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 ("Prestonsburg – Thelma Transmission Line Rebuild Project")	))))))	Case No. 2025-00346

DIRECT TESTIMONY OF

J. SCOTT WOODY

ON BEHALF OF KENTUCKY POWER COMPANY

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, PRESENT POSITION, AND BUSINESS ADDRESS.

A. My name is Jeffrey Scott Woody. I am a Manager for Transmission Line Engineering for American Electric Power Service Corporation ("AEPSC"). AEPSC is a subsidiary of American Electric Power Company, Inc. ("AEP") that provides corporate support services to the operating subsidiaries of AEP, including Kentucky Power Company ("Kentucky Power"" or the "Company"). My business address is 40 Franklin Road Southwest, Roanoke, Virginia 24011.

II. BACKGROUND

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I graduated from Virginia Tech with a Bachelor of Science in Civil and Environmental Engineering in 2012. I am a licensed Professional Engineer in the Commonwealth of Virginia. I worked for two years in a civil site development firm and then was hired by AEP in 2014 as a full-time employee in the Transmission Line Engineering group. I was promoted to the position of Supervisor within the Transmission Engineering group in 2023. I was promoted to my current position of Manager, Transmission Line Engineering in 2024.

I am responsible for coordinating and directing engineering for the AEP transmission line system, including transmission lines operating at voltages from 34.5kV through 765kV in Virginia, West Virginia, Tennessee, and Kentucky.

Q. WHAT ARE YOUR RESPONSIBILITIES AS A MANAGER OF TRANSMISSION LINE ENGINEERING?

A. As a Manager of Transmission Line Engineering, my primary duties involve oversight of the engineering, design, material procurement, and other technical requirements associated with the construction of transmission lines associated with this Project and other transmission line engineering projects.

III. PURPOSE OF TESTIMONY

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

A. I am testifying in support of Kentucky Power's application for a certificate of public convenience and necessity ("CPCN") to build the Prestonsburg-Thelma Project (the "Project") located in Floyd and Johnson counties. Specifically, I support the engineering components of the Project, with respect to both transmission line route selection and construction. I also support **EXHIBIT 6** to the Application, which is comprised of a list of the major components of the proposed Project and their purposes.

Q. PLEASE DESCRIBE YOUR ROLE IN THE TRANSMISSION LINE ROUTE REVIEW AND SELECTION PROCESS.

A. Myself and other members of the Transmission Line Engineering team participated in the route review and selection process and worked with Company Witness Santos and her team throughout that process. Specifically, transmission line engineers conducted desktop and field reviews of the existing and greenfield route options to review their

feasibility from an engineering and constructability standpoint. Company Witness Santos's Direct Testimony supports the Proposed Route and provides additional details on the route selection process.

IV. THE PROPOSED PROJECT AND ITS COMPONENTS

Q. PLEASE DESCRIBE THE EXISTING TRANSMISSION LINE TO BE REPLACED.

A. The existing Prestonsburg–Thelma 46kV single circuit line between Prestonsburg and Thelma Substations must be rebuilt to address baseline violations, along with outages and open structural conditions (described in further detail by Company Witness Moore). The existing line spans 5.8 miles between Thelma Substation and Van Lear Switch (Structure K346-63A), 1.8 miles between Van Lear Switch and Kenwood Substation, and 8.5 miles between Van Lear Switch to Prestonsburg Substation. The spans of line to be removed are the Prestonsburg–Thelma 46kV line from Prestonsburg Substation to Thelma Substation and the Van Lear–Kenwood 46kV line from Kenwood Substation to Structure K346-63A on the Prestonsburg–Thelma 46kV line. The existing structure types to be removed are single and double-circuit wood poles and weathering steel poles. The existing structures from structure K346-14 to structure K346-28 on the Prestonsburg–Thelma 46kV line support underbuild (distribution circuit) and are to be topped to remove the 46kV circuit while maintaining the underbuild. The existing Prestonsburg–Thelma 46kV line and Mayo Trail–West Paintsville 46kV line share structures from K405-4 to K346-86; these structures will remain to support the Mayo Trail–West Paintsville 46kV line. The Jenny Wiley Switch and Van Lear Switch will be retired.

The proposed transmission lines will have mainly new greenfield routes, from Kenwood to Prestonsburg and from Kenwood to Thelma. The lines will be designed to 69kV standards and operated at 46kV. The new lines will be comprised of primarily galvanized pre-engineered steel pole structures, steel lattice towers, and custom galvanized steel monopoles. The Proposed Project is displayed on the map included as **EXHIBIT 4** to the Application.

Q. WHY WILL THE LINE BE DESIGNED TO 69KV STANDARDS AND OPERATED AT 46KV?

A. The Company no longer designs to 46kV standards. 46kV is considered an obsolete operating voltage as the replacement parts of 46kV rated equipment are no longer available. Kentucky Power is actively replacing 46kV facilities when practical in its footprint in order to move to a more modern and standard voltage at 69kV, which allows for easier asset replacement in case of failure or performing routine maintenance.

Q. WHAT STRUCTURES WILL BE USED TO CONSTRUCT THIS PROJECT?

A. The structure types included in this Application are preliminary, and final structure types will be determined during final engineering, which includes ground surveys and geotechnical studies. Notwithstanding, based on preliminary engineering, the Company anticipates primarily using single-circuit lattice steel towers, steel H-frames, and steel monopole structures for the 69kV-designed, 46kV-operated transmission line. The proposed structure types are described in detail in **EXHIBIT 5** (Project plans and specifications) and **EXHIBIT 6** (description of major Project components) to the Application.

Specifically, the Company plans to remove five steel pole structures and 91 wood pole structures and replace them with the following structure types: 27 steel lattice tower structures; 19 steel pole H-frame structures; one steel three-pole running angle structure (which are best suited for medium-to-long spans over uneven, hilly, and mountainous terrain where access for construction equipment and concrete placement may be difficult); and five custom steel pole structures on drilled pier foundations (which are best suited for taps into substations, heavy line angle locations, and breaking wire tension). The number of structures necessary for the proposed Project is approximately half of that on the existing line, which is a result of using stronger structures with longer span lengths and aligning the structures generally from ridgetop-to-ridgetop.

Q. WHY DID THE COMPANY CHOOSE STEEL POLES AND LATTICE TOWERS FOR THE PROJECT?

A. The Company chose steel lattice towers and steel pole H-frames as the primary structure types for the Project because lattice towers and H-frames are efficient and cost-effective structures to support long conductor spans in the mountainous and steep terrain in Floyd and Johnson counties. H-frame structures are primarily used as suspension structures on tangent portions of the alignment. Lattice towers are utilized for line angles and, where needed, for structural capacity. Self-supported custom steel poles on drilled pier foundations have been selected adjacent to substations to support wire tension while utilizing a smaller footprint, as supplying concrete to these locations for foundation construction is feasible.

Q. PLEASE DESCRIBE ANY OTHER RELEVANT PROJECT COMPONENTS.

A. Temporary material laydown yards and access roads for structure erection and conductor stringing will also be necessary. The Company also plans to utilize helicopters to assist in the removal of the existing structures and wires, which will require a temporary landing zone in the vicinity of the Project. The final location and extent of required laydown yards, access roads, and landing zone cannot be determined until after completion of final line design, environmental studies, and subsequent field reconnaissance by the Company's construction representatives and land agents.

V. THE PROPOSED TRANSMISSION LINE ROUTE AND RIGHT-OF-WAY

Q. IS THE PROPOSED TRANSMISSION LINE ROUTE REASONABLE?

A. Yes. Company Witness Santos provides details on the siting process and supports the Proposed Route. The Company supports Witness Santos's and the Siting Team's Proposed Route for the Project, which consists mainly of greenfield alignment designed to avoid encroachments and the existing side-hill construction, which is difficult to access and maintain, and is prone to landslides. The Company reasonably expects that it will be able to efficiently and effectively engineer, build, operate, and maintain the transmission line with minimal adverse impacts on the environment.

Q. HOW WIDE OF A RIGHT-OF-WAY ("ROW") IS REQUIRED FOR THIS PROJECT?

A. The minimum ROW required for the Project is 50 feet on either side of the centerline, or 100 feet total. The ROW will consist of new, supplemental, or existing easements. For longer line spans, additional ROW will be required to account for conductor sway. ROW in excess of 100 feet may also be required due to constructability issues, access requirements, and conditions that are not evident until final engineering, or that arise as a

result of landowner negotiations. Areas where the transmission line will be rebuilt within the existing ROW are subject to existing easements.

Q. WHAT IS CONDUCTOR SWAY?

Conductor sway is defined as the distance from the overhead conductor at rest to the physical location of the conductor when displaced by wind. The wind is applied in multiple directions to determine the maximum conductor displacements, both left and right, from centerline. Adequate ROW should be obtained to encompass the resulting conductor zone; the area defined by the position of outermost conductors, extended vertically to ground, when the conductors are displaced by 6 psf (approximately 48 mph) and are at 60° F.

Q. HOW DO THE ROW WIDTHS PROPOSED IN THIS PROCEEDING COMPARE TO THE NORTH AMERICAN ELECTRIC RELIABILITY COUNCIL ("NERC") ROW REQUIREMENTS FOR 46kV AND 69kV TRANSMISSION LINES?

A. NERC standards require that the width of secured transmission line ROW shall be sufficient that the installed facilities can operate to their full design capacity without limitations from current or reasonably anticipated changes in land use within or beyond the limits of the secured ROW. For transmission lines of voltages of 69kV and below composed primarily of H-frame construction, the typical ROW width is 100 feet. A width of 100 feet has historically been adequate to establish conductor clearances to the edge of ROW. Steep mountainous terrain, long span lengths, and varying structure types are a few of the factors that may influence the need for additional width. At a minimum, the determined final ROW extents must encompass conductor sway, structure

components, and sufficient clearances to vegetation in order to maintain a reliable electric transmission system while accounting for the adequate safety of the public.

Q. HAS THE COMPANY IDENTIFIED WHICH SPANS MAY REQUIRE MORE THAN A 100-FOOT-WIDE ROW?

A. Yes, the Company has already identified some line spans that will require ROW in excess of 100 feet. However, some locations may not be identified until later in the process. Company Witness Wolffram describes the process proposed by the Company to relocate the centerline within a 200-foot-wide area (or 100 feet in any direction) around the centerline proposed in this proceeding and demonstrated in **EXHIBIT 4**.

The Company has identified the following spans that will require ROW in excess of 100 feet. These are typically long spans where the conductors can sway outside of a typical 100-foot ROW during extreme weather conditions. The precise location and extent of the places where the ROW would exceed 100 feet wide cannot be determined until the completion of detailed ground surveys and final engineering. However, the following is a list of spans that are anticipated to require a ROW width more than 100 feet to account for conductor sway:

- The span from Structure 1493-4 to Structure 1493-5 requires 250 feet;
- The span from Structure 1493-6 to Structure 1493-7 requires 230 feet;
- The span from Structure 1493-7 to Structure 1493-8 requires 250 feet;
- The span from Structure 1493-8 to Structure 1493-9 requires 120 feet;
- The span from Structure 1493-10 to Structure 1493-11 requires 130 feet;
- The span from Structure 1493-11 to Structure 1493-12 requires 130 feet;
- The span from Structure 1493-13 to Structure 1493-14 requires 270 feet;

- The span from Structure 1493-14 to Structure 1493-15 requires 230 feet;
- The span from Structure 1493-17 to Structure 1493-18 requires 170 feet;
- The span from Structure 1493-18 to Structure 1493-19 requires 250 feet;
- The span from Structure 1493-20 to Structure 1493-21 requires 120 feet;
- The span from Structure 1493-21 to Structure 1493-22 requires 110 feet;
- The span from Structure 1493-23 to Structure 1493-24 requires 130 feet;
- The span from Structure 1494-4 to Structure 1494-5 requires 270 feet;
- The span from Structure 1494-6 to Structure 1494-7 requires 120 feet;
- The span from Structure 1494-7 to Structure 1494-8 requires 120 feet;
- The span from Structure 1494-9 to Structure 1494-10 requires 110 feet;
- The span from Structure 1494-11 to Structure 1494-12 requires 120 feet;
- The span from Structure 1494-14 to Structure 1494-15 requires 120 feet;
- The span from Structure 1494-15 to Structure 1494-16 requires 120 feet;
- The span from Structure 1494-16 to Structure 1494-17 requires 280 feet;
- The span from Structure 1494-17 to Structure 1494-18 requires 130 feet;
- The span from Structure 1494-18 to Structure 1494-19 requires 150 feet;
- The span from Structure 1494-19 to Structure 1494-20 requires 150 feet;
- The span from Structure 1494-21 to Structure 1494-22 requires 110 feet;
- The span from Structure 1494-22 to Structure 1494-23 requires 120 feet;

and

- The span from Structure 1494-23 to Structure 1494-24 requires 130 feet.

VI. CONSTRUCTION PROCESS AND TIMELINE

Q. PLEASE PROVIDE A HIGH LEVEL DESCRIPTION OF THE PROJECT PLANNING AND CONSTRUCTION PROCESS.

A. Project construction activities include the installation and maintenance of soil erosion and sedimentation control measures; forestry clearing and access road construction; removal of the existing transmission line wire, structures, and foundations; foundation, structure, and wire installation; and the subsequent rehabilitation of all areas disturbed during construction.

All required environmental compliance permits and studies will be completed, and a stormwater pollution prevention plan will be developed and implemented under the state's "General Permit for Discharges of Stormwater from Construction Activities." Additionally, portions of the line to be sited in new ROW will be constructed prior to beginning the circuit outage in each section. For additional discussion of permitting requirements, please see Company Witness Santos's Direct Testimony.

Q. IF THE COMMISSION GRANTS THE COMPANY'S APPLICATION TO CONSTRUCT AND OPERATE THE PROJECT, HOW LONG WILL IT TAKE TO COMPLETE AND PLACE IT IN SERVICE?

A. Upon approval of the Project, the Company estimates it will need approximately seven months to complete pre-construction activities. Once construction begins, it is estimated that an additional 28 months will be required to place the entire approximately 13 miles of transmission lines in service, which is due, in part, to the outage constraints and time required to construct access to the proposed structure locations.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

VERIFICATION

The undersigned, Jeffrey Scott Woody, being duly sworn, deposes and says he is the Transmission Line Engineer Manager 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:
J Scott Woody
456DAA961E59443...
Jeffrey Scott Woody

Commonwealth of Kentucky)
) Case No. 2025-00346
County of Boyd)

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Jeffrey Scott Woody, on 11/24/2025 | 2:02 PM EST.

Signed by:
Michelle Caldwell
E9B1BC7AC31F421...
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