COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

Electronic Application Of Kentucky Power Company For A Certificate Of Public Convenience And Necessity To Rebuild the Wooton-Stinnett Portion of the Hazard-Pineville 161 kV Line In Leslie County, Kentucky ("Wooton-Stinnett 161 kV Transmission Rebuild Project")	))))))	Case No. 2022-00118

DIRECT TESTIMONY OF

EMILY S. LARSON
AMERICAN ELECTRIC POWER

ON BEHALF OF KENTUCKY POWER COMPANY

DIRECT TESTIMONY OF
EMILY S. LARSON, AMERICAN ELECTRIC POWER
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TESTIMONY INDEX

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND CURRENT BUSINESS ADDRESS.

A. My name is Emily S. Larson. My current business address is 1051 E. Cary Street, Suite 1100, Richmond, Virginia 23219.

Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?

A. I am currently employed by American Electric Power Service Corporation ("AEPSC"). AEPSC is a subsidiary of American Electric Power Company, Inc. ("AEP") where I serve as the Manager of Transmission Line Siting.

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY TO THIS COMMISSION ON BEHALF OF KENTUCKY POWER?

A. Yes. I previously provided testimony on behalf of Kentucky Power Company ("Kentucky Power" or the "Company") when employed at POWER Engineers Inc. and in connection with the Company's application for a Certificate of Public Convenience and Necessity to construct the Kewanee 138 kilovolt ("kV") transmission line and substation (Case No. 2020-00062) and Hazard–Wooton 161 kV transmission line (Case No. 2017-00328).

II. BACKGROUND

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. In 2007, I received a Bachelor of Science degree in Environmental Science from Towson University. In 2012, I completed graduate coursework in Urban Planning at George Washington University.

I have provided technical, supervisory, and managerial roles in electric utility transmission siting projects for approximately 15 years as an environmental consultant and now for AEPSC. I have served as a Project Manager or otherwise supported routing, siting, planning, and permitting for large interstate transmission line projects in more than 10 states, with a focus in Kentucky, Virginia, and West Virginia.

III. PURPOSE OF TESTIMONY

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

A. I am testifying in support of the Company's Application for a Certificate of Public Convenience and Necessity to construct the Wooton – Stinnett Transmission Line Rebuild Project in Leslie County (the "Project"). In my testimony, I:

- Describe the siting methodology employed by the Company in conducting the *Wooton-Stinnett Transmission Line Rebuild Siting Study* (the "Rebuild Study") for the Project.
- Describe the results and conclusions of the Rebuild Study, as well as the basis for the recommendation of the Proposed Route.
- Sponsor the Rebuild Study.

Q. WERE THE PORTIONS OF KENTUCKY POWER'S FILING THAT YOU ARE SPONSORING PREPARED BY YOU OR UNDER YOUR SUPERVISION AND DIRECTION?

A. Yes.

IV. THE REBUILD SITING STUDY

Q. PLEASE DESCRIBE POWER'S ROLE RELATED TO THE PROPOSED PROJECT.

A. POWER Engineers, Inc. ("POWER") was retained by the Company to identify and evaluate transmission line routes to rebuild the approximately 11-mile 161 kV transmission line and prepare the resulting Rebuild Study for the Project. POWER supported Kentucky Power in determining the Proposed Route between the Company's existing Wooton, Leslie, and Stinnett substations, which is the subject of the Application. The Rebuild Study is filed as **EXHIBIT 13** to the Application.

Q. PLEASE DESCRIBE THE PURPOSE OF THE REBUILD STUDY.

A. The purpose of the Rebuild Study is to identify a Proposed Route for the 11-mile section of the Hazard – Pineville 161 kV transmission line to be rebuilt. The Project can largely be rebuilt on the existing centerline with minor deviations. The Rebuild Study describes the route development process and selection of the Proposed Route. The Proposed Route minimizes overall environmental and land use impacts while permitting the Company to engineer, rebuild, operate, and maintain the line.

Q. DID POWER WORK ALONE TO DEVELOP THE PROPOSED ROUTE?

A. No. A multi-disciplinary team (the "Siting Team") assisted with the development of study segments and in the selection of the Proposed Route. Members of the Siting Team included Company representatives and its consultants, who provide a wide range of experience including transmission line siting, impact assessment, outage planning, mitigation, outreach, transmission line and substation engineering, forestry, ROW, and construction management.

Q. ARE YOU FAMILIAR WITH THE "KENTUCKY TRANSMISSION LINE SITING METHODOLOGY" FOR OVERHEAD TRANSMISSION LINES, OR REFERRED TO AS THE "KENTUCKY EPRI METHODOLOGY"?

A. Yes. The Kentucky EPRI methodology is used to consider stakeholder input in the transmission route selection process and quantitatively ranks alternative routes by assigning differing weights to various landscape resources or variables. The Kentucky EPRI Methodology considers a number of variables related to the Project area landscape. These include parameters for land use, land cover, proposed development, presence and density of buildings, public lands, water and wetland resources, floodplains, cultural resources, wildlife habitat, infrastructure, and slope.

Q. WAS THE KENTUCKY EPRI METHODOLOGY USED HERE?

A. No, because it was not necessary to do so. The Project can be rebuilt within or near the existing transmission line ROW for its entire length, and therefore, the Company and Siting Team believe that the use of the Kentucky EPRI methodology was not suitable or necessary for the Project. Greenfield alternative routes were not considered for the Project. Alternative Routes that did not use the existing ROW would result in additional impacts to

the environment and community and require building a new transmission line where one does not currently exist.

Q. PLEASE DESCRIBE THE SITING METHODOLOGY USED BY THE SITING TEAM?

A. The methodology employed by the Siting Team is described in Section 2.0 of the Rebuild Study. The Siting Team used a multi-step methodology to review the feasibility of the existing ROW and consider any minor deviations to avoid constraints. In general, the siting methodology consisted of the following steps:

1. Identification of the study area and opportunities and constraints contained within.
2. Assessment of the suitability of the existing ROW.
3. Development of study segments to avoid or minimize impacts to constraints.
4. Identification, evaluation, and refinement of study segments, including the consideration of stakeholder and public input.
5. Completion of a quantitative and qualitative review of the proposed rebuild within or near the existing ROW (the "Proposed Route").

Q. PLEASE DESCRIBE THE PROJECT STUDY AREA.

A. Determining a study area by buffering the existing centerline a certain distance is appropriate for projects where an existing transmission line is not outage constrained and can be rebuilt on the existing centerline. The study area for the Project encompasses the ROW of the existing 11-mile transmission line and an approximate 0.5-mile buffer to each side of the existing centerline to analyze the feasibility of rebuilding the transmission line and to consider minor diversions, as needed. The section of the Hazard – Pineville 161 kV transmission line between Wooton and Stinnett substations largely crosses forested, mountainous terrain, mining areas, and scattered residential development located along

roadways in the valley bottoms. Surface mining has occurred and continues to occur throughout the study area and several nearby ridges have been mined and are terraced hillsides. The existing 161 kV transmission line also crosses a small piece of property owned by the Daniel Boone National Forest.

Q. BRIEFLY DESCRIBE YOUR DATA COLLECTION PROCESS.

A. A description of the data collection is discussed in the Rebuild Study and summarized in Attachment B of the Rebuild Study. In general, readily public data sources were used and supplemented with stakeholder and public input, non-public data, and field inspections. An in-person public open house was not advisable, given the travel restriction and social distancing recommendations and requirements of the Centers for Disease Control during the COVID-19 pandemic. In lieu of an in-person public meeting, a virtual open house was conducted and went live on July 8, 2021 on the Project website. The Siting Team also completed field reviews of the study area from publicly accessible areas and collected data regarding land use. Furthermore, Light Detection and Ranging Data ("LiDAR" airborne laser photography) was flown September 13, 2021 for the Proposed Route. LiDAR information provides current aerial photography and contour data suitable for detailed transmission line design; this information is more detailed than other data sources and provides information on areas otherwise not publicly accessible since it is collected via aircraft.

Q. PLEASE DESCRIBE THE STUDY SEGMENTS DEVELOPED FOR THE TRANSMISSION LINE REBUILD.

A. The Siting Team developed a study segment network (six study segments total), which are locations where the transmission line can feasibly be rebuilt. Most of the study segments

use the existing ROW. Study Segment 1 is on the existing centerline for approximately three miles, until an 85 foot diversion to the northwest of the existing transmission centerline is needed to avoid a residence currently located within the existing ROW. After the diversion, Study Segment 1 returns to the existing centerline for approximately one mile to the existing Leslie Loop tap location. The existing tap structure and the Leslie Loop (Study Segment 2) must be built in the clear and on new ROW (0.4 mile) due to outage constraints on the existing transmission line. Study Segment 3 begins at the new tap location and gradually returns to the existing centerline after crossing Apple Orchard Road and continues for approximately four miles. Study Segment 5 remains on the existing centerline; Study Segment 4 diverts to the north to avoid crossing the United States Forest Service (USFS) parcel. Study Segments 4 and 5 are in the vicinity of the Daniel Boone National Forest parcel. Study Segment 6 continues on the existing centerline towards the Stinnett Substation. The Project ends where the Hazard – Pineville 161 kV Transmission Line and the Stinnett 161 kV Loop intersect at Structure K131-91A. Study segments are further described in Section 3.0 of the Rebuild Study.

Q. WHICH STAKEHOLDERS WERE CONSULTED DURING THE SITING PROCESS?

A. Stakeholders included local public officials, affected landowners, pipeline and coal companies, the USFS, and the general public. Members of the Siting Team met with Leslie County's Judge Executive William R. Lewis on June 9, 2021. No impacts or conflicts to future developments or county plans were noted in the meeting with Leslie County. Members of the Siting Team also met with Leeco (Pine Branch Coal Company) and International Coal Group Natural Resources, LLC in August 2021 to identify potential

conflicts with their current and future mining plans, as applicable. The Siting Team was also in contact with representatives of the USFS via email and phone correspondence in June and July of 2021 regarding the crossing of the Daniel Boone National Forest parcel to address required permits if the proposed route crosses the USFS parcel.

Q. PLEASE DESCRIBE THE PUBLIC OUTREACH PROCESS, INCLUDING CONTACT WITH LANDOWNERS, IN MORE DETAIL.

A. Kentucky Power sent two separate mailings to 176 landowners located within 500 feet (1,000-foot-wide notification corridor) of the study segments, described above, on July 8 and July 15, 2021. The July 8, 2021 outreach mailing notified landowners of the Project and upcoming virtual open house with a letter, fact sheet, detailed flyer about transmission line routing, and a comment card with a prepaid postage return envelope. Kentucky Power followed up with a postcard on July 15, 2021. On July 8, 2021, Kentucky Power issued a news release to local and regional media outlets announcing the virtual open house and soliciting public input. In August of 2021, following the virtual open house, Kentucky Power ROW agents attempted to meet with or speak to affected landowners to solicit additional feedback, including future or existing land use plans, and acquiring permissions to survey early in the siting process. Once the proposed route was selected, Kentucky Power sent letters notifying previously contacted landowners of the proposed route. Eight comments were received from landowners. No opposition was expressed by landowners during the outreach process. The outreach process and landowner feedback are further described in Section 4 of the Rebuild Study.

Q. PLEASE DESCRIBE THE VIRTUAL OPEN HOUSE.

A. An in-person public open house was not advisable during the COVID-19 pandemic given the travel restriction and social distancing recommendations and requirements of the Centers for Disease Control. In lieu of an in-person public meeting, a virtual open house was created on the Project website (https://aeptransmission.com/kentucky/Wooton-Stinnett/). Kentucky Power publicly announced the Project and launched the virtual open house on July 8, 2021, which included an interactive Project overview map, fact sheet, updates and news releases, schedule information, and photographs of representative structures. Landowners were able to view a presentation overviewing the Project and related transmission line engineering efforts and then identify their property on online maps and submit feedback via the Project website, phone, email, or written postcard mailed to the Company.

Q. HOW WAS LANDOWNER AND OTHER STAKEHOLDER INPUT USED DURING THE SITING PROCESS?

A. Landowners and other stakeholder input provided information and recommendations to aid the Siting Team in the development and refinement of study segments. No opposition was expressed by any landowners during the outreach process; however, several landowners had requests for additional information during the virtual open house comment period prior to the selection of the Proposed Route. All landowner requests were documented and landowners were contacted by members of either the Siting Team or the ROW Team depending on the nature of their request. No adjustments to Study Segments were required as a result of public comment. The Study Segments selected as part of the Proposed Route were unchanged from those presented at the Virtual Open House.

V. RESULTS AND CONCLUSIONS OF THE REBUILD STUDY

Q. PLEASE DESCRIBE THE PROPOSED ROUTE.

A. The Proposed Route is approximately 11 miles and is located in or near the existing ROW for the majority of its length. The existing transmission line ROW is generally maintained at 100 feet wide and is proposed to be widened to 120 feet as a result of the Project, in order to adhere to current standards and specifications for the operation of a 161 kV transmission line. Study Segment 4, which would have avoided crossing the USFS Daniel Boone National Forest, was eliminated to minimize additional tree clearing and disturbance on adjacent landowners. Instead, Study Segment 5 was selected. Segment 5 provides an aerial crossing of the USFS Daniel Boone National Forest on the existing centerline and within existing ROW. With an aerial crossing no structures or access roads are anticipated to be placed on property owned by the USFS.

One deviation from the existing centerline is proposed for the rebuild (Study Segment 1) and occurs at the crossing at State Route 699 (Cutshin Road). The Proposed Route shifts approximately 85 feet northwest to avoid a residence, which is located within the existing ROW. ROW agents have been in contact with the landowner of the associated residence and the shift has been finalized with the landowner. As described above, the Leslie Loop and tap structure must be built in the clear and on new ROW. The Proposed Route is shifted approximately 85 feet and parallel to the existing transmission line. The Proposed Route is further described in Section 6 of the Rebuild Study.

Q. PLEASE DESCRIBE THE WIDTH OF THE PROPOSED ROUTE ROW AND THE REQUESTED 400-FOOT WIDE AREA.

A. For the majority of the Proposed Route, the width of the ROW is proposed to be 120 feet; however, a wider ROW may be required in some locations for guy wires, longer spans, and in steep terrain to permit the safe and efficient operation of the transmission line. A ROW wider than 120-feet may be needed to prevent the conductors from coming in contact with trees during high wind conditions and tree clearing on the up-hill side of the ROW to prevent trees from falling down hill and into the conductors and structures. In those limited instances, where additional ROW is required to accommodate unusually steep terrain, conductor movement, and very long spans the total width of the right-of-way could be expanded to as much 400 feet (200 feet on each side of the centerline). Additional areas of right-of-way wider than 120 feet may not be identified until detailed engineering design and will be included during the right-of-way negotiations with landowners.

The Company is seeking approval from the Kentucky PSC to rebuild the transmission line within a 400-foot wide area (200 feet on each side of the route centerline) to account for areas of wider ROW; the centerline will be located within this 400-foot wide area. The 400-foot wide area allows for design flexibility in determining the final centerline and ROW width, which will be based on ground surveys, environmental studies, additional landowner input, and final engineering. While the Company is requesting a 400-foot wide area for design flexibility it is not expected that the centerline will shift significantly from what is shown on **EXHIBIT 4** (Proposed Route). The general 120-foot ROW and 400-foot wide area are further depicted in **EXHIBIT 4** (Proposed Route).

Q. BASED ON THE EFFORTS UNDERTAKEN BY THE SITING TEAM AND DESCRIBED ABOVE, DO YOU HAVE AN OPINION ON THE COMPANY'S PROPOSED ROUTE FOR THE WOOTON – STINNETT 161 KV TRANSMISSION LINE REBUILD PROJECT?

A. Yes. I believe the Proposed Route is the most suitable route to upgrade aging infrastructure between the Company's existing Wooton, Leslie, and Stinnett substations. Based on the information gathered as part of the siting and public involvement process, it is most consistent with the siting guidelines and meets the goals of minimizing impacts on land use and the natural and cultural resources, while avoiding circuitous routes, extreme costs, and non-standard design requirements. The Proposed Route minimizes impacts to landowners by considering a slight deviation from the existing centerline to avoid an existing residence and otherwise rebuilding on or adjacent to the existing centerline.

VI. RIGHT-OF-WAY AND ENGINEERING

Q. WHAT ROW ACTIVITIES HAS KENTUCKY POWER UNDERTAKEN TO DATE?

A. Representatives of Kentucky Power have attempted to contact affected landowners based on public records, including Leslie County's Property Valuation Administrator, of property located within the proposed ROW, and will continue to contact landowners as the Project progresses. Surveys began in January 2022 to identify the boundaries of the required ROW. All permissions to survey have been gathered and notifications have been made. In addition, Kentucky Power's ROW representatives have completed the majority of title searches on the parcels to be crossed by the proposed ROW. Upon certification of the

Project, Kentucky Power anticipates ROW acquisition activities to occur in the fourth quarter of 2022 or the first quarter of 2023.

Q. DID THE COMPANY PERFORM TITLE SEARCHES?

A. Yes. None of the parcels are subject to restrictive covenants or other restrictions that would prevent the construction of the proposed line.

Q. PLEASE COMPARE THE PROPOSED REBUILD TO THE EXISTING 161 KV TRANSMISSION LINE.

A. The Proposed Route generally follows the same centerline and will be comparable in character to the existing transmission line. The majority of the existing structures are wood H-frame structures approximately 60 feet in height. Diagrams and photos of the existing structures are attached hereto as **EXHIBIT 5** (Existing Structure Diagrams and Photos). Between Wooton Substation and Stinnett Substation, the existing structures will generally be replaced with single circuit steel H-frame structures averaging 85 feet in height. Other single circuit structure types may be used in certain instances; anticipated single circuit structure types are shown in **EXHIBITS 6, 7, 8, 9, and 12.** The existing structures for the Leslie Loop are double circuit lattice structures averaging 110 feet in height. Structures for the Leslie Extension will be replaced with two double circuit lattice tower structures and one double circuit monopole, approximately 135 feet in height (**EXHIBITS 10 and 11)**. Details of the typical structure types proposed are provided in **EXHIBITS 6, 7, 8, 9, 10, 11, and 12.** Minor route adjustments may be needed to address engineering and residential constraints but are not expected to result in additional environmental impacts. The existing transmission line ROW is generally maintained at 100 feet wide and will be widened to

120 feet as a result of the Project. The widening will result in additional tree clearing along the existing and proposed Project ROW.

VII. PERMITTING AND ENVIRONMENTAL STUDIES

Q. WHAT ENVIRONMENTAL PERMITTING OR STUDIES ARE ANTICIPATED FOR THIS PROJECT?

A. Kentucky Power anticipates that the following environmental studies, permits or approvals may be required for the construction of the Project. A wetland delineation and stream identification survey will be conducted for the Project. It is anticipated that any impact to these resources will be covered under the United States Army Corps of Engineers' Nationwide Permit, non-reporting, for the installation of culverts on access roads. Construction activities that take place in, along, or over a wetland or a stream (if the watershed is one square mile or more in size) or within a floodplain will require a Kentucky Division of Water Stream Construction Permit. Because the total earth disturbance will be greater than one acre, a construction stormwater permit will be required from the Kentucky Department of Environmental Protection, Division of Water. A Kentucky Pollutant Discharge Elimination System Stormwater Pollution Prevention Plan will be developed for the Project. Kentucky Power will coordinate with the United States Fish and Wildlife Service ("USFWS") regarding the potential for impacts to sensitive species. Based on review of the USFWS Information for Planning and Consultation system, three species of bats potentially occur in the study area. Mist net and portal searches will be conducted for these species, as appropriate, and the results coordinated with the USFWS. A Phase I cultural resources survey will be conducted and coordinated with the Kentucky Heritage

Council and the Kentucky Office of State Archaeology. Kentucky Power will continue to work with the USFS Daniel Boone National Forest and confirm if any National Environmental Policy Act documentation will be required to rebuild the Project. In addition to the environmental permits, engineering related permits will be filed with the appropriate agencies or companies once the transmission line design is completed. It is anticipated that these may include aerial road crossing permits from the Kentucky Transportation Cabinet ("KYTC"), Federal Highway Administration, or county engineering offices; and construction entrance permits for state or county roads. The Company will also coordinate with the Federal Aviation Administration and KYTC as necessary regarding aviation related approvals.

Q. DOES THE COMPANY ANTICIPATE THAT THE PROJECT WILL AFFECT ANY FEDERALLY- OR STATE-PROTECTED SPECIES?

A. No. Where applicable, habitat studies or species-specific surveys will be conducted prior to final engineering and construction to ensure protected species impacts are avoided or mitigated to the extent practicable. Compliance with existing regulations and laws relating to protected species is of high importance to the Company.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

VERIFICATION

The undersigned, Emily S. Larson, being duly sworn, deposes and says she is the Manager of Transmission Line Siting for American Electric Power Service Corporation, that she has personal knowledge of the matters set forth in the foregoing responses, and the information contained therein is true and correct to the best of her information, knowledge, and belief.

Emily S. Larson

Commonwealth of Kentucky)
) Case No. 2022-00118
County of Boyd)

Subscribed and sworn before me, a Notary Public, by Emily S. Larson this 24th day of May, 2022.

Notary Public

My Commission Expires June 24, 2025

SCOTT E. BISHOP
Notary Public
Commonwealth of Kentucky
Commission Number KYNP32110
My Commission Expires Jun 24, 2025