

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

In the Matter of:

An Examination Of The	)	
Application Of The Fuel Adjustment Clause	)	
Of Kentucky Power Company From	)	Case No. 2023-00008
November 1, 2020 Through October 30, 2022	)	

**REBUTTAL TESTIMONY OF**  
**ALEX E. VAUGHAN**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

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**I. INTRODUCTION**

1 **Q. ARE YOU THE SAME ALEX E. VAUGHAN THAT PROVIDED DIRECT**  
2 **TESTIMONY IN THIS PROCEEDING?**

3 A. Yes, I am.

**II. PURPOSE OF REBUTTAL TESTIMONY**

4  
5 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS**  
6 **PROCEEDING?**

7 A. The purpose of my testimony is to address the following areas:

8 a) Disprove Mr. Kollen's allegation of poor performance of the Mitchell plant during  
9 the review period; and

10 b) Refute AG-KIUC's fundamentally flawed and inappropriate proposals in regards  
11 to the current Commission approved PUE calculation.

12 **Q. ARE YOU SPONSORING ANY EXHIBITS TO YOUR TESTIMONY?**

13 A. Yes, I am sponsoring the following exhibits:

14 Confidential AEV Exhibit R1 – Excerpt from Guggenheim Report on Fuel Deferrals

### **III. MITCHELL PLANT PERFORMANCE**

1 **Q. DO YOU AGREE WITH AG-KIUC WITNESS KOLLEN’S ACCUSATION**  
2 **REGARDING THE PERFORMANCE OF THE MITCHELL PLANT DURING**  
3 **THE REVIEW PERIOD?**

4 A. No. AG-KIUC Witness Kollen claims the Company operated Mitchell “at low or  
5 extremely low capacity factors or didn’t operate at all.”<sup>1</sup> Mr. Kollen incorrectly equates  
6 low capacity factors to poor performance. There are many other, completely reasonable,  
7 reasons for a generating unit to be out of service other than poor performance. For  
8 example, as described by Company Witness Kerns, there were several planned outages at  
9 Mitchell during the review period. These planned outages, were approved by PJM and,  
10 included work needed in order to construct or install Commission-approved  
11 environmental projects. These environmental projects include work associated with  
12 implementing the Coal Combustion Residuals Rule (approved by this Commission in  
13 Case No. 2021-00004), and the Effluent Limitations Guidelines Rule (approved by the  
14 West Virginia Public Service Commission). The Company prudently takes these outages  
15 in order to maintain the plant as a reliable source of capacity and energy now and in the  
16 future.

17 Mr. Kollen also either does not appreciate the need for planned outages or ignores  
18 the necessity altogether in making his criticisms on pages 10 and 11 of his testimony  
19 when discussing outages in October 2022. First, Mr. Kollen ignores the fact that the  
20 Company does not offer into the energy market the Rockport plant as part of the FERC  
21 approved UPA. Second, the Mitchell Plant’s performance was not “especially poor”<sup>2</sup> in

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<sup>1</sup> Kollen Direct Test. at p. 8, line 12.

<sup>2</sup> Kollen Direct Test. at p. 10, line 3.

1           October of 2022. Rather, the plant was in a planned outage for needed work as explained  
2           by Company Witness Kerns. These outages, at any plant, must occur in order for the  
3           plant to continue to operate reliably. Moreover, older plants generally require more  
4           maintenance.

5                     With regard to timing, PJM market rules prohibit planned outages during the  
6           majority of the months of June through September. Additionally, the Company seeks to  
7           avoid planned and maintenance outages during the winter peak season of December  
8           through early March, as that is historically a time of high power demands with the  
9           potential for high power price spikes. As a result, the Company is left with the months of  
10          April, May, October, and November to plan and accomplish all necessary outage work at  
11          the plant. Contrary to Mr. Kollen's assertions, Mitchell being in an approved planned  
12          outage during the month of October is not a sign of "especially poor" performance—it is  
13          evidence of good maintenance practice.

14                    Mr. Kollen also fails to recognize the macroeconomic factors impacting the PJM  
15          energy market during the review period that led the Company to make changes in its  
16          offer strategy for Mitchell. As described in more detail on pages 10-11 of my Direct  
17          Testimony, the inability of coal mine operators to ramp up production led to a mismatch  
18          in supply and demand and an associated scarcity in coal supply. The Company worked to  
19          reasonably and prudently operate the Mitchell Plant in light of fuel supply risk within a  
20          competitive market to obtain and deliver lowest reasonable cost, reliable energy to its  
21          customers.

1 **Q. DID THE COMPANY DISPATCH THE ROCKPORT PLANT WHILE IT TOOK**  
2 **POWER UNDER THE ROCKPORT UPA?**

3 A. No it did not. Nor did the Company schedule the plant's outages. However, as discussed  
4 by Company Witness West the Company properly monitored and acted within its  
5 contractual rights over the course of the Rockport UPA term.

6 **Q. ARE REALIZED CAPACITY FACTORS A FUNCTION OF RELATIVE**  
7 **ECONOMICS?**

8 A. Yes. Capacity factors are a function of a generating unit's economics. As I describe in  
9 my Direct Testimony on pages 3-6, Kentucky Power offers all of its available generating  
10 resources into the PJM Day-Ahead energy market. Kentucky Power submits  
11 considerable data to PJM as part of its bids including offer curves and operating  
12 parameters, which are linked largely to the economics of the unit. PJM uses the offer  
13 information provided by all market participants to "stack" the available units in economic  
14 order from least cost to highest cost. The PJM model dispatches generation to provide  
15 the least cost solution to meet the RTO's load. Based on this process, Mitchell would be  
16 selected to generate if its economics were part of the least cost, pool-scheduled solution,  
17 which in turn, leads to a higher capacity factor. During the Review Period, Mitchell's  
18 economics, considering fuel constraints and approved plant outages, informed the offers  
19 to the PJM market and resulted in the capacity factors provided in this case.

20 In sum, it is inappropriate to use a unit's respective capacity factor during any  
21 given time period to determine whether the plant performed adequately.

1 **Q. EVEN IF REALIZED CAPACITY FACTOR WAS THE PARAMETER TO**  
2 **DETERMINE ADEQUATE PLANT PERFORMANCE, IS A SINGLE POINT OF**  
3 **COMPARISON APPROPRIATE?**

4 A. No. As stated above, capacity factor is not the right parameter to evaluate plant  
5 performance. Even if it were an acceptable parameter, comparing one unit's capacity  
6 factor to another's is inappropriate because plant owners manage the operation and  
7 resulting dispatch of their plants by considering various factors, such as equipment age,  
8 market economics, fuel and reagent availability, as well as preserving its accredited  
9 capacity value. Said another way, capacity factor is the result of economics, plant  
10 availability and fuel availability, and not necessarily a result of prudent and lowest  
11 reasonable cost operations.

12 In testimony filed in Case No. 2021-00370,<sup>3</sup> AG-KIUC Witness Kollen attempts  
13 to demonstrate the claims he makes about capacity factors in this case. In making his  
14 demonstration, Mr. Kollen cherry-picks East Kentucky Power Cooperative's ("EKPC")  
15 coal-fired Spurlock plant capacity factor for a comparison to Mitchell's capacity factor  
16 for the years 2018-2022. Mr. Kollen shows that for those years, the Spurlock units have  
17 capacity factors in the low to upper 60% while Mitchell's units are in the low to mid 30%  
18 range.<sup>4</sup> While comparing a multitude of capacity factors against one another is a flawed  
19 approach on its own, Mr. Kollen takes it one step further and selects a single plant within  
20 PJM in which the operator commitments their units on a self-schedule (also referred to as  
21 must run) basis.<sup>5</sup> During the 2018-2022 period of time referenced in Case No. 2021-

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<sup>3</sup> Kollen Direct Test. at 8-10, In The Matter Of: Electronic Investigation Of The Service, Rates And Facilities Of Kentucky Power Company, Case No. 2021-00370 (December 22, 2023).

<sup>4</sup> Id. at 8.

<sup>5</sup> This differs from a unit that is a reliability must run.

00370 by Mr. Kollen, the minimum and maximum annual capacity factor values for the entire PJM coal fleet were 30.1% and 44.4% respectively. The Mitchell Plant’s lowest and highest annual average annual capacity factors for the same time period were 25.6% and 40.3% respectively. Over the past decade, the entire PJM coal fleet<sup>6</sup> has operated at an average annual capacity factor of roughly 43%, similar to the Mitchell Plant. These capacity factor data points are summarized in the following table.

<b>Net Capacity Factor % PJM Coal Fleet Avg. vs Mitchell Plant</b>		
<b>Year</b>	<b>PJM Coal Fleet</b>	<b>Mitchell Plant</b>
2013	49.5	43.6
2014	49.9	62.2
2015	43.8	39.3
2016	46.2	56.1
2017	46.6	56.3
2018	44.4	40.3
2019	30.1	36.9
2020	34.4	26.4
2021	42.6	34.9
2022	41.8	25.6
Average	42.9	42.2

Again, if net capacity factor alone were the appropriate measure of good plant performance, one could not reasonably claim the Mitchell Plant has performed “especially poor” as Mr. Kollen does when the plant has performed on par with the entirety of the PJM coal fleet.

EKPC’s chosen self-schedule commitment strategy is different than the Company’s economic commitment strategy in that self-schedule ensures the Spurlock units remain online and available at least at minimum load levels regardless of economic scenarios where market prices for purchased power are less than the cost to generate. This leads to the Spurlock units being dispatched at consistently high levels regardless of

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<sup>6</sup> Currently the PJM coal fleet is roughly 52GW of installed capacity.



1 whether it is more costly to their customers. Kentucky Power's economic<sup>7</sup> commitment  
2 strategy, on the other hand, is more likely to produce an outcome where Kentucky  
3 Power's customers will not bear the cost to generate for the Mitchell units if that cost is  
4 greater than the price of market purchased power. This strategy therefore benefits  
5 Kentucky Power customers. Because of this fundamental difference in commitment  
6 strategy over time, one cannot compare the resulting capacity factors of the Spurlock  
7 Plant to the Mitchell Plant and draw any meaningful conclusions about resulting costs to  
8 customers and the prudence and reasonableness of the Company's operation of the  
9 Mitchell Plant.

10 **Q. DID THE COMPANY HAVE, OR COULD IT HAVE, PERFECT KNOWLEDGE**  
11 **OF THE UNPRECEDENTED INCREASE IN COMMODITY COSTS THAT**  
12 **OCCURRED DURING THE REVIEW PERIOD THAT LED TO HIGHER PJM**  
13 **LMPs AND AN INCREASED DEMAND FOR COAL GENERATION?**

14 A. No it did not; nor could it have. The Company's normal forecasting process did not  
15 predict the anomalous pricing events that occurred during the review period. Nor would  
16 it have been reasonable to expect the Company's normal forecasting process to identify  
17 in advance such anomalous pricing events. As discussed by Company Witness Chilcote  
18 in her direct testimony, during the two-year review period, the Company faced many  
19 unforeseen events that lead to fluctuations in energy demand, inventory, and market  
20 dynamics. From the drop in electricity demand in 2020, which led to increased and  
21 excess coal inventories, to the rapid increased demand of coal fired electric generation in  
22 the second half of 2021, through the balance of 2022, ending in January of 2023. During

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<sup>7</sup> The Company does commit the Mitchell plant as self-scheduled in some instances, but the general commitment strategy is that of economic commitment.

1 the review period, Kentucky Power's contractual commitments for coal were near or  
2 exceeded the projected (forecasted) burn. Additionally, Company Witness Chilcote  
3 discusses that the Company's actual strategy for coal procurement is not static; rather, it  
4 is based off periodically updated forecasts and continuous market monitoring and  
5 evaluation, which help to determine when to issue RFPs or to make prompt purchases  
6 from the market if required and available. Throughout the review period, the Company  
7 issued four RFPs as a response to the changing market dynamics and forecasted demand.  
8 Kentucky Power used reasonable assumptions and the best information that was available  
9 at the time to issue and procure its coal supply during the review period.

10 **Q. DID THIS ENERGY, GAS, AND COAL MARKET ANOMALY IMPACT OTHER**  
11 **COMPANIES IN THE SAME WAY KENTUCKY POWER WAS IMPACTED?**

12 A. Yes. As described in section VI of my direct testimony, the macroeconomic factors  
13 impacting energy markets impacted many utilities across the RTO, region, and nation.  
14 Not having perfect foresight of such an event is not an indicator of imprudence, nor does  
15 it indicate that the Company was an outlier from other utilities. A report from  
16 Guggenheim Securities reported December 31, 2022 deferred balances for fuel and  
17 purchased power for some thirty-plus traditional electric operating companies, including  
18 some of the Company's affiliates. As can be seen on Confidential AEV Exhibit R1,  
19 which is a table from that report, the Company was not unique in being impacted by the  
20 unprecedented run-up in fuel prices. Unrecovered fuel deferrals for some electric utilities in  
21 the report exceed \$2 billion dollars by year end 2022 and are over \$14 billion in  
22 aggregate for those utilities shown. Just to be clear, the deferred amount is the amount  
23 that actual costs exceeded previously approved fuel rates for those utilities.

1 **Q. IS THE COMPANY'S ULTIMATE GOAL OF OPERATING ITS GENERATION**  
2 **RESOURCES TO MINIMIZE CUSTOMERS' FUEL AND CAPACITY COSTS?**

3 A. Yes. This is why the Company employs an economic commitment strategy for Mitchell  
4 versus a self-schedule strategy. As I describe throughout my Direct Testimony, actions  
5 taken and decisions made by the Company are done to benefit customers by ensuring, to  
6 the extent reasonably possible given the knowledge they had at the time decisions are  
7 being made, that the Company is providing lower-cost generation when market prices are  
8 expected to be high. On pages 13-14 of my Direct Testimony, I explain how the strategy  
9 the Company took during the review period in regards to Mitchell benefited customers by  
10 generating during higher market priced times, preserving the capacity value of Mitchell,  
11 and avoiding 234 unit forced outage days.

12 **Q. DOES MR. KOLLEN'S COMPARISON OF FUEL COSTS VERSUS PURCHASED**  
13 **POWER COSTS OMIT ACTUAL VARIABLE COSTS (PAGES 13-15 OF HIS**  
14 **TESTIMONY)?**

15 A. Yes. By comparing full LMPs to just the fuel costs of the Company's generation, Mr.  
16 Kollen omits real variable costs and therefore provides an incomplete and misleading  
17 comparison. Other variable costs included in energy market offers include the cost of  
18 scrubber chemicals and emission allowances. These costs can add anywhere from a  
19 couple of dollars to almost 20 dollars per MWh to the actual variable cost of Mitchell  
20 based on the costs on the underlying commodities.

21

**IV. PROPOSED PEAKING UNIT EQUIVALENT CHANGES**

1 **Q. PLEASE SUMMARIZE THE OVERALL RECOMMENDATIONS OF AG-KIUC**  
2 **WITNESSES FUTRAL AND KOLLEN WITH RESPECT TO THE PUE.**

3 A. Messrs. Futral and Kollen propose to retroactively alter the Commission-approved PUE  
4 calculation in order to reduce the Company's recovery through the FAC of its prudently-  
5 incurred purchased power expenses by an additional \$55.3 million (using the  
6 recommendation of capping the hypothetical CT at 100 MW), or \$39.8 million (using the  
7 alternative recommendation of a 200 MW cap on the hypothetical CT).

8 Specifically, the AG-KIUC witnesses propose to alter the PUE calculation by  
9 recommending

10 that the Commission set the hypothetical fixed startup cost amount  
11 in the PUE calculation to \$4.62/mWh based on the actual run-time  
12 experience of Ceredo 1. If the startup costs are included in the PUE,  
13 then they should be no greater than the costs that the hypothetical  
14 CT would actually incur.<sup>8</sup>

15 [and]

16 that the hypothetical peaking unit be capped at either 100 mW or  
17 200 mW, and that purchases above that cap be measured against the  
18 highest cost coal-fired generating unit to determine if purchases  
19 were economy or non-economy. This is consistent with economic  
20 the dispatch principles embedded in the FAC.<sup>9</sup>

21 **Q. ARE AG-KIUC WITNESSES FUTRAL AND KOLLEN'S PROPOSED CHANGES**  
22 **TO THE PUE REASONABLE?**

23 A. No they are not reasonable and they should not be implemented. The Commission initially  
24 approved the Company's use of the PUE to determine economy and non-economy

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<sup>8</sup> Futral Direct Test. at 11.

<sup>9</sup> Kollen Direct Test. at 5.

1 purchased power in its October 3, 2002, order in Case No. 2000-00495-B. Changes to the  
2 PUE calculation were proposed and authorized by the Commission in Case No. 2017-  
3 00179. The Company has not deviated from the methodology approved by the  
4 Commission when calculating the PUE and the resulting FAC rate. Messrs. Futral and  
5 Kollen fail to acknowledge that the PUE calculation allows the Company's FAC  
6 calculation, for an individual hour, to compare the result of a cost-based formula to the  
7 price of purchased power to determine how much purchased power expense can be  
8 classified as economy purchased power and included in the FAC. The PUE thus operates  
9 as a *proxy*, and not as an actual CT unit. It was never intended as a volumetric cap on the  
10 amount of economy energy that could be purchased and recovered through the monthly  
11 FAC operation as AG-KIUC now proposes. The PUE formula is what Mr. Futral described  
12 as a "hypothetical ratemaking methodology"<sup>10</sup> and was never designed to replicate the  
13 actual performance of a generating unit; rather, it is an arbitrary price limiter.

14 The performance of any generating unit in an individual hour can be affected by  
15 factors such as the state of the unit and its component equipment, ambient conditions such  
16 as air temperature, and the availability and quality of its fuel. In addition, actual units  
17 require maintenance and planned outages to maintain equipment as well as fixed operations  
18 and maintenance (O&M) expenses and capital investment to maintain their performance.

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<sup>10</sup> Futral Direct Test. at 5.

1 The PUE, by its nature, does not take those factors into account and focuses only on a  
2 formula based variable cost of the unit.

3 **Q. WHY DO YOU CHARACTERIZE THE PUE AS AN ARBITRARY PRICE**  
4 **LIMITER FOR FAC RECOVERY?**

5 A. The PUE does not represent reality; the Company incurs actual and knowable costs to  
6 purchase power in its RTO energy market. The implementation of the PUE pre-dates the  
7 Company's participation in RTO energy markets with hourly economic dispatch solutions.  
8 The construct is more geared towards a utility that is its own balancing authority and that  
9 must make bilateral purchases from other balancing authorities from time to time to meet  
10 its energy needs. The concept simply does not make sense for a utility in the Company's  
11 position where every hour the RTO is solving for the least cost economic dispatch of the  
12 entire footprint including the Company's load.

13 **Q. WHAT IS THE SIGNIFICANCE OF AG-KIUC'S PROPOSED CHANGES?**

14 A. The proposed changes would force the Company to absorb, until they can be recovered  
15 through base rates, an additional \$55.3 million for services provided to customers that were  
16 prudently incurred and charged to customers in accordance with the Commission-approved  
17 PUE methodology and 807 KAR 5:056. The proposed incremental disallowance  
18 calculated by Mr. Futral represents 28.1% of the Company's operating income over the  
19 review period under review and 47.6% of its net income over that same period.

20 **Q. IS AG-KIUC'S RETROACTIVE PROPOSAL CONSISTENT WITH**  
21 **REASONABLE RATEMAKING PRINCIPLES?**

22 A. No. The proposed retroactive disallowance is completely outside the bounds of reasonable  
23 ratemaking. The Commission approved the currently-utilized PUE methodology. How

1 could the Company possibly manage its exposure to an unknown construct that may be  
2 imposed retroactively upon it in the future? Judging whether or not something is prudent,  
3 or in this case if costs are prudently incurred, has to be done through the lens of what was  
4 known to the Company at the time it was making decisions, providing service and based  
5 upon Commission-approved constructs. It is wholly unreasonable to hold the Company to  
6 a standard different from what was approved at the time of actual operations after the fact.

7 **Q. WHAT IS YOUR RESPONSE TO THESE PROPOSALS TO SIGNIFICANTLY**  
8 **AND RETROACTIVELY ALTER THE PUE CALCULATION AND TO**  
9 **DISALLOW \$55.3 MILLION OF PRUDENTLY-INCURRED FUEL COSTS?**

10 A. Based on the significance of the proposed changes and the magnitude of their result as  
11 proposed, the PUE calculation would become punitive. Not only are Mr. Kollen's and Mr.  
12 Futral's testimonies and the suggestions therein contrary to the Commission's orders and  
13 807 KAR 5:056, they also lack any discussion of the subsequent effect that such a large  
14 disallowance of concurrent recovery for reasonably and prudently incurred costs would  
15 have, most notably to Kentucky Power's existing cash flow and its ability to secure future  
16 capital. As such, whether to fundamentally alter the PUE calculation is a subject best  
17 evaluated in a base rate case where witness(es) with the necessary expertise can advise the  
18 Commission on the advisability of such a change *on a going forward basis* and the possible  
19 effects on the Company's financial metrics, risk profile, and where all possible means of  
20 recovery of purchased power expenses can be comprehensively reviewed.

**V. COMPARISONS TO CEREDO UNIT 1**

21 **Q. IN GENERAL, MESSRS. FUTRAL AND KOLLEN PROPOSE CHANGES TO**  
22 **THE PEAKING UNIT EQUIVALENT CALCULATION BASED ON**

1           **COMPARISONS TO APPALACHIAN POWER COMPANY’S CEREDO UNIT 1.**  
2           **DO YOU AGREE THAT THIS IS APPROPRIATE?**

3    A.    No. Both Mr. Kollen and Mr. Futral base their recommendations on the premise that the  
4           PUE calculation is supposed to be based on Ceredo Unit 1, a combustion turbine unit  
5           owned by Kentucky Power affiliate Appalachian Power Company. However, as stated  
6           above, the Commission originally approved the use of the PUE calculation in 2002, not  
7           based on any particular combustion turbine unit, but rather on a theoretical unit. It further  
8           held on multiple occasions that the PUE was a proxy, and therefore not based on any  
9           particular unit. In any event, Appalachian Power Company did not even acquire the Ceredo  
10          plant until December 2005. The Company only used Ceredo Unit 1 as an informative  
11          model to demonstrate the Company’s proposed updates in Case No. 2017-00179.

12   **Q.    DID THIS FACT INFORM MR. KOLLEN’S PROPOSED LIMIT ON THE**  
13   **AMOUNT OF HOURLY ENERGY SUBJECT TO THE PUE CALCULATION?**

14   A.    It appears that Mr. Kollen did not take into account at all the fact that the PUE is based on  
15          theoretical combustion turbine unit when making his recommendations. When asked by  
16          the Company in discovery to confirm that the PUE is based on a hypothetical combustion  
17          turbine and not an actual generating unit, he and Mr. Futral replied “Deny. The PUE is a  
18          hypothetical generating unit based on the actual Ceredo 1 generating unit.”<sup>11</sup> The  
19          recommended imposition of a 100 MW limit, and its use in the PUE calculation, is  
20          completely arbitrary and again based on the faulty assumption that the PUE is modeled  
21          after the Ceredo 1 generating unit, which Appalachian Power did not even own until after  
22          the PUE was developed and approved.<sup>12</sup> A limit was never discussed when the Company

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<sup>11</sup> AG-KIUC’s response to Kentucky Power’s first set of data requests, Item 8.

<sup>12</sup> See AG-KIUC’s response to Kentucky Power’s first set of data requests, Item 9.



1 originally proposed the PUE because the PUE was to be based on a theoretical combustion  
2 turbine unit (because the Company did not own one) in order to set the amount of costs  
3 allowable for recovery through the FAC. Nor was it discussed by any party (which  
4 included the AG and KIUC) when the Company proposed its updates to the PUE  
5 calculation in Case No. 2017-00179 for the same reasons.

6 **Q. IS THE AG-KIUC PUE MW LIMIT REASONABLE?**

7 A. No, and one only needs to look at a simple real-world example to see why the AG-KIUC  
8 proposal is completely unreasonable for the Company and its customers. In an instance  
9 where it is more economic for the Company to purchase all of its power from the PJM  
10 energy market rather than producing it from its generation sources, the AG-KIUC proposal  
11 would classify all purchased power in excess of 100 MW of hourly volume as “non-  
12 economy” and exclude it from FAC recovery.<sup>13</sup> By definition the entirety of the purchase  
13 should be an economy purchase. This would have been the case for a portion of the review  
14 period and most of the 2020 calendar year. The AG-KIUC proposal also puts the Company  
15 in the untenable position of having to choose between providing customers with the lowest  
16 reasonable cost energy supply and prudently managing its finances. The AG-KIUC  
17 proposal would incent the Company to produce more internal generation, regardless of  
18 economics and how much it would cost customers, in order to avoid being denied recovery  
19 of purchased power costs. The AG-KIUC proposal could hurt Kentucky Power’s  
20 customers and should be rejected in its entirety.

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<sup>13</sup> AG-KIUC’s response to Kentucky Power’s first set of data requests, Item 10.

1 **Q. MR. FUTRAL HAS PROPOSED TO REDUCE THE STARTUP COST INCLUDED**  
2 **IN THE PUE CALCULATION BASED ON THE AVERAGE RUNTIME FOR**  
3 **CEREDO UNIT 1. DO YOU AGREE?**

4 A. No. As I stated above, the PUE is a proxy formula designed to set the amount of costs  
5 allowable for recovery through the FAC, not to simulate the operation of a specific  
6 generating unit, which Mr. Kollen admits to misunderstanding in response to the  
7 Company's data requests. Further, the inclusion of startup costs was explicitly approved  
8 by the Commission in Case No. 2017-00179.<sup>14</sup> The \$30/MWh startup cost that was  
9 approved by the Commission in that case was equal to the cost divided by the MW divided  
10 by the minimum run time of one hour. As the PUE is a hypothetical price limiter, not based  
11 on a real generator, where every hour of purchased power is evaluated independently, it is  
12 wholly reasonable to assume the PUE's theoretical CT is "started up" every hour for  
13 comparison purposes. It is a marginal price limiter, not economic re-dispatch of actual  
14 resources.

15 **Q. ARE THERE OTHER REASONS WHY THE PUE IS NOT THE EQUIVALENT**  
16 **OF, OR BASED ON, CEREDO UNIT 1?**

17 A. Yes. Besides the fact that the PUE was instituted before the Company's affiliate even  
18 owned the Ceredo plant, there are three other major differences:

19 1. The PUE's approved heat rate is much lower than the actual heat rate of Ceredo  
20 unit 1 which was 13,657.<sup>15</sup> This is well above the 10,400 Btu/kWh that the

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<sup>14</sup> See Testimony, Alex E. Vaughan, In the Matter of: Electronic Application Of Kentucky Power Company For (1) A General Adjustment Of Its Rates For Electric Service; (2) An Order Approving Its 2017 Environmental Compliance Plan; (3) An Order Approving Its Tariffs And Case No. 2017-00179 Riders; (4) An Order Approving Accounting Practices To Establish Regulatory Assets Or Liabilities; And (5) An Order Granting All Other Required Approvals And Relief, Case No. 2017-00179 at 33-35 (July 20, 2017); see also id., Order at 55-56 (Ky. P.S.C. January 18, 2018).

<sup>15</sup> 2023 annual average heat rate.

1 Company uses for the hourly PUE calculation during the non-summer months and  
2 the 10,800 Btu/kWh for the summer months.

3 2. The hourly PUE calculation does not mimic Ceredo's operating parameters such  
4 as ramp rate.

5 3. The Ceredo plant generally operates at a capacity factor of less than 10% while the  
6 PUE calculation spans all 8760 hours in a year.

7 The PUE's hypothetical combustion turbine is not the equivalent of and cannot reasonably  
8 be based on Ceredo Unit 1.

## VI. CONCLUSIONS

9 **Q. IS MR. KOLLEN'S CLAIM THAT POOR PERFORMANCE AT MITCHELL LED**  
10 **TO MORE NON-ECONOMY POWER PURCHASES FACTUAL?**

11 A. No. Mr. Kollen's claim lacks any factual basis and is not supported by evidence. He  
12 ignores factors that affect the capacity factors of generating units, such as planned and  
13 approved outages, fuel constraints, and the economics of the unit in a competitive market.  
14 He also makes biased comparisons between LMP prices and fuel costs that do not include  
15 all variable costs of the Mitchell units.

16 **Q. SHOULD THE COMMISSION ADOPT CHANGES TO THE PUE PROPOSED BY**  
17 **AG-KIUC WITNESSES KOLLEN AND FUTRAL?**

18 A. No. Their proposed changes ignore the purpose of the PUE calculation, are not based on  
19 evidence, and do not take into consideration real-world circumstances. Moreover, the  
20 proposed retroactive changes to the calculation method will cause a significant  
21 disallowance of recovery through the FAC of prudently incurred purchased power costs  
22 based on a calculation methodology that was previously approved by the Commission. If

1 the Commission were inclined to review any proposed changes to the PUE calculation, any  
2 changes should be comprehensively evaluated in the larger context of a base rate case, and  
3 only on a going-forward basis, so the proper amount of non-FAC eligible purchased power  
4 cost can be incorporated in base rates.

5 AG-KIUC's proposal to amortize startup costs also should be rejected as it is  
6 inconsistent with the Commission's orders. The Commission approved the inclusion of  
7 startup costs as the Company proposed and no circumstances have changed that would  
8 justify modification of the Commission's orders with respect to startup costs. The  
9 assumption that the PUE calculation is based on the Ceredo Unit 1 generating unit owned  
10 by affiliate Appalachian Power Company also is not based on fact. As a result, AG-KIUC's  
11 proposals, should be rejected.

12 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

13 **A.** Yes, it does.

Public AEV Exhibit R1 has been redacted in its entirety.

VERIFICATION

The undersigned, Alex E. Vaughan, being duly sworn, deposes and says he is the Managing Director for Renewables and Fuel Strategy for American Electric Power Service Corporation that he has personal knowledge of the matters set forth in the foregoing testimony and the information contained therein is true and correct to the best of his information, knowledge, and belief after reasonable inquiry.

Alex E. Vaughan  
Alex E. Vaughan

Franklin County )  
 )  
State of Ohio )

Case No. 2023-00008

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Alex E. Vaughan, on 1/31/2024.

Paul D. Flory  
Notary Public



Paul D. Flory  
Attorney At Law  
Notary Public, State of Ohio  
My commission has no expiration date  
Sec. 147.03R.C.

My Commission Expires Never

Notary ID Number NC 110