

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

In the Matter of:

|                                                 |   |                     |
|-------------------------------------------------|---|---------------------|
| The Electronic Application Of Kentucky Power    | ) |                     |
| Company For A Certificate Of Public Convenience | ) |                     |
| And Necessity To Rebuild The Allen Station In   | ) |                     |
| Floyd County, Kentucky (“Allen Station Rebuild  | ) | Case No. 2026-00208 |
| Project”)                                       | ) |                     |

**DIRECT TESTIMONY OF**  
**TYLER M. BENEDUM**  
**ON BEHALF OF KENTUCKY POWER COMPANY**

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**I. INTRODUCTION**

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

2   A.     My name is Tyler M. Benedum. I am employed by American Electric Power Service Corp.  
3           (“AEPSC”) as a Transmission Station Engineer. AEPSC supplies engineering, financing,  
4           accounting, planning, advisory, and other services to the subsidiaries of the American  
5           Electric Power (“AEP”) system, one of which is Kentucky Power Company (“Kentucky  
6           Power” or the “Company”). My business address is 40 Franklin Road S.W., Roanoke, VA  
7           24011.

**II. BACKGROUND**

8   **Q.     PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
9           **BUSINESS EXPERIENCE.**

10 A.     I received a Bachelor of Science Electrical Engineering degree from West Virginia  
11           University in 2019. I have been employed by AEPSC for six years as a Transmission  
12           Station Engineer.

13 **Q.     WHAT ARE YOUR RESPONSIBILITIES AS RELATED TO THIS PROJECT?**

14 A.     As Transmission Station Engineer, my primary duties involve the oversight of the  
15           engineering, logistical, and other technical requirements associated with the construction  
16           of the Substation components for the project proposed in this proceeding.

### **III. PURPOSE OF TESTIMONY**

1    **Q.    WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

2    A.    I am testifying in support of Kentucky Power’s Application for a certificate of public  
3           convenience and necessity authorizing Kentucky Power to rebuild the Allen Substation in  
4           Floyd County, Kentucky (the “Proposed Project”). Specifically, I discuss the current Allen  
5           Substation and the Proposed Project from the substation engineering perspective.

### **IV. THE PROPOSED PROJECT**

6    **Q.    PLEASE DESCRIBE THE EXISTING ALLEN STATION.**

7    A.    Allen Station is located in Allen, Kentucky in Floyd County. Allen is a 46kV Substation  
8           consisting of four 46kV breakers, a 46kV 17.2 MVAR capacitor bank, two 46kV circuit  
9           switchers, a 20 MVA 46/12kV distribution transformer, and three 12kV circuit breakers  
10          originally constructed in the 1930’s. Allen Substation is connected to Stanville,  
11          Prestonsburg, and McKinney Substations. The Allen Substation serves 739 distribution  
12          customers.

13   **Q.    WHAT SUBSTATION ISSUES NEED TO BE RESOLVED BY THE PROPOSED**  
14   **PROJECT?**

15   A.    There are both baseline and supplemental issues that will be resolved by this Proposed  
16          Project. The baseline issue revolves around a hypothetical N-1-1 scenario where there  
17          would be service lost from two different sources. Company Witness Moore’s testimony  
18          describes the baseline criteria violations. The supplemental issue involves flooding  
19          concerns at the Substation. As demonstrated in **EXHIBIT 14**, the Allen Substation currently  
20          experiences substantial flooding which poses a risk to Substation equipment and its  
21          electrical components. The Substation is located in a floodplain, and due to limited land

1 availability in the area it is not practical to move the Substation. Relocating the Substation  
2 would require additional line construction.

3 **Q. PLEASE DESCRIBE THE PROJECT COMPONENTS THAT WILL ADDRESS**  
4 **ISSUES AT THE ALLEN SUBSTATION DESCRIBED ABOVE.**

5 A. The lines servicing Allen Substation will be rebuilt to mitigate risks during any N-1-1  
6 scenario. The portions of the Proposed Project that address the baseline violations are  
7 described in more detail in the testimony of Company Witness Moore.

8 During the rebuild, Allen Substation equipment will be placed on raised platforms or have  
9 elevated structures installed. Most Substation equipment will be raised approximately  
10 eight feet, elevating the electrical components approximately ten feet from the ground total.  
11 The control house will be replaced and will be elevated approximately fifteen feet off the  
12 ground. The Company anticipates using elevated platforms, allowing inspection and  
13 maintenance to be done from the elevated platform.<sup>1</sup> This will reduce risk to the equipment  
14 during heavy rain and flooding.

15 **Q. WILL THE ALLEN SUBSTATION BE EXPANDED BY THE PROPOSED**  
16 **PROJECT?**

17 A. Yes. The Allen Station will need to be expanded by approximately ten feet along the  
18 North-Northwest side of the Substation. This additional space is required to build a drive  
19 path in the clear for vehicle navigation. The current drive path space is proposed to be  
20 utilized for a new control building, which will also be elevated to prevent flooding damage.  
21 A new drive path will be required to allow vehicle access and navigation. This expansion  
22 will be on AEP-owned land and will not require any additional right-of-way (“ROW”).

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<sup>1</sup> A similar design was utilized for the Hazard Substation in Case No. 2019-00154.

**V. SUMMARY OF PROJECT COMPONENTS**

1   **Q.   HAS THE COMPANY PREPARED A DOCUMENT TO CLEARLY SUMMARIZE**  
2       **THE VARIOUS COMPONENTS OF THE PROPOSED PROJECT?**

3   A.   Yes, please see **EXHIBIT 6** for a list of the major components and their purpose.

**VI. ALTERNATIVES TO THE PROPOSED PROJECT**

4   **Q.   DID THE COMPANY CONSIDER ALTERNATIVE SOLUTIONS TO THE**  
5       **PROPOSED PROJECT?**

6   A.   Yes. The Company considered two alternatives to the Proposed Project. First, the  
7       Company considered a more drastic expansion (approximately 2,400 square feet) of the  
8       Allen Substation footprint (the “Dismissed Alternative”). This alternative would install six  
9       69kV circuit breakers to support the four 46kV transmission line exits that currently exists;  
10      install one 46/12kV 20 MVA transformer; install one 12kV distribution bay with two  
11      distribution line exits; remove approximately 0.37 miles of existing transmission line; and  
12      construct approximately 0.33 miles of new transmission line. Additionally, Dismissed  
13      Alternative would require the Company to raise all major equipment at the Allen Substation  
14      by at least eight feet to avoid potential flooding and torrential weather events. The  
15      Dismissed Alternative would have required the Company to obtain floodplain permits and  
16      qualifying in-county mitigation credits. Because there were not qualifying mitigation  
17      credits available for expanding the footprint of the Allen Substation, the Company  
18      dismissed this alternative as not capable of being constructed.

19      Second, the Company considered rebuilding the Allen Substation in a new location (the  
20      “Alternative Project”). The Alternative Solution would rebuild the Allen Substation at an  
21      alternative site, which would require new grading and potential wetland mitigation.

1 Alternative Solution would install six 69kV circuit breakers to support the existing four  
2 46kV transmission line exits that currently exists; install one 46/12kV 20MVA transformer;  
3 install one 12kV distribution bay with two distribution line exits; remove 3.34 miles of  
4 current transmission line; and constructing 2.61 miles of new transmission line. Under the  
5 Alternative Solution, construction activities would likely impact highway US 23 due to  
6 installing a new line that would cross over the highway. Additionally, depending on the  
7 flood elevation of the alternative site, equipment will potentially need to be raised to avoid  
8 damage to substation equipment.

9 **Q. HOW DOES THE ESTIMATED COST OF THE ALTERNATIVE PROJECT**  
10 **COMPARE TO THE ESTIMATED COST OF THE PROPOSED PROJECT?**

11 A. The cost of the Alternative Project would be higher than the Proposed Project. In addition  
12 to the costs associated with building the Allen Substation, the Company would incur costs  
13 to obtain the land rights for the new substation. The Company would also incur additional  
14 costs associated with relocation of the transmission lines to the new Allen Substation.  
15 These costs include both material and labor for relocating the lines and also for new rights  
16 of way, but does not include contingency and risk costs that would be associated with the  
17 Alternative Project. The estimated total cost of the Alternative Project is \$52.4 million  
18 compared to the current estimate of the Proposed Project of \$49.7 million.

19 **Q. PLEASE SUMMARIZE WHY THE PROJECT ALTERNATIVE WAS**  
20 **REJECTED.**

21 A. The Company rejected the Alternative Project for two reasons. First, as described above,  
22 the Alternative Project is approximately \$2.7 million more expensive than the Proposed  
23 Project. Second, from a safety perspective, the transmission line relocation component of

1 the Alternative Project presents landslide risks. Landslide risks increase both construction  
2 costs and could be a potential liability risk if a landslide were to occur. As a result, the  
3 Company determined the Proposed Project is the most cost-effective, reasonable  
4 alternative to address the needs discussed above.

5 **Q. WILL THE PROPOSED PROJECT RESULT IN WASTEFUL DUPLICATION**  
6 **FROM AN ENGINEERING PERSPECTIVE?**

7 A. No. Rebuilding the Substation using existing ROW and existing line routes optimizes  
8 existing resources while maintaining reliable service in the area and reducing risks to  
9 station equipment. The Proposed Project addresses the baseline N-1-1 scenario violation  
10 while also mitigating the supplemental flooding risks that exist at the Substation.

#### **VII. PERMITTING AND ENVIRONMENTAL STUDIES**

11 **Q. WHAT ENVIRONMENTAL PERMITTING OR STUDIES ARE ANTICIPATED**  
12 **FOR THE PROPOSED PROJECT?**

13 A. The Proposed Project will require that the Company obtain coverage under the Kentucky  
14 Construction Stormwater General Permit (KYR100000). Additionally, in the event that  
15 the Proposed Project results in any critical bat habitat loss, the Company will purchase  
16 mitigation credits through the Imperiled Bat Conservation Fund.

17 **Q. DOES THE COMPANY ANTICIPATE THAT THE PROPOSED PROJECT WILL**  
18 **AFFECT ANY FEDERALLY OR STATE PROTECTED SPECIES?**

19 A. No. There is some risk of loss to bat habitats; however, in the event of any bat habitat loss,  
20 credits through the Imperiled Bat Conservation Fund will be purchased.

21 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

22 A. Yes.

## VERIFICATION

The undersigned, Tyler M. Benedum, being duly sworn, deposes and says he is a Transmission Station Engineer 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.

Signed by:

*Tyler M. Benedum*

0D1176C3AFD04B2...

Tyler M. Benedum

Commonwealth of Kentucky )

)

Case No. 2026-00208

County of Boyd )

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Subscribed and sworn to before me, a Notary Public in and before said County and State, by Tyler M. Benedum, on 7/27/2026 | 11:39 AM EDT.

Signed by:

*Michelle Caldwell*

E9B1BC7AC31F421...

Notary Public

My Commission Expires 05/05/2027

Notary ID Number KYNP71841

MARILYN MICHELLE CALDWELL  
ONLINE NOTARY PUBLIC  
COMMONWEALTH OF KENTUCKY  
Commission #KYNP71841  
My Commission Expires 5/5/2027