

**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 Construct 46kV Transmission Line	)	
In Floyd and Johnson Counties, Kentucky	)	Case No. 2025-00346
("Prestonsburg – Thelma Transmission Line Rebuild	)	
Project")	)	

**DIRECT TESTIMONY OF**

**JASMINE L. MOORE**

**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 Jasmine L. Moore. My business address is 8500 Smiths Mill Road, New  
3       Albany Ohio 43054. I am employed by AEPSC, a subsidiary of AEP. My title is  
4       Transmission Planning Manager.

**II. BACKGROUND**

5   **Q.   PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
6       **BUSINESS EXPERIENCE.**

7   A.   I received a Bachelor of Science Electrical Engineering degree from Ohio Northern  
8       University in Ada, Ohio. In 2002 I joined AEP as a Protection and Controls Engineer in  
9       the Station Projects Engineering Group. I received my Professional Engineering license in  
10      the state of Ohio in 2006 (license number 71494). In 2007 I transitioned to the Planning  
11      group where I was initially a Planning Engineer, then in 2016 I became the Planning  
12      Customer Connections Supervisor. In 2017 I became the Transmission Planning Manager  
13      for the Ohio Region and transitioned to the APCo and Kentucky Region Planning Manager  
14      in 2018.

1 **Q. WHAT ARE YOUR RESPONSIBILITIES AS TRANSMISSION PLANNING**  
2 **MANAGER?**

3 A. My responsibilities include organizing and managing activities related to assessing the  
4 adequacy of AEP's transmission network to meet the needs of its customers in a reliable,  
5 safe, cost effective, and environmentally compatible manner. I participate in planning  
6 activities with Kentucky Power to address overall system performance.

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

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. I am testifying in support of Kentucky Power's application for a certificate of public  
9 convenience and necessity ("CPCN") authorizing Kentucky Power to retire the entire 16  
10 miles of the 46kV Prestonsburg–Thelma circuit, build approximately 13 miles of new  
11 46kV<sup>1</sup> Prestonsburg–Thelma circuit on mostly new ROW, and replace the 138/69/46kV  
12 transformer at Thelma and related station work at Kenwood Substation (the "Prestonsburg-  
13 Thelma Project" or the "Project"). The Project is being constructed to address baseline  
14 violations and supplemental asset renewal needs. I will provide information related to the  
15 need for the Project.

16 **Q. ARE YOU SPONSORING ANY EXHIBITS OR ATTACHMENTS IN THIS**  
17 **APPLICATION?**

18 A. Yes, I am sponsoring **EXHIBIT 13**, which provides a comparison of the proposed Project  
19 with alternatives that I discuss later in this testimony. Additionally, I am supporting  
20 **EXHIBIT 10**, which is the presented information from the PJM Sub-Regional RTEP-

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<sup>1</sup> This proposed line work to be rated at 69kV and operated at 46kV.

1 Western meeting which demonstrates the baseline violations being addressed by the project  
2 as well as supplemental needs that are addressed as part of the baseline solution.

#### **IV. PROJECT NEED**

3 **Q. PLEASE DESCRIBE THE NEED DRIVING THE PROJECT.**

4 A. In the 2021 PJM window on 2026 Regional Transmission Expansion Plan (RTEP) case,  
5 voltage magnitude and voltage drop violations were identified at McKinney, Salsbury,  
6 Allen, East Prestonsburg, Prestonsburg, Middle Creek, and Kenwood Substations in the  
7 event of multiple different N-1-1 contingency pairs. Further, in the same PJM window,  
8 thermal violations were identified at Thelma Substation.

9 Prior to the baseline violations being identified, asset health needs had been shared  
10 on the Prestonsburg–Thelma 46kV line and also the Van Lear Switch, which serves  
11 Kenwood Substation. Equipment condition performance and risk needs were identified on  
12 the Prestonsburg–Thelma 46kV circuit, which includes the radial Van Lear–Kenwood  
13 46kV line. The Prestonsburg–Thelma 46kV circuit transmission lines total approximately  
14 16 miles in length and were originally installed in the 1960s. From July 1, 2019 to June  
15 30, 2024, the Prestonsburg–Thelma 46kV circuit experienced 13 Momentary and 2  
16 Permanent outages,<sup>2</sup> which resulted in 716,000 customer minutes of interruption for the  
17 customers served via this line at Kenwood Station. As of September 16, 2024, there are  
18 81 structures with at least one open structural condition, which relates to 84% of the  
19 structures on the Prestonsburg–Thelma 46kV line. The switches at Van Lear have been  
20 tagged as inoperable and unsafe to operate. The old hydraulic type mechanism on these

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<sup>2</sup> A “Momentary outage” is defined as an outage that last under five minutes, while a “Permanent outage” is defined as an outage lasting over five minutes.

switches does not operate properly, arcing horns are burnt off, and operating rod supports are damaged.

**Q. PLEASE PROVIDE DOCUMENTATION REGARDING THE BASELINE VIOLATIONS.**

A. Please see **EXHIBIT 10** for the information. This Exhibit includes details presented at PJM supporting the need for the baseline work included in this application. The thermal violation included three flow gates, AEP-T70, AEP-T71, AEP-T72 at Thelma Substation. There were voltage magnitude violations on thirty-two flow gates, for seven substations. There were voltage drop violations on thirty-two flow gates, for seven substations.

**Q. CAN YOU GIVE AN EXAMPLE OF ONE OF THESE VIOLATIONS.**

A. An example from the list of violations involves the loading on the Thelma transformers during the 2026 winter case during a N-1-1 contingency. The transformer loads to 107% for the loss of the 46kV line between Beaver Creek to McKinney and the loss of the 138/69/46kV transformer at Stanville Substation.

Another example involves voltage magnitude and drop violations at McKinney Substation during the 2026 winter case for a N-1-1 contingency. The McKinney bus voltage drops to 0.76 Per Unit Voltage ("PU") for the loss of the 46kV line between Allen and Stanville substations plus the loss of the 46kV line between Beaver Creek Substation to McKinney Substation. This would be well below the AEP voltage criteria as defined in FERC Form 715 part 4 of 0.92PU for a station.

1   **Q.    HOW MANY CUSTOMERS ARE SERVED BY THE PRESTONSBURG-THELMA**  
2       **LINE?**

3   A.    The Prestonsburg-Thelma 46kV circuit serves the Kenwood Substation. The Kenwood  
4       Substation serves approximately 17.2 MVA of load to 2,438 customers.

5   **Q.    HAS THE PROJECT GONE THROUGH THE PJM PROCESS?**

6   A.    Yes. This Project need was reviewed with stakeholders at the November 29, 2018 and  
7       April 20, 2020 Sub-Regional RTEP-Western meetings. The Baseline Project was reviewed  
8       on October 15, 2021 at the Sub-Regional RTEP-Western meetings hosted by PJM. The  
9       Baseline IDs assigned by PJM are B3360 and B3361. The baseline solution B3361 was  
10      re-presented at PJM with revised cost and a new transmission line route on May 16, 2025.  
11      The new line route decreases the line mileage by approximately three miles.

12   **Q.    PLEASE DESCRIBE HOW THE PROJECT ADDRESSES THE NEEDS YOU**  
13       **IDENTIFY ABOVE.**

14   A.    The Project replaces the existing transmission transformer at Thelma station with a larger  
15      unit that addresses the thermal violations. The Project rebuilds the existing Prestonsburg–  
16      Thelma line with new structures and conductor. The construction of the new line, which  
17      will have lower impedance than the existing line, solves the voltage violations in the area.  
18      Rebuilding the Prestonsburg–Thelma line also addresses in the identified equipment  
19      condition, performance, and risk needs that were identified.

**V. PROJECT DESCRIPTION**

1   **Q.   PLEASE PROVIDE AN OVERVIEW OF THE PROPOSED PROJECT.**

2   A.   The Project consists of two baseline scopes to address the baseline and supplemental needs  
3       discussed above:

4           (1) Replacing Thelma Transformer #1 with a 138/69/46kV 130/130/90 MVA  
5           transformer and replace 46kV risers and relaying towards Kenwood Substation (under  
6           b3360).

7           (2) Building approximately 13 miles of 46kV lines between Prestonsburg Substation  
8           and Thelma Substation via Kenwood Substation utilizing new, shorter, right of way.

9           Also retire Van Lear Switch and the Van Lear to Kenwood line, replace the motor-  
10          operated air-breaker (MOAB) switches at Kenwood Substation and install a circuit  
11          switcher on the high side of the distribution bank. This proposed line work will be  
12          rated at 69kV and operated at 46kV. As a result, Jenny Wiley Switch will be retired as  
13          well (under b3361).

14   **Q.   IS ALL OF THE WORK ASSOCIATED WITH A TRANSMISSION PROJECT**  
15       **SUBMITTED TO PJM?**

16   A.   No. There are project elements that either do not change the transmission grid's topology,  
17       or that are implicit in the description of larger projects, that are not required to be submitted  
18       to PJM for explicit review. These project elements do not affect the transmission grid  
19       analysis within the framework of PJM's FERC-approved planning process. These project  
20       elements nevertheless are essential to the larger projects submitted to PJM. For example,  
21       when a new breaker installation project is submitted to PJM, the breaker would likely be  
22       the only major piece of equipment listed in the submission. The PJM submission would



1 not include a listing of elements, such as Coupling Capacitor Voltage Transformers  
2 (CCVTs) and relaying required for the breaker to function properly. CCVTs are utilized  
3 for real-time voltage sensing on the grid. Relays receive information from CCVTs and  
4 other instrument transformers and determine the proper course of action for the equipment  
5 to which they are tied. Without the relays and CCVTs, the breaker would not know when  
6 or how to operate.

## **VI. ALTERNATIVES TO THE PROJECT**

7 **Q. WHAT REALISTIC, HOLISTIC ELECTRICAL ALTERNATIVES WERE**  
8 **EVALUATED BY THE COMPANY?**

9 A. During the planning process, the Company developed a holistic alternative to the proposed  
10 Project that provides similar benefits, which is further described as Alternative 1 in  
11 **EXHIBIT 13**. The alternative requires installing a new four-mile 46kV line from Morgan  
12 Fork Substation to McKinney Substation. At Morgan Fork Substation, install a new  
13 138/69/46kV transformer with circuit breaker protection. Install a new 5.5 mile long  
14 double-circuit 138kV line from Dewey Substation to Kenwood Substation. Convert  
15 Kenwood Substation to 138kV and install a new distribution bank. Expand Dewey Station  
16 and install two new 138kV circuit breakers. Retire the existing Prestonsburg–Thelma  
17 46kV circuit. This alternative is estimated to cost approximately \$77 million.

18 **Q. WHAT ARE THE SHORTCOMINGS OF THE ALTERNATIVE COMPARED TO**  
19 **THE COMPANY’S PROPOSED PROJECT?**

20 A. Kenwood Substation would be served from a single source, with the circuits on shared  
21 towers, which is less reliable than two independent feeds. This configuration would also  
22 require non-standard protection schemes to protect the 17.2 MVA of load due to the single

1 source from Dewey Substation. The alternative solution requires expanding the existing  
2 Dewey Substation which may not be feasible given the terrain surrounding the Substation.  
3 The line route to facilitate this alternative was only conceptually reviewed, a full siting and  
4 line route study has not been completed. Additionally, the alternative is more costly than  
5 the proposed Project.

6 **Q. PLEASE EXPLAIN WHY THE PROPOSED PROJECT IS PREFERABLE TO**  
7 **THESE ALTERNATIVES.**

8 A. The proposed Project is the most cost-effective solution that addresses all of the  
9 documented needs. In the proposed solution, we are upgrading and replacing existing  
10 infrastructure rather than introducing new facilities. The proposed Project also provides  
11 Distribution customers at Kenwood Substation with looped Transmission service from  
12 both Prestonsburg and Thelma Substations.

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

14 A. Yes, it does.

## VERIFICATION

The undersigned, Jasmine L. Moore, being duly sworn, deposes and says she is a Transmission Planning Manager for American Electric Power Service Corporation, 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 after reasonable inquiry.

**-Signed by:**

Jasmine L. Moore

~~BE355D2366F1410~~  
Jasmine L. Moore

Commonwealth of Kentucky )  
 )  
County of Boyd )

Case No. 2025-00346

Subscribed and sworn to before me, a Notary Public in and before said County  
and State, by Jasmine L. Moore, on 11/21/2025 | 10:42 AM EST.

**Signed by:**

Michelle Caldwell

-E9B1BC7AC31E421

**Notary Public**

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

My Commission Expires 05/05/2027

Notary ID Number KYNP71841