenance and operation practices, or completed any specific generation efficiency improvements that affect fuel usage at KU's generation facilities.
- b. Describe the impact of these changes on KU's fuel usage.

A-17.

a-b. There have been no maintenance or operation practice changes that affect fuel usage during the period under review. KU strives to maintain unit efficiency through routine cyclic planned outage maintenance. This maintenance work continues to focus on reestablishing expected turbine efficiency through continuous monitoring of all plan systems during operation. KU contracts Black and Veatch to provide this monitoring on larger units to identify trends which indicate a potential efficiency loss of any system component. Black and Veatch sends notification to the generating stations which track the potential issues through resolution. In evaluating potential major component projects or replacements that may impact efficiency, KU must balance any potential efficiency benefit associated with the project against both costs and potential implications under the Clean Air Act. KU has not realized any efficiency improvements through major component projects during this period.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 18

Responding Witness: Delbert Billiter / Charles R. Schram

- Q-18. State whether KU is aware of any violations of its policies and procedures regarding fuel procurement that occurred prior to or during the period under review.
- A-18. KU is not aware of any violations of its policies and procedures regarding fuel procurement that occurred prior to or during the period under review.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 19

Responding Witness: Andrea M. Fackler

- Q-19. State whether KU is aware of any violations of 807 KAR 5:056 that occurred prior to or during the period under review.
- A-19. KU is not aware of any violations of 807 KAR 5:056 that occurred prior to or during the period under review.

Response to Commission Staff's First Request for Information Dated February 11, 2020

Case No. 2020-00006

Question No. 20

Responding Witness: Andrea M. Fackler

- Q-20. State whether all fuel contracts related to commodity and transportation have been filed with the Commission. If any contracts have not been filed, explain why they have not been filed, and provide a copy.
- A-20. For the period under review, all fuel contracts related to commodity and/or transportation have been filed with the Commission.