

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

In the Matter of:

Electronic Tariff Filing Of Kentucky Power Company )  
For Approval Of A Special Contract With Ebon ) Case No. 2022-00387  
International, LLC )

**REBUTTAL TESTIMONY OF**  
**AMANDA C. CLARK**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

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**EXHIBITS**

<b><u>EXHIBIT</u></b>	<b><u>DESCRIPTION</u></b>
EXHIBIT ACC-R1	IMPLAN Analysis on Ebon’s Economic Development Benefits
EXHIBIT ACC-R2	Letter from Ebon International, LLC

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**I. INTRODUCTION**

1 **Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.**

2 A. My name is Amanda C. Clark. My position is External Affairs Manager for Kentucky  
3 Power Company (“Kentucky Power” or the “Company”). My business address is 1645  
4 Winchester Avenue, Ashland, KY 41101.

5 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**  
6 **EXPERIENCE.**

7 A. I earned a Bachelor’s degree in Elementary Education from Marshall University in 2000.  
8 I was an elementary school teacher until 2007 when I accepted a management role at the  
9 Boyd County Public Library. From 2007 to 2016, I was the programming supervisor for  
10 the library system. In 2016, I became the Vice President of operations for Ashland Alliance,  
11 a regional economic development organization and chamber of commerce.

12 As the Vice President of Ashland Alliance, I was introduced to economic  
13 development and have experience in all aspects of the profession including site  
14 development, industrial recruitment, and community development. I completed the  
15 University of Kentucky Gatton College of Business and Economics Economic  
16 Development Institute and the International Economic Development Council’s Economic  
17 Development Institute at the University of Oklahoma. I serve on the Board of Directors of

1 the Kentucky Association for Economic Development and am an active member of the  
2 Southern Economic Development Council.

3 In 2014, I was elected to the City of Ashland's Board of Commissioners. I have  
4 been re-elected for four additional terms, and I am currently serving for the ninth  
5 consecutive year. The City of Ashland Commission is responsible for setting the policy  
6 and budget to manage the city's operations. I represent the city on the Ashland Housing  
7 Authority Board, as well as the executive board of Ashland in Motion, an organization  
8 committed to the development of downtown Ashland. I also chair the city's capital projects  
9 committee. In June, 2019 I accepted my current position as external affairs manager for  
10 Kentucky Power.

11 **Q. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES.**

12 A. As an external affairs manager, my responsibilities include managing local government  
13 relations, community outreach and economic development. I work diligently to maintain  
14 relationships with the local governments in Kentucky Power's service territory. I am  
15 responsible for the northern part of the territory and cover Boyd, Carter, Elliott, Greenup,  
16 Lawrence, Lewis, Morgan, Owsley, and Rowan counties. I am also responsible for  
17 Kentucky Power's community outreach in those counties. I organize staff and resources  
18 for community events, parades, and volunteer opportunities. My responsibilities in  
19 economic development include providing support to local and regional economic  
20 development partners by assisting with site visits, recruitment trips, and information  
21 gathering for consultant requests for potential projects. I also maintain relationships with  
22 the Kentucky Cabinet for Economic Development and the Kentucky Association for  
23 Economic Development.

1 **Q. DID YOU OFFER DIRECT TESTIMONY IN THIS PROCEEDING?**

2 A. No.

**II. PURPOSE OF REBUTTAL TESTIMONY**

3 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

4 A. The purpose of my rebuttal testimony is to affirm the economic development benefits of  
5 the Ebon project and address certain statements and positions taken by Stacy L. Sherwood  
6 and Chelsea Hotaling, witnesses for Mountain Association, Kentuckians for the  
7 Commonwealth, Appalachian Citizens' Law Center, Sierra Club and Kentucky Resources  
8 Council (collectively, "Joint Intervenors").

9 **Q. ARE YOU SPONSORING ANY REBUTTAL EXHIBITS?**

10 A. Yes. I am sponsoring the following exhibits:

11 Exhibit ACC-R1: IMPLAN Analysis of Ebon's Economic Development Benefits

12 Exhibit ACC-R2: Letter from Ebon International, LLC

**III. KENTUCKY POWER'S SERVICE TERRITORY AND THE IMPORTANCE OF  
ECONOMIC DEVELOPMENT**

13 **Q. PLEASE PROVIDE A SYNOPSIS OF WHY ECONOMIC DEVELOPMENT IS  
14 CRITICAL TO KENTUCKY POWER'S SERVICE TERRITORY.**

15 A. Kentucky Power's service territory has endured devastating job losses. Mining  
16 employment in Eastern Kentucky fell from 13,372 in 2007, to 2,797 by the first quarter of

1 2022.<sup>1</sup> The labor shed (an area or region from which an employment center draws its  
2 commuting workers) of Lawrence County also faced the closure of AK Steel in Boyd  
3 County, losing 263 jobs in 2011 at its Coke Plant facility and another 940 at its blast  
4 furnace in 2015. The region is starved for living wage jobs. Lawrence County has an  
5 unemployment rate of 5.1%. Neighboring counties, Boyd (5.2%), Carter (7.5%), Elliott  
6 (8.8%), Martin (6.9%) and Johnson (6.0%) are all well above the state unemployment  
7 rate of 3.4% and the national unemployment rate of 3.3%.<sup>2</sup>

8 **Q. PLEASE EXPLAIN WHAT DIFFICULTIES ARE UNIQUE TO KENTUCKY**  
9 **POWER/EASTERN KENTUCKY WHEN RECRUITING ECONOMIC**  
10 **DEVELOPMENT.**

11 A. Kentucky Power's service territory is relatively new to the concept of economic  
12 development, and this puts it at a disadvantage when compared to other regions. For  
13 example, Greater Louisville, Inc., the regional chamber of commerce/economic  
14 development organization for the metro-Louisville area has been involved in economic  
15 development activities since 1987, while One East Kentucky, the largest regional  
16 economic development organization in Eastern Kentucky began operations in 2015.  
17 Regions like Central Kentucky have a nearly 30-year head start in identifying sites and  
18 preparing them for economic development.

19 Additionally, Eastern Kentucky faces a particular hardship because of its lack of  
20 economic diversity. The decline of coal and the closure of major manufacturers across  
21 the region have left Eastern Kentucky in need. It further is difficult for communities to

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<sup>1</sup> Kentucky Center for Economic Policy, *The State of Kentucky Working 2022* (last visited February 28, 2023)  
<https://kypolicy.org/the-state-of-working-kentucky-2022/>.

<sup>2</sup> KY Stats, *December 2022 Preliminary Unemployment Rates by County*, (last visited February 28, 2023)  
[https://kystats.ky.gov/Content/Reports/202212\\_CountyLAUSMaps.pdf](https://kystats.ky.gov/Content/Reports/202212_CountyLAUSMaps.pdf)

1 allocate resources specifically to economic development purposes with an ever-declining  
2 tax base.

3 Finally, Eastern Kentucky's terrain makes large, quality sites for economic  
4 development scarce. Many of the sites without a significant slope are hindered by flood  
5 plain issues. The regional industrial parks in the Company's service territory are re-  
6 claimed strip mine sites that face a unique set of challenges as well.

7 Kentucky Power and its economic development partners have worked diligently  
8 to remove barriers to development. By working together, the region has produced  
9 certified and build-ready sites and quantified the skills of its workforce so that it can be  
10 ready for potential projects when they come.

11 **Q. HAS THE COMMONWEALTH OF KENTUCKY IMPLEMENTED ANY**  
12 **ECONOMIC DEVELOPMENT INCENTIVES SPECIFIC TO**  
13 **CRYPTOCURRENCY COMPANIES?**

14 A. Yes. House Bill 230 ("HB230") and Senate Bill 255 ("SB255") were both adopted by  
15 the Kentucky General Assembly and signed into law by the Governor in 2021. HB230  
16 notes the importance of the cryptocurrency industry to the Commonwealth.

17 The General Assembly has actively encouraged the use and growth of  
18 blockchain technology in the Commonwealth as evidenced by 2019 House  
19 Resolution 171 authorizing a comprehensive study on the growing use of  
20 blockchain technology and its economic development potential for a  
21 variety of businesses and industries, as well as the passage of 2020 Senate  
22 Bill 55 which enacted KRS 42.747 and created a Blockchain Technology  
23 Working Group to study the use of blockchain in various sectors...the  
24 Commonwealth has an opportunity to become a national leader in the  
25 emerging industry of the commercial mining of cryptocurrency given its  
26 abundant supply of electricity that can be provided at lower rates than  
27 most states, and its established infrastructure to provide such energy.<sup>3</sup>

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<sup>3</sup> <https://apps.legislature.ky.gov/law/acts/21RS/documents/0122.pdf>

1 HB230 exempts the electricity used in the commercial mining of cryptocurrency  
2 from sales and utility gross receipts taxes. It also provides a sales and use tax exemption  
3 for tangible personal property purchased by commercial mining facilities to construct,  
4 retrofit, or upgrade eligible projects. SB255 added definitions to KRS 154.27-010 to  
5 include blockchain and cryptocurrency language to create tax incentives for the industry.

#### **IV. EBON ECONOMIC DEVELOPMENT BENEFITS**

6 **Q. COMPANY WITNESSES WEST AND KAHN BOTH REFERENCE THE**  
7 **SIGNIFICANT ECONOMIC DEVELOPMENT BENEFITS OF EBON BEING**  
8 **THE JUSTIFICATION FOR THE OFFERED DISCOUNTS IN THE SPECIAL**  
9 **CONTRACT. WILL YOU PLEASE PROVIDE A SUMMARY OF THESE**  
10 **BENEFITS?**

11 A. The economic development benefits include: economic impact of the jobs created by  
12 Ebon; economic impact of the jobs created by the companies that will build or improve  
13 the site or supply; economic impact of the money spent by employees of Ebon or  
14 companies building, improving, or supplying the site; job and training opportunities for  
15 unskilled labor; job opportunities for those with advanced degrees; the potential for  
16 population growth due to the new job opportunities; and spreading Kentucky Power's  
17 fixed costs over a larger base for the benefit of all customers and so that it can be more  
18 competitive in subsequent economic development activities.

19 **Q. DO ANY OF THE INTERVENORS' TESTIMONIES ADDRESS OR BALANCE**  
20 **THESE BENEFITS AGAINST THEIR OPPOSITION TO THE PROJECT.**

21 A. No.



1 **Q. CAN KENTUCKY POWER QUANTIFY THESE ECONOMIC DEVELOPMENT**  
2 **BENEFITS?**

3 A. Yes. Kentucky Power utilized IMPLAN (an economic impact software nationally  
4 recognized and accepted by economic development professionals) to model the expected  
5 economic impact on the local area resulting from Ebon locating its facility in Lawrence  
6 County. IMPLAN is a micro-computer-based, input-output (“I-O”) modeling system.  
7 The IMPLAN model looks at the impacts to ongoing economic activity and capital  
8 investments and quantifies them. With IMPLAN, one can estimate I-O models of up to  
9 528 sectors for any region consisting of one or more counties. For purposes of modeling  
10 Ebon’s economic impact on the local area, the model specifically considered Kentucky  
11 Power’s service territory and employment analysis for Ebon’s specific industry (data  
12 processing, hosting and related services). The results of the IMPLAN model’s analysis of  
13 the projected economic development benefits that the addition of the Ebon Facility will  
14 bring to the local area are detailed in Exhibit ACC-R1. I further describe the results in  
15 this testimony.

16 **Ongoing Economic Activity**

17 IMPLAN’s Ongoing Economic Activity results consider the annual impact of the project  
18 as represented by the production, purchase, or sale of products or services as well as  
19 working for a wage or salary in the local area.

**Table 1** provides IMPLAN’s results for the ongoing economic activity associated with new employment to Kentucky Power’s service territory. When in full operation, the project will create or support 125 direct jobs and 343 total jobs in the local economy.

<b>Impact Type</b>	<b>Employment</b>	<b>Labor Income</b>	<b>Value Added</b>	<b>Output</b>
Direct Effect	125.00	\$8,007,545.63	\$12,643,196.27	\$61,621,128.46
Indirect Effect	166.66	\$7,561,913.60	\$10,791,530.09	\$23,287,078.88
Induced Effect	51.76	\$2,410,833.27	\$4,358,267.32	\$7,892,252.59
Totals	343.42	\$17,980,292.50	\$27,792,993.68	\$92,800,459.93
<i>Type SAM Multiplier</i>	2.75	2.25	2.20	1.51

*Direct effect* refers to the employment, labor income, and value-added effects for the jobs specifically added to operate the Ebon Facility. *Indirect effect* refers to the employment, labor income, and value-added effects for the business-to-business purchases (goods or service) within Ebon’s supply chain resulting from Ebon locating in the area. *Induced effect* refers to the value added within the local economy stemming from household spending of labor income, which is generated by the spending of employees.<sup>4</sup>

*SAM multiplier* (Regional Social Accounting Matrices) is a metric that is calculated by dividing the sum of the direct effects, indirect effects, and induced effects by the direct effects.<sup>5</sup>

<sup>4</sup> Please see <https://blog.implan.com/understanding-implan-effects> for further information on these terms.

<sup>5</sup> Please see <https://support.implan.com/hc/en-us/articles/115009674708-Introducing-the-SAM-#:~:text=The%20SAM%20provides%20information%20on%20non-market%20financial%20flows.,and%20transfer%20of%20funds%20from%20people%20to%20people>. for further information on the SAM multiplier.

1 **Table 2** provides IMPLAN’s results demonstrating the tax effects as a result of Ebon’s  
 2 ongoing activities in Kentucky Power’s service territory. The total projected tax effect on  
 3 the local economy (sub county and county level) for each year of the Special Contract is  
 4 \$451,520.21.<sup>6</sup> The tax effects at the state and federal level are also detailed further below.

Impact Type	Sub County	Sub County	County	State	Federal	Total	State and Local
	General	Special					
Direct Effect	\$34,549.62	\$35,876.54	\$23,135.75	\$377,129.86	\$1,846,177.08	\$2,316,868.86	\$ 470,691.78
Indirect Effect	\$54,514.39	\$118,962.37	\$44,362.38	\$651,566.95	\$1,561,975.05	\$2,431,381.13	\$ 869,406.08
Induced Effect	\$29,694.28	\$84,569.97	\$25,854.90	\$382,370.94	\$500,978.39	\$1,023,468.49	\$ 522,490.10
Total Effect	\$118,758.29	\$239,408.89	\$93,353.03	\$1,411,067.75	\$3,909,130.52	\$5,771,718.48	\$ 1,862,587.96

### Capital Investment

5 IMPLAN’s Capital Investment results consider activities associated with Ebon’s capital  
 6 investment, construction, and site preparation and equipment supply. **Table 3** and **Table**  
 7 **4** (tax impact) provide IMPLAN’s results for the economic impacts on the local economy  
 8 due to capital investment. It is important to note the economic impact for the capital  
 9 investment are only those activities leading up to the operation of the project, and does  
 10 not contemplate the 125 jobs to be created to operate the Ebon Facility. The direct effect  
 11 jobs are comprised of construction and suppliers.

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	743.42	\$36,182,306.48	\$40,735,558.88	\$81,093,173.75
Indirect Effect	110.26	\$5,270,364.39	\$8,311,415.67	\$18,345,469.16
Induced Effect	139.89	\$6,512,153.70	\$11,779,439.63	\$21,325,143.06
Totals	993.58	\$47,964,824.56	\$60,826,414.19	\$120,763,785.97
Type SAM Multiplier	1.34	1.33	1.49	1.49

<sup>6</sup> Any tax exemptions are not reflected. Taxes reflected are those associated with the industry.

Table 4

Impact Type	Sub County	Sub County	County	State	Federal	Total	State and
	General	Special					
Direct Effect	\$196,526.74	\$345,663.62	\$156,038.99	\$2,203,904.33	\$7,230,720.51	\$10,132,854.19	\$ 2,902,133.68
Indirect Effect	\$57,951.73	\$159,476.23	\$50,353.19	\$734,461.94	\$1,058,706.82	\$2,060,949.91	\$ 1,002,243.09
Induced Effect	\$80,241.13	\$228,539.90	\$69,864.72	\$1,033,295.68	\$1,353,413.19	\$2,765,354.62	\$ 1,411,941.43
Total Effect	\$334,719.60	\$733,679.75	\$276,256.91	\$3,971,661.95	\$9,642,840.52	\$14,959,158.73	\$ 5,316,318.21

## **V. SHERWOOD AND HOTALING'S ARGUMENTS AGAINST THE SPECIAL CONTRACT**

1    **Q.    PLEASE SUMMARIZE MS. SHERWOOD AND MS. HOTALING'S**  
2        **ARGUMENTS AGAINST THE SPECIAL CONTRACT.**

3    A.    Ms. Sherwood and Ms. Hotaling's arguments against the special contract generally  
4        consist of:

- 5           • The tax relief to be provided to Ebon will limit local benefits;
- 6           • Kentucky Power has failed to provide sufficient evidence that Ebon would not  
7           locate in its service territory absent the special contract;
- 8           • The cryptocurrency market is volatile and highly susceptible to the price of  
9           energy, thus leading to temporary facilities;
- 10          • Inadequate protections for other Kentucky Power customers should Ebon leave  
11          prior to the end of the contract term; and,
- 12          • The Big Sandy site would be better utilized for other economic development  
13          opportunities, specifically new site generation (Ms. Hotaling refers to this as the  
14          opportunity cost for the Big Sandy Generating site).

15   **Q.    DO ANY OF THESE ARGUMENTS HOLD ANY MERIT HERE?**

16   A.    No. In particular, both Ms. Sherwood and Ms. Hotaling over-generalize Ebon's plans and  
17        operations, and instead fail to recognize Ebon's unique investment and operational

1 conditions compared to other cryptocurrency companies. I will discuss each argument  
2 and its inapplicability to Ebon below.

3 **Q. HAS EBON APPLIED FOR TAX RELIEF (EXEMPTION FROM UTILITY**  
4 **GROSS RECEIPTS/SCHOOL TAX)?**

5 A. At this time, Ebon has not applied for tax relief from the Commonwealth of Kentucky.<sup>7</sup>  
6 Further, those tax incentives passed into law by the Kentucky General Assembly expire  
7 in 2030. The proposed contract between Kentucky Power and Ebon extends beyond that  
8 and one must consider the long-term benefits of this project to the community and the  
9 ancillary benefits of Ebon's capital investment at the former Big Sandy Plant. While  
10 100-125 jobs will bring a variety of benefits to the community, the indirect jobs  
11 associated with the Ebon project (construction and suppliers) also cannot be overlooked.

12 The fundamental principles of economic development include encouraging  
13 private sector development of companies that create jobs at a higher-than-average wage  
14 to diversify the economy and generate tax revenue. Tax revenue generation does not  
15 come just from the private sector company's taxes. Tax revenue is generated each time a  
16 person moves to an area for a job, buys a lunch, or picks up groceries. Revenue is  
17 generated in every dollar that new-to-the-community person spends locally. Those people  
18 could buy property, and shop and dine in the region, contributing to the local economy.  
19 Revenue is also generated by every other company associated with building the Ebon  
20 Facility, making improvements to the site, and those providing supplies for the capital  
21 investment and daily operations.

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<sup>7</sup> See Company's February 2, 2023 Supplemental Responses to JI 2-2 and JI 1-6.

1 A private sector company (Ebon) bringing up to 125 jobs at a higher-than-average-  
2 wage to diversify the economy and generate tax revenue is the very definition of  
3 economic development. The median household income in Lawrence County was  
4 \$29,167 in 2020. Ebon's planned wages will range from \$44,000 to \$77,000.<sup>8</sup> Those  
5 higher-than-average wages will benefit the community. Witness Sherwood implies that  
6 the jobs created by Ebon will not benefit the local or state economy if residents from  
7 Lawrence County are not hired. Ms. Sherwood even goes on to suggest hiring local  
8 residents be a requirement in order to receive discounts from the Company.<sup>9</sup> This  
9 argument is not rooted in logic when considering the principles of economic  
10 development. Martin County is adjacent to Lawrence County and part of its labor shed.  
11 It suffered one of the highest rates of population loss in the state (12.7%) from 2010 to  
12 2020.<sup>10</sup> Population losses like those in Martin, Owsley (14.8%), Magoffin (12.7%),  
13 Knott (12.8) and Letcher (12.1) counties have caused the Company's fixed costs to be  
14 spread among fewer ratepayers, increasing the cost of power for everyone. It is potential  
15 projects like this that will bring people back to region to stay and live.

16 **Q. ABSENT THE RATES OFFERED, WOULD EBON LOCATE IN THE SERVICE**  
17 **TERRITORY?**

18 A. Ebon has informed the Company on multiple occasions that the rate in the contract is  
19 imperative to Ebon locating its project in Kentucky Power's service territory. Witness  
20 Sherwood's own testimony asserts cryptocurrency projects "seek cheap energy, speed to  
21 market (and)... chase the best prices."<sup>11</sup> Ebon, although more than a crypto-mining

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<sup>8</sup> West Direct test. at 10 .

<sup>9</sup> Sherwood Direct Test. at 18 .

<sup>10</sup> <https://apnews.com/article/kentucky-census-2020-cb01a6f4f0c17ace8eb837796adc607a>

<sup>11</sup> Sherwood Direct Test. at 6.

1 company, is no different in this regard. Exhibit ACC-R2 is a letter from Ebon's managing  
2 director that details why Ebon chose Kentucky. It specifically details that absent the rates  
3 offered, it would not locate within the service territory: "[W]e cannot and will not  
4 develop the data center in Kentucky Power's service territory without the rates and terms  
5 in the proposed special contract."<sup>12</sup> The letter also goes on to provide more detail  
6 concerning Ebon's business model, operations, and plans to remain in Kentucky.

7 Companies involved in active economic development projects, whether it is new  
8 construction, relocation, or an expansion, factor in the company's costs relative to  
9 specific locations to determine where the project will go. As stated in the Company's  
10 response to Joint Intervenors data request 1-2, many other cryptocurrency customers  
11 chose not to locate in Kentucky Power's service territory. Most of the conversations  
12 ended because of the cost of power and because Kentucky Power's rates did not make  
13 sense in their financial models.<sup>13</sup> The proposed contract is acceptable to Ebon and  
14 without it the project would not move forward.

15 **Q. IS THERE RISK THAT EBON WOULD CLOSE UP SHOP AT ANY TIME**  
16 **PRIOR TO THE END OF THE CONTRACT TERM DUE TO THE VOLATILITY**  
17 **OF THE CRYPTOCURRENCY MARKET?**

18 A. Witness Sherwood goes into detail about her impression of the volatility of the  
19 cryptocurrency market as rationale for denying this proposed special contract. As  
20 mentioned in the Company's response to AG-KIUC data request 1-20, Ebon's business  
21 model is stable and not as susceptible to the volatility as other cryptocurrency companies.  
22 Ebon also details this fact in Exhibit ACC-R2. Ebon's computing equipment and

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<sup>12</sup> Exhibit ACC-R2.

<sup>13</sup> Company's response to Joint Intervenors data request 1-2.

1 business model is flexible. The facility's data processing capabilities could be  
2 repurposed for other uses in the fintech industry or big data computing should economic  
3 opportunities in the cryptocurrency industry become less profitable.

4 Moreover, the so-called volatility of the cryptocurrency market is not unique.  
5 Kentucky Power and its service territory are no strangers to dealing with volatile  
6 industries. The Eastern Kentucky region was built on coal, steel, oil, and gas. All those  
7 industries at one time or another have been considered volatile. Should Kentucky Power  
8 not make every effort to recruit jobs to the region? Even those in volatile markets? The  
9 Company absolutely should continue economic development efforts and job recruitment  
10 where the opportunities arise. A period of market volatility does not indicate the success  
11 or failure of an industry. It is common for innovative or technologically driven industries  
12 to face market volatility.

13 In 2022, the Commonwealth of Kentucky invested \$25 million in the Blue Oval  
14 SK Battery Park project. The \$5.8 billion project is the largest economic development  
15 investment in Kentucky and will bring 5,000 jobs. According to news station Lex18,  
16 "Gov. Beshear says this project cements Kentucky's status as the electric vehicle battery  
17 production capital of the United States."<sup>14</sup> Yet, more than one outlet reports the also  
18 relatively new electric vehicle ("EV") market to be "volatile."<sup>15</sup> CleanTechnica, a U.S.  
19 based website which aggregates news in clean technology, sustainable energy and electric

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<sup>14</sup> Lex18, *Gov. Beshear: Significant Construction progress being made at BlueOval SK Battery Park* (last visited March 1, 2023) <https://www.lex18.com/news/covering-kentucky/gov-beshear-significant-construction-progress-being-made-at-blueoval-sk-battery-park>

<sup>15</sup> <https://www.fool.com/investing/2022/12/14/is-now-the-right-time-to-buy-electric-vehicle-stoc/>



1 vehicles states, “Supply chain issues, rising costs, increasing competition, and the threat  
2 of a potential recession are all causing EV stocks to be volatile right now.”<sup>16</sup>

3 *Figure 1 Tesla Value, Most Recent 5 years*



4 Source: Google Finance, captured March 3, 2023

5 The graph above is the 5-year snapshot of Tesla’s stock. It is also volatile within  
6 the EV market.

7 Witness Sherwood also made a few references to the temporary nature of the  
8 cryptocurrency mining facilities. Ms. Sherwood’s evidence references an article from  
9 *Coindesk* about a cryptocurrency project moving from Georgia to Texas after only a  
10 couple months. The company in the article is Compass Mining, a middleman that allows  
11 retail investors to engage in bitcoin mining. Compass Mining and its model and that of  
12 Ebon are not the same. The same article states, Compass Mining “allows retail investors  
13 to buy small amounts of mining capacity in sites around the world. It doesn't own any of

<sup>16</sup> CleanTechnica, *EV Market Experiences Growing Pains as it Meets the Masses* (last visited March 3, 2023)  
<https://cleantechnica.com/2022/12/16/ev-market-experiences-growing-pains-as-it-meets-the-masses/#:~:text=Supply%20chain%20issues%2C%20rising%20costs,to%20be%20volatile%20right%20now.>

1 the facilities available on its platform.”<sup>17</sup> That is wholly different from Ebon, which not  
2 only owns its machines but also owns the technology to adapt those machines to a  
3 changing market.<sup>18</sup>

4 In Witness Sherwood’s model, it is easy to make the statement “cryptocurrency  
5 mining facilities are not tethered to any particular geography.”<sup>19</sup> The project referenced  
6 made Compass Mining a landlord of sorts to small investors with leased mining  
7 machines. It is also important to note the Compass operation was 15 MW. The Ebon  
8 project is entirely different—more than 15 times the size of the Compass operation. Ebon  
9 has indicated to the Company that it plans to invest approximately \$250 million in its  
10 project at Big Sandy.<sup>20</sup> This equates to the engineered placement of 250 containers, a  
11 specifically designed system of cooling ponds and the construction of a distribution  
12 station and network to supply the containers. “Migrating quickly,” a project of this  
13 magnitude, as suggested by Ms. Sherwood, simply would not be feasible or economical  
14 for Ebon.

15 **Q. HAS THE COMPANY CONTEMPLATED PROTECTIONS FOR CUSTOMERS**  
16 **IN THAT UNLIKELY EVENT?**

17 A. Yes. Kentucky Power has made reasonable efforts to protect its customers. The  
18 Company’s response to Joint Intervenors data request 1-18 outlines the internal process  
19 for vetting cryptocurrency customers.<sup>21</sup> Additionally, Ebon will pay an upfront  
20 contribution-in-aid-of construction (“CIAC”) to serve the Big Sandy site project and a

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<sup>17</sup> Sherwood Direct Testimony at 8 fn. 4.

<sup>18</sup> Company’s response to KPSC data request 1-3; Exhibit ACC-R2.

<sup>19</sup> Sherwood Direct Test. at 6.

<sup>20</sup> Company’s response to AG KIUC data request 1-18; Exhibit ACC-R2.

<sup>21</sup> Company’s response to Joint Intervenors data request 1-18.

1 deposit equal to 2/12 Ebon's estimated annual bill before obtaining service. Finally, the  
2 Company's response to Joint Intervenors data request 1-35 outlines the remedies under  
3 the law available to Kentucky Power should Ebon default on the Special Contract.

4 **Q. WITNESS SHERWOOD RECOMMENDS STRICTER STANDARDS FOR**  
5 **CRYPTOCURRENCY CUSTOMERS BEFORE PARTICIPATING IN TARIFF**  
6 **EDR OR A SPECIAL CONTRACT. DO YOU AGREE?**

7 A. No. I do not agree. However, it is important to put safeguards in place to protect the  
8 Company's other customers so that discounts can be used as incentive to recruit industry.  
9 The Company has done that here, consistent with how it treats all large customers. I also  
10 do not agree with the idea that those safeguards should be any more or less strict based on  
11 the industry. The Kentucky Cabinet for Economic Development recognizes the  
12 cryptocurrency industry as a means of economic development. The Kentucky General  
13 Assembly paved the way for economic development incentives to be offered by the  
14 Commonwealth "in order to advance the public purposes of achieving energy  
15 independence, creating new and advanced technologies, creating new jobs and new  
16 investment, and creating new sources of tax revenues that but for the inducements to be  
17 offered by the authority to approved companies would not exist."<sup>22</sup> If not for these  
18 incentives and those provided in KRS 160.613 for tax purposes, cryptocurrency  
19 companies would be looking to other states for locations.

20 Finally, Kentucky Power has a responsibility to serve its customers and cannot  
21 discriminate based on the type of customer. By this Special Contract, Kentucky Power is

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<sup>22</sup> KRS 154.27-020; <https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=51755>

1 making an effort to diversify the economy in Eastern Kentucky; spurred by the incentives  
2 passed by the General Assembly of the Commonwealth of Kentucky. The legislative  
3 body passed into law provisions by which to specifically recruit the cryptocurrency  
4 industry to the Commonwealth. If there were more strict guidelines on the  
5 cryptocurrency and data processing industry than those of all other industries for the  
6 purposes of an EDR or special contract, it could be in direct conflict with the intent of the  
7 law passed by Kentucky's General Assembly.

8 **Q. WITNESS HOTALING ASSERTS THAT THERE IS AN OPPORTUNITY COST**  
9 **(PP. 17) FOR THE BIG SANDY SITE IF EBON LOCATES THERE. DO YOU**  
10 **AGREE WITH THIS POSITION?**

11 A. I do not agree with this position. And, in any event, the opportunity cost for the Company  
12 and the region is far greater. At present, the Company has no plans for renewable  
13 generation on the former Big Sandy Plant site. It is currently providing no benefit to the  
14 Company, Lawrence County, or the region. The Ebon project is the best use for the  
15 property and holding the site indefinitely for another project that may never materialize is  
16 not prudent. The property is a means to provide jobs, diversify the economy and spread  
17 costs over a large load, reducing costs for all customers.

## **VI. CONCLUSION**

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

19 A. Yes, it does.



March 13, 2023

Amanda C. Clark  
External Affairs Manager  
Kentucky Power Company  
1645 Winchester Avenue  
Ashland, KY 41101

RE: Ebon International, LLC's Proposed Data Center in Lawrence County, Kentucky

Dear Amanda:

As we have discussed in the past few weeks, I am writing to explain and clarify Ebon International, LLC's intentions regarding our planned development of a data center at 23250 US Highway 23, Louisa, Kentucky, on a portion of the site of the Kentucky Power's Big Sandy Generating Station.

### **Background**

Ebon and its parent organization, Ebang International Holdings Inc. a US publicly listed company (NASDAQ: EBON), have a unique approach to developing blockchain technology, equipment, and projects. Ebang was originally founded in 2010 and originally engaged in the technology research and development, production, sales and servicing of high-tech telecommunications equipment and services. Over time, Ebang expanded its technological reach into the emerging blockchain technology industry with three main functions:

- design of proprietary Application-Specific Integrated Circuit (ASIC) chips, with increased efficiency in particular computing processes;
- manufacture of specific computing hardware equipment, utilizing its ASIC chips, used in data centers, supporting underlying technology applications including telecommunications, blockchain & data processing, artificial intelligence (AI), Fintech and other industrial computer applications; and
- ownership and operation of Ebonex, its own government-regulated blockchain-based cryptocurrency exchange platform in Australia, with payment card issuance offered in collaboration with Mastercard, providing a secure forum for international computing transactions.

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Ebon International, LLC (Ebon) was established by Ebang to develop and operate physical blockchain data centers using the parent company's technology and equipment. Our vertical integration (from technology and chips through data center development and operation) is fairly unique in the data center technology space. While other data center developers rely on independent third-parties for technologies, equipment, expertise and capital, Ebon's vertical integration allows it to better manage risk, control costs, maintain supply chain visibility, and access the capital necessary to develop, operate, and maintain its block-chain data centers over the long term.

### **Why Kentucky?**

Ebon has been searching throughout the United States for stable infrastructure in a business-friendly and economically smart location. In addition to its technology and equipment, Ebon understands that the long-term success of its data centers must be built on predictable low cost, reliable electric power and good people to be its employees. Ebon thinks it has found these necessary ingredients for its first US data center in Lawrence County, Kentucky and the special contract with Kentucky Power.

As you know, the Ebon Facility will be located on an approximate 55-acre site to be leased from Kentucky Power. Ebon will invest an estimated \$250 million or more to develop and construct the large data center at the site; this capital will flow from Ebang, not from debt or other third party project financing. (Ebang has operated without any long-term debt since 2019.) Accordingly, Ebon and Ebang do not make these significant long-term commitments lightly. Beyond the capital costs, the cost of electric power (and its predictability) are key criteria for locating our facility. In addition, Ebon is looking for good employees to operate the Ebon Facility. Kentucky Power has helped us recognize its service territory as a great place to invest and build its facility. We negotiated the special contract with Kentucky Power with rates and terms that will enable us to build our facility in its service territory. To be clear, we cannot and will not develop the data center in Kentucky Power's service territory without the rates and terms in the proposed special contract. We have other locations under development in the US and it would simply not be prudent for us to spend our capital in a situation with higher costs of power. The cost of electric power is the single most important cost beyond the capital cost of equipment to build a data center.

### **Long-term Commitment**

I understand that some people have questioned our long-term commitment and staying power. We expect that some of such concern relates to some developers in the cryptocurrency data mining sector who have built small centers (e.g., \$10-20MM in capital expense) only to pull out when crypto-prices go down. We recognize that unfortunate part of the market, but reject that characterization of us and our vertically-integrated approach. We are making a significantly larger capex commitment more than 10 times the size of such small facilities. We are entering

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into long-term contracts and paying more than \$10MM for substations and other infrastructure to support the new facility. Once the facility is built and a total electric load of 250MW is operating, we could not simply shut-down, pull out and move to another site without significant additional expense in site preparation, interconnection, control systems totaling in excess of \$30MM. Such added costs would make this data center uneconomic.

Ebang has witnessed and survived two crypto-winters already, and we will thrive coming out of the present price depression. We have no long-term debt and are not relying upon lenders in a period of rising interest rates. We know our cost structure and are confident that our first US data center in Lawrence County, Kentucky will be successful. Our success is not tied solely to mining of cryptocurrencies, because our facility will also be able to provide other blockchain & data processing services to be procured by other businesses in support of artificial intelligence, Fintech and other industrial computer applications.

Please let me know if you have any further questions or concerns.

Sincerely,

DocuSigned by:  
  
830EBA48B388485...  
Jason Wang  
Managing Director

**VERIFICATION**

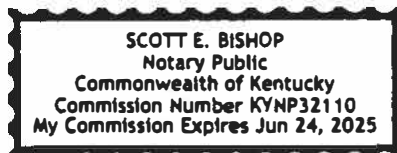
The undersigned, Amanda C. Clark, being duly sworn, deposes and says she is the External Affairs Manager for Kentucky Power Company, that she has personal knowledge of the matters set forth in the foregoing testimony and the information contained therein is true and correct to the best of her information, knowledge, and belief.

  
Amanda C. Clark

Commonwealth of Kentucky )  
  )      Case No. 2022-00387  
County of Boyd                )

Subscribed and sworn before me, a Notary Public, by Amanda C. Clark this 14<sup>th</sup> day of March, 2023.

  
Notary Public



My Commission Expires June 24, 2025

Notary ID Number: KYNP 32110