DATA REQUEST

KPSC 1_1 Refer to the Application, generally.

a. Explain whether an environmental impact assessment is required or has been completed for the proposed projects. If so, provide a copy of the assessment.

b. Provide copies of any public comments received regarding the proposed line and explain whether any public meetings have been held regarding the proposed line and route.

c. State whether the customers currently being served from the Wooton-Stinnett portion of the Hazard-Pineville 161 kilovolt (kV) Transmission Line can be served from another existing Kentucky Power transmission facility.

d. Explain how long the residence has been inside the right-of-way (ROW).

RESPONSE

a. Please see pages 14-15 of Company Witness Larson's testimony for a listing of the environmental studies, permits and approvals the Company anticipates may be required for the Project. Any resulting permits or approvals will be filed with the Commission in accordance with 807 KAR 5:001, Section15(2)(b). In the Rebuild Siting Study, filed as Exhibit 13 to the Application, Section 5 further provides an assessment of the route options with an evaluation of impacts to certain land use criteria and environmental resource data.

Kentucky Power also will continue to work with the United States Forestry Service ("USFS") Daniel Boone National Forest and confirm if any National Environmental Policy Act ("NEPA") documentation will be required to rebuild the Project across federal lands. Possible NEPA documentation includes a Categorical Exclusion, an Environmental Assessment, or an Environmental Impact Statement. The appropriate level of documentation will be determined by the USFS Daniel Boone National Forest through additional coordination. The Company will perform any required NEPA documentation and file the USFS' resulting decision with the Commission.

b. Please see KPCO_R_KPSC_1_1_Attachment1 for the written summary prepared by Kentucky Power of the eight oral comments and comment cards received during the virtual open house and comment period. Personal and private information has been redacted in accordance with the Commission's regulations. Please reference Pages 7–9 of

Company Witness Larson's testimony and Section 4.0 of Exhibit 13 (Rebuild Study) for a summary of the public involvement (including the virtual public meeting) conducted regarding the proposed line and route.

c. Customers are served out of both the Stinnett 161 kV Substation and Leslie 69 kV Substation from the Wooton-Stinnett portion of the Hazard-Pineville 161 kilovolt (kV) Transmission Line. The customers served from the Stinnett 161kV Substation cannot be served from another existing Kentucky Power Transmission facility because the 161 kV line is the only transmission source to the Stinnett Substation. Leslie 69 kV Substation customers could be fed from the Hazard 69 kV subtransmission lines that currently tie into the Leslie 69 kV Substation.

d. Based on aerial imagery, the house is believed to have been constructed between 1960 and 1983.

Witness: Nicolas C. Koehler

Witness: Emily S. Larson

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AEP Wooton-Stinnett Rebuild (KY): Outreach and Stakeholder Feedback Tracking

DAY D	Phone/Voice Mail Email/US Mail In Person/Virtual	CONTACT VEHICLE or LOCATION	ORGANIZATION/ TITLE	FIRSTNAME	LASTNAME	LO ID	МАР	ER	EP EAM MEMBER IM: AEP onsultant	NOTES Feedback Comments Questions	FOLLOW UP/ACTION ITEMS
THUR	Incomine/Outeoine 7/8/2021 US Mail/outgoing	Landowner Packet							Alyse Rooks, ERN	 Informational packet sent to all affected LO in the project area - Cover letter - Project Overview Factsheet - Comment card 	ERM will monitor voice mails left at: 833-760- 0604 and project related emails forwarded from AEP
										- Return envelope	ERM will develop responses, track feedback, and upload weekly reports to REDACTED
TUES	7/20/2021 Interactive Map	REDACTED		REDACTED	REDACTED		31	2	Alyse Rooks, ERN	1 7/20/21: My property is located on Wooton Creek Rd. and Second Fork number (031) on Map #2. My inquiry is: what are your plans in this area when you upgrade the power lines and poles? Thanks, REDACTED	8/11/21: Easement requested and provided by R. Howell. J. Crum will follow up on the request.
										7/28/21: A Rooks emailed REDACTED with infromation about her property provided by siting.	
										8/2/21: Due to the Rebuild Project and the spraying of lines, I would like to request any and all right of way easements and signatures on the property noted on your map as 031. This property is located on the intersection Wooton Road and Second Fork, between the REDACTED and REDACTED properties, across the road from REDACTED property. Thank you, REDACTED	
TUES	7/20/2021 Email	REDACTED		REDACTED	REDACTED		88	7,8	Alyse Rooks, ERN	1 7/20/21 - Email- ICG Natural Resources LLC is in receipt of the attached notice concerning the Wooton-Stinnett Transmission Line Rebuild Project in Leslie County, KY. It appears that ICG Natural Resources received this notice because a section of this Power Line crosses through their surface property located on Hurricane Creek of the Middle Fork of the Kentucky River. Can someone email me a copy of the original Power Line Easement that covers the property shown on the below map? 7/30/21 - J. Greene spoke to REDACTED and emailed the easement.	
WED	7/28/2021 Voicemail	REDACTED		REDACTED	REDACTED		71	4,5	Alyse Rooks, ERM	1 7/28/21: Please give me a call back. I have questions about the Wooton project.	7/29/21: A Rooks left a voicemail
										7/30/21: A Rooks spoke with REDACTED, he is concerned that the land disturbance will wash out the highway and flood his property. Says he knows we do the best we can but the mountain is steep and he has concerns. Would like to talk about our mitigation plans for his property.	
										8/11/21: Per J. Greene - I had left a few messages with REDACTED he actually called me back this morning. REDACTED again expressed interest in our plans for storm water control on his property. I explained to him about the SWPPP permit process and, how weekly inspections would be scheduled once construction started. I explained that this project was in the initial stages, and once we have the SWPPP completed I could share our Erosion and Sedimentation plans with him. REDACTED lives in Indiana, he stated that he would be visiting his property in the fall. REDACTED is going to contact me to setup a in person meeting at that time.	
										8/23/2021 - Comment card: For safety concerns I would like all old poles and all loose debris be removed when finished. I have a chain across my driveway if you need to enter, call REDACTED. Thank you.	
MON	8/23/2021 Comment Card	REDACTED		REDACTED	REDACTED		178	12	Alyse Rooks, ERN	1 8/23/2021- There is a farmer cemetary at the beginning of the Holler in lower Stinnett. Will that be affected or disturbed? What about all the good trees I own on the land that I planned on selling? Are you going to buy them? Are you going to build any roads thru my land?	8/26/2021- A Rooks forwarded to R. Howell & J. Rosenberg.
Other	10/7/2021 Voicemail	REDACTED		REDACTED	REDACTED		71	4,5	Alyse Rooks, ERM	1 If you could give me a call back. Thanks.	
WED	6/9/2021 Phone		Leslie County Judge	William	Lewis				Bob Shurtleff, AEI	⁹ Bob S. had a one-on-one meeting with Judge Lewis to share some high-level information about the project and the overall schedule. The only concern from Judge Lewis was the potential for prolonged outages associated with the rebuild. Judge Lewis will contact Bob if additional questions arise.	

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AEP Wooton-Stinnett Rebuild (KY): Outreach and Stakeholder Feedback Tracking

DAY DA	ΤE	TYPE Phone/Voice Mail Email/US Mail In Person/Virtual Incoming/Outgoing	CONTACT VEHICLE or LOCATION	ORGANIZATION/ TITLE	FIRSTNAME	LASTNAME	LO ID	МАР	TEAM MEMBER	NOTES Feedback Comments Questions	FOLLOW UP/ACTION ITEMS
TUES	7/13/202	L Voicemail	REDACTED	Bell, Lumber & Pole	REDACTED	REDACTED				7/13/21: Would like an audience to talk about reusing the wood poles instead of moving to steel. Steel adds carbon emisions and that has a negative impact to the environment. 7/29/21: A Rooks spoke with REDACTED. Would like to talk to project engineers and enviro/sustainability team about reusing the wood poles instead of moving to steel. Combating emissions is the mission of REDACTED company Bell, Lumber & Pole. Would like to share what he called compelling info used to combat greenhouse gas. Company has been calling other transmission utilities.	

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FOLLOW-UP QUESTIONS AND COMMENTS

Please fill out and mail this comment card using the enclosed self-addressed, stamped envelope by Friday, July 30. If you prefer to provide comments online, visit KentuckyPower.com/WootonS innett and click the "Contact Us" button.

Please provide your name and contact information below to ensure we have the most up to dite inform a on for our records. NAME. ADDRES EMAIL Please complete this questionnaire after you have reviewed the information provided about this project.

Did you find the content provided to be informative?

Yes No

If no, please explain

informative is Somewhat

Additional Comments

Providing specific locational information in regard to your concerns can assist our project team.

Example "There is a family cemetery located along the rebuild section approximately 100 feet west of 345 Broad Street."

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WOOTON-STINNETT TRANSMISSION LINE REBUILD PROJECT



FOLLOW-UP QUESTIONS AND COMMENTS

Please fill out and mail this comment card using the enclosed self-addressed, stamped envelope by Friday, July 30. If you prefer to provide comments online, visit KentuckyPower.com/WootonStinoett and click the "Contact Us" button.

Please provide your name and contact information below to ensure we have the most up to date information for our records.	
NAME: .	
ADDRES:	
EMAIL:	
Please complete this questionnaire after you have reviewed the information provided about this project.	

Did you find the content provided to be informative?	4 Yes	No	
lf no, please explain			

Additional Comments

Providing specific locational information in regard to your concerns can assist our project team. Example: "There is a family cemetery located along the rebuild section approximately 100 feet west of 345 Broad Street."

For Safety Concerns & would lekarle old poles and all losse debe be removed when which,

I have a chain across my drive way is you herd to enter





POUNDLESS PRIMA

FOLLOW-UP QUESTIONS AND COMMENTS

Please fill out and mail this comment card using the enclosed self-addressed, stamped envelope by Friday, July 30. If you prefer to provide comments online, visit KentuckyPower.com/WootonStinnett and click the "Contact Us" button.

Please provide your name and contact information below to ensure we have the most up-to-date information for our records.

NAME:	-
ADDRES	S
EMAIL	_

Please complete this questionnaire after you have reviewed the information provided about this project.

No

If no, please explain

Additional Comments

Providing specific locational information in regard to your concerns can assist our project team. Example: "There is a family cemetery located along the rebuild section approximately 100 feet west of 345 Broad Street."





FOUNDLESS ENERGY

FOLLOW-UP QUESTIONS AND COMMENTS

Please fill out and mail this comment card using the enclosed self-addressed, stamped envelope by Friday, July 30. If you prefer to provide comments online, visit KentuckyPower.com/WootonStinnett and click the "Contact Us" button.

Please provide your name and contact information below to ensure we have the most up-to-date information for our records	nc
ADDRESS	
EMAIL'	

Please complete this questionnaire after you have reviewed the information provided about this project.

Did you find the content provided to be informative?	Yes	No	
lf no, please explain			

Additional Comments

Providing specific locational information in regard to your concerns can assist our project team. Example "There is a family cemetery located along the rebuild section approximately 100 feet west of 345 Broad Street."



BOUNDLESS ENERGY

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FOLLOW-UP QUESTIONS AND COMMENTS

Please fill out and mail this comment card using the enclosed self-addressed, stamped envelope by Friday, July 3D. If you prefer to provide comments online, visit KentuckyPower.com/WootonStinnett and click the "Contact Us" button.

Please provide your name and contact information below to ensure we have the most up-to-date information for our records.

NAME:				
ADDRESS				
EMAIL _				

Please complete this questionnaire after you have reviewed the information provided about this project.

Did you find the content provided to be informative?	Yes	No No	
If no, please explain			

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	- AP Orton	
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WOOTON-STINNETT TRANSMISSION LINE REBUILD PROJECT



FOLLOW-UP QUESTIONS AND COMMENTS

Please fill out and mail this comment card using the enclosed self-addressed, stamped envelope by Friday, July 30. If you prefer to provide comments online, visit KentuckyPower.com/WootonStinnett and click the "Contact Us" button.

Please provide your	name and contact	information below	to ensure we	have the most	up-to-date information	
for our records.						

NAME:				
ADDRE				
EMAIL:				

Please complete this questionnaire after you have reviewed the information provided about this project.

Did you find the content provided to be informative?	Yes	No
If no, please explain		

Additional Comments

Providing specific locational information in regard to your concerns can assist our project team. Example: "There is a family cemetery located along the rebuild section approximately 100 feet west of 345 Broad Street."





FOLLOW-UP QUESTIONS AND COMMENTS

Please fill out and mail this comment card using the enclosed self-addressed, stamped envelope by Friday, July 30. If you prefer to provide comments online, visit KentuckyPower.com/WootonStinnett and click the "Contact Us" button.

Please provide your name and contact information below to ensure we have the most up-to-date information for our records.

NAME:				
ADDRESS:				
EMAIL:				

Please complete this questionnaire after you have reviewed the information provided about this project.

Yes

No

Did you find	the	content	provided	to be	informative?	
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If no, please explain

Additional Comments

Providing specific locational information in regard to your concerns can assist our project team. Example "There is a family cemetery located along the rebuild section approximately 100 feet west of 345 Broad Street."



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ROUNDLESS ENDERLY

FOLLOW-UP QUESTIONS AND COMMENTS

Please fill out and mail this comment card using the enclosed self-addressed, stamped envelope by Friday, July 30. If you prefer to provide comments online, visit KentuckyPower.com/WootonStinnett and click the "Contact Us" button.

Please provide your name and contact information below to ensure we have the most up-to-date information for our records.

ADDRESS:			
EMAIL:			

Please complete this questionnaire after you have reviewed the information provided about this project.

Did you find the content provided to be informative?	Xves	No	
f no, please explain			

Additional Comments

Providing specific locational information in regard to your concerns can assist our project team. Example: "There is a family cemetery located along the rebuild section approximately 100 feet west of 345 Broad Street."



BOUNDLESS ENERGY

DATA REQUEST

KPSC 1_2 Refer to the Application, paragraphs 13–20 and the Direct Testimony of Brian K. West (West Testimony) at 13–14. Provide a cost benefit study demonstrating that the projects are cost effective.

RESPONSE

A cost-benefit study was not performed. The project is a rebuild of aging facilities using the existing right-of-way with no other feasible electrical solutions.

Replacing the line using a piecemeal approach as structures fail is not feasible, increases overheads and mobilization costs, and increases the number of outages required. To do individual structure replacements, an outage would be required for every structure replacement affecting all customers each time the line is taken out, resulting in numerous outages. Additional outages could be expected as other aging structures, hardware, and conductors continue to deteriorate, creating a continuing service quality issue for customers. From a cost per mile standpoint, rebuilding the asset fully between two substations provides efficiency by reducing costs through buying and shipping larger quantities of material and reducing construction mobilization and overhead costs. Further, the existing structures are not able to support the planned upgraded conductor size, thus further eliminating the feasibility of a piecemeal approach to replacing structures as they fail.

Rebuilding the line within the existing right-of-way is generally more cost effective and less impactful overall to the human and natural environments, when compared to finding an alternative route in a different location, requiring new right-of-way, vegetation clearing, and new easements to be acquired. Because the Company can obtain an outage on the existing infrastructure, rebuilding within the existing right-of-way is achievable while also reducing customer outage impacts. Finally, because the load served from the line at the Leslie and Stinnett Substations cannot be served from another source, and the Hazard – Pineville 161 kV Transmission Line is a key interconnect with the neighboring utility, TVA, allowing this facility to deteriorate and continue to have outages is imprudent and jeopardizes the delivery of safe and reliable service.

Even assuming a cost-benefit analysis was appropriate or feasible, any such analysis would have to consider the cost of outages to customers. These costs are highly variable and dependent upon each customer's individual circumstances and preferences. For instance, the costs resulting from an outage affecting a commercial customer with a manufacturing facility likely will be much higher than the same outage for a residential customer who is away from their home for most of each day. Further, the benefit of more reliable service, which would be included in any cost-benefit analysis, varies widely based on each customer's individual circumstances.

Witness: Brian K. West

Witness: Nicolas C. Koehler

Witness: Brian K. West

DATA REQUEST

KPSC 1_3 Refer to the Application, paragraph 19. Explain how and why a residential structure was allowed to be built in the transmission ROW.

RESPONSE

Kentucky Power regularly monitors its rights-of-way ("ROW") and takes necessary actions in the event that an encroachment represents an immediate safety risk or violation of the National Electric Safety Code ("NESC") or impedes access to Company facilities for normal operations and maintenance. The structure identified in the ROW is not an encroachment that meets the NESC criteria.

Encroachments are reviewed on a case-by-case basis relative to the type of encroachment, the rights of the Company under its easements and ROW agreements, the impacts of mitigating the encroachment (such as, removal), and costs to ratepayers. When lines are proposed for reconstruction, Kentucky Power works to mitigate encroachments and, if needed, update the terms ROW agreements to provide greater ability to protect ROW from future encroachment.

Witness: Emily S. Larson

DATA REQUEST

KPSC 1_4 Refer to the Application, paragraph 19, Exhibit 13, Aerial Map 2, page 54, Aerial Maps 9-14, pages 61–66.

a. Aerial Map 2 does not appear to show any movement of the proposed line to accommodate a residential structure. Aerial Map 9 appears to show a movement of the proposed line away from a structure. Confirm that this is the correct map and show the movement indicated in paragraph 19. If not, indicate which is the correct map.

b. Aerial Maps 11-14 appear to show the proposed route deviating from the existing route. Explain why this deviation from the existing route is necessary and whether the new route segments represent green field construction.

c. Explain whether any easements along this section of the proposed route will be relinquished and whether any additional easements will be expanded or new easements acquired.

RESPONSE

a. The map referenced at paragraph 19 of the Application is Map 2: Study Segments, which is included in Exhibit 13, Attachment E: Route Development Maps (Page 49 of 79 of Exhibit 13).

The Aerial Maps can be found in Attachment F (Aerial Mapbook (Proposed Route) on pages 51 – 79 of Exhibit 13). The Aerial Maps which show movement of the ROW, can be found in Exhibit 13, Attachment F (Aerial Mapbook (Proposed Route), Aerial Maps 9, 10, 11, 12, 13, and 14 of the 27).

b. 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. The Leslie Loop is a double circuit transmission line. Rebuilding on the existing centerline would require an extended outage on both 161 kV circuits, which is not feasible as they are the main electrical source to the Leslie Substation. As such, the Leslie Extension (formally Leslie Loop) will be on new ROW (greenfield construction) for 0.4 mile and directly parallel to the existing transmission line and ROW.

c. Any existing easements that will no longer be required along this section of the proposed route will be relinquished to the current owner. For any required deviation from current centerline, new or supplemental easements will be required. The entire existing ROW also will be widened, and additional easements will be required to complete the Project.

Witness: Emily S. Larson

DATA REQUEST

KPSC 1_5 Refer to the Application, paragraph 20 and the Direct Testimony of Nicholas C. Koehler (Koehler Testimony) at 12, lines 22–23. Explain the meaning of "reinforce distribution lines between the Leslie and Stinnett substations" and the steps required to reinforce the lines.

RESPONSE

A distribution line tie presently exists between the Leslie Substation and Stinnett Substation distribution sources. The installed conductor (1/0 AL) has limited capacity and transverses a long distance. The existing distribution tie is currently capable of picking up roughly a quarter of the load of Stinnett Substation during under emergencies and construction outages.

To reinforce existing distribution between the Leslie and Stinnett Substations, a small section of new distribution line will be built and the lines along the new route will be upgraded to larger conductor (556 AL), which will allow a larger portion of the load at the Stinnett Substation to be served under emergencies and construction outages.

Witness: Nicolas C. Koehler

DATA REQUEST

KPSC 1_6 Refer to the Application, paragraph 57.

a. Explain how the proposed project increases capacity of the 161 kV network.

b. Explain why the capacity of the 161 kV network needs to beincreased.

RESPONSE

a. The proposed work to rebuild the 161 kV line, which replaces the existing 500 KCM COPPER conductor with new 795 ACSR conductor, along with the work at Leslie Substation results in an increased capacity on this portion of the 161 kV line. The increase in the capacity is the result of the new conductor and station facilities being installed as part of the Project.

The larger diameter 795 ACSR conductor permits the transfer of greater amounts of power because it has a greater current carrying capability than the old 500 KCM COPPER conductor. The 795 ACSR conductor was chosen to match the rating of conductor previously approved in Case No. 2019-00154 Hazard – Wooton CPCN filing for the line rebuild.

b. Within the context of the required upgrades required by the Project (i.e., to address equipment condition, performance, and risk associated with these 1940s facilities and transmission line), the increase in capacity of the 161 kV network in the area (specifically, the capacity of the 161 kV line between the Wooton and Stinnett Substations) is necessary to eliminate the smaller-sized equipment on the circuit, so it can operate seamlessly with the facilities already upgraded in the Hazard-Wooton transmission line (which were upgraded to address baseline overloads, as reviewed and approved in Case No. 2017-00328). Additionally, the upgrades will also result in an increase in transmission capacity on the tie with TVA, which allows for greater power transfer capability between the two areas.

Witness: Nicolas C. Koehler

DATA REQUEST

KPSC 1_7 Refer to the Application, paragraph 59 and Koehler Testimony at 10, lines 6–15.

a. Define "momentary outage" and "permanent outage."

b. Refer also to the Application, page 4 that states that there are 55 structures along the 11-mile Wooton-Stinnett in question. Given the list of Open Conditions listed in the Koehler Testimony, explain how often Kentucky Power inspects its transmission circuits and what specifically is inspected during a transmission line inspection. Include in the response any specific Kentucky Power procedural guidelines for transmission line inspections.

c. Once a transmission line inspection has taken place, explain the extent of damage or Open Conditions that must be discovered in order to trigger a maintenance decision to repair or replace the damaged or broken facilities.

d. Given the extent of the damage to poles, crossarms and other facilities, explain how Kentucky Power inspectors were unaware of the damage. If Kentucky Power was aware of the extent of the damage, explain why the open conditions were not remedied before this proposed project.

RESPONSE

a. A momentary outage is an outage lasting five minutes or less. A permanent outage lasts more than five minutes.

b. In conformity with "Kentucky Power's Transmission Facility Inspection Guidelines," the most recent version of which was filed with the Commission November 23, 2021, 161 kV wooden structure circuits are routinely aerial inspected at intervals not to exceed six months and inspected from the ground every 6 years. During the semi-annual aerial inspections, the Company inspects the following aspects of a line:

- Major line components, e.g., broken cross arms or braces, missing members, excessive decay
- Vegetation encroaching upon conductor/structures
- Right-of-way encroachments Locations of Concern ("LOC")
- Land use (surrounding ROW) changes or incompatibilities with the electric line operation
- Foundation and land stability, major problems or changes

The Company's ground inspections focus on transmission line components to identify physical conditions that are not outage related but need attention. This includes a detailed inspection of the ROW and of each structure and span, including the hardware, insulators, structural members, conductors, dampers, spacers, etc. The ROW is also inspected for encroachments due to non-compatible vegetation, buildings, other above-grade obstructions, and land use (swimming pools, ponds, storm water detention areas, etc.). Land stability issues are also identified. Above-grade components are inspected with binoculars or other suitable method if a structure is not climbed.

c. The existence of an open condition is one input of the overall needs identification performed by the Company. Other factors evaluated to identify the appropriate course of action for each asset include the overall performance, condition, and risk of the asset. Please see Exhibit 19 "AEP's Guidelines For Transmission Owner Identified Needs" for additional detail.

d. The Company was aware of the extent of the conditions described in Company Witness Koehler's Testimony. Kentucky Power took action to address the conditions consistent with "Kentucky Power's Transmission Facility Inspection Guidelines." Items found during routine inspections that required immediate attention were scheduled as soon as possible for repair on this line. Inspections can also reveal certain trends, such as increasing structure or hardware deterioration, which allows for future planning, budgeting, and scheduling of resources to remedy the situation. The Project as proposed is an example of condition trending being recognized and scheduled for remediation via a holistic solution. These procedures provide a safe environment for the public and Company personnel and maintain system reliability.

Witness: Nicolas C. Koehler

DATA REQUEST

KPSC 1_8 Refer to the Application, Rebuild Siting Study, page 6.

- a. Explain when a Lattice Tower would be used over a Steel H-Tower.
- b. Explain the locations where a Lattice Tower could be used in this case.
- c. Provide a cost benefit analysis for a Lattice Tower and a Steel H-Tower.

RESPONSE

a. Lattice towers have higher load resisting capacity both transverse of the line and longitudinally along the line. Steel H-frame structures with similar transverse load capacity have significantly less longitudinal load capacity.

Lattice towers are commonly used where the load requirements dictate more robust structures such as ridge top to ridge top long-span construction, large river and highway crossings, and at transmission line angles. In mountainous terrain where it is difficult to get concrete to site, lattice towers with steel grillage foundations also are used in lieu of steel pole structures.

b. Self-supporting lattice towers are typically used in areas of steep terrain where long spans may be encountered, in areas where conflicting utilities such as gas lines limit space, or in areas of potential landslide concerns. Self-supporting lattice towers have a smaller structure footprint than an equivalent guyed three-pole structures. Self-supporting lattice towers have a lower area of disturbance required in such areas. A three-pole guyed structure could have a four times larger footprint than an equivalent self-supporting lattice tower because the angle of the guys and the height of the three-pole structure requires the guy wires to be anchored to the ground in multiple directions at significant distances.

c. It is not possible to perform the requested cost-benefit analysis comparing a Lattice Tower and a Steel H-frame Tower because of their differing load capacities. Using a Steel H-frame Tower where loading requires a Lattice Tower provides no benefit and would be unsafe. The Company designs its transmission lines using the appropriate structure for each location. See the Company's response to KPSC 1-8(a).

Witness: Emily S. Larson

DATA REQUEST

KPSC 1_9 Refer to Koehler Testimony at 10, lines 19–21. Of the three permanent outages that caused a total of 631 thousand minutes of interruption, explain whether the causes of these three outages would have caused an outage had the proposed project been completed.

RESPONSE

It is not possible to respond conclusively because the precise forces resulting in the outages were not measured. The Project nevertheless minimizes the risk of outages under similar conditions.

Recorded causes of the three permanent outages include vegetation falling in from outside the ROW, as well as snow/ice, and fire. The Project installs new conductor and more resilient steel structures which have more weight bearing capability in conformity with NESC (current edition 2017) standards. The proposed Project also widens the ROW, with associated tree trimming, thereby further reducing the risk of trees outside the ROW falling on the line.

Witness: Nicolas C. Koehler

DATA REQUEST

KPSC 1_10 Refer to Koehler Testimony at 12, lines 3–9.

a. Provide the expected useful life of the structures currently in place between the Wooten, Leslie, and Stinnett substations.

b. Provide the ages(s) of the structures.

c. Define "substantial structure failure."

d. State whether Kentucky Power has assessed the structures between the Wooten, Leslie, and Stinnett substations for relative risk of substantial structure failure, if so, provide the assessment(s).

RESPONSE

a. The expected useful life of wooden transmission line structures generally ranges between 35 and 75 years. See KPCO_R_KPSC_1_10_Attachment1 for AEP's December 2019 presentation to PJM titled "AEP Eastern System Pre-1930s Era Lattice Tower and Transmission Line System." Due to diversity in geographical location, operations, and structure variety for transmission line components, there is no single life span that is applicable to all facilities. Because of these varying environmental factors, individual line assets degrade at different rates. Individual assets are monitored through routine inspections.

b. Please see KPCO_R_KPSC_1_10_Attachment2 for the requested information.

c. Substantial structure failure refers to a transmission line structure falling on the ground or other structural failure causing the dropping of conductor.

d. Yes. Please see the Company's response to KPSC 1-7. Any structure found to be in immediate need for replacement would be documented and scheduled for replacement.

Witness: Nicolas C. Koehler

KPSC Case No. 2022-00118 Commission Staff's First Set of Data Requests Dated June 30, 2022 Item No. 10 Attachment 1 Page 1 of 25



BOUNDLESS ENERGY**

AEP Eastern System Pre-1930s Era Lattice Tower and Transmission Line System

SRRTEP-Western Committee





BOUNDLESS ENERGY™

Agenda

- Discussion of AEP's Asset Management Strategy
- Introduction to AEP's Pre-1930s Era Lattice Tower and Transmission Line System in eastern footprint
 - Description of the System
 - Condition of the System
- Considerations of Rehabilitate and Replacement

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BOUNDLESS ENERGY[™]

AEP's Asset Management Strategy

What's Causing Issues Now?

Outage Rates by Voltage Class
T-SAIDI, T-SAIFI-S, T-SAIFI, T-MAIFI
Outage Impacts
SAIDI, SAIFI, CMI, CI
Contributions from each asset

Historical Performance

What Could Cause Outages in the Future?

Asset Conditions

- •Engineering Assessments
- Field Assessments
- Reported Conditions
- Spare Part Availability
- Operational Issues
- •Contributions from each asset

What's Driving Future Risk?

Customer Load at Risk
Number of Customers at Risk
AEP-D, AEP-Indus, AEP-Wholesale
(Behind Meter CS Estimations)
Radial Facilities
Restoration Ability
System Risk
Contributions from each asset

Future Risk



AEP Needs Assessment for Transmission Lines

- AEP conducts a Serviceability Assessment of an asset class such as Oil Circuit Breakers, Air Blast Breakers, steel tower lines constructed prior to 1930s
 - AEP defines "serviceability" as the evaluation of the asset type using current standards and guidelines
 - Does it meet current design criteria?
 - Can it deliver expected reliability?
 - What is the risk to the public?
- History of failures of individual components help determine the status of each component on the "bathtub failure curve"
- The serviceability assessment for the asset class guides replacement or rehabilitation decisions



BOUNDLESS ENERG

Key Considerations of Serviceability Assessment Transmission Lines

- The original designs do not account for modern wind and ice loading requirements
- The conductors have deteriorated
- The configuration provides inadequate lightning protection
- Demonstrable wear on most conductor attachment hardware
- Significant loss of strength due to corrosion on hardware and insulators
- Structures have above and below grade loss of galvanizing
- Most towers are not readily accessible adding cost and time to restoration

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BOUNDLESS ENERGY[™]



AEP System in 1930

138 kV transmission lines

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Backfilling crew on tower construction, 1925



Introduction to AEP's Pre-1930s Era System

- AEP built ~1,500 miles of backbone 138 kV network around 90 years ago
- Demand has grown from 614 MW in 1930 to a peak demand of 22,000 MW today
- The sub-transmission system sprung off this transmission backbone network
- Lines were maintained in accordance with AEP guidelines and standard industry practices
- Current state of the backbone 138 kV network
 - Tower structures, conductor, insulators, and hardware exhibit poor condition

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BOUNDLESS ENERGY™



AEP East System in 2019 (89 years later)

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BOUNDLESS ENERGY"

Condition & Impacts of the Degraded Pre-1930s Era System

- These transmission line assets are clearly in the accelerated deterioration phase of their life
- Significant deterioration results in loss of strength and performance posing a significant risk of failure under conditions the assets should be able to withstand
 - May cause frequent and extended outages
 - May create significant economic losses
 - May endanger public safety

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BOUNDLESS ENERGY"

Conditions of System



- The system is evaluated holistically, including an assessment of insulators, conductors, ground line corrosion and tower members
- The next 9 slides include photos of lattice tower components that represent the condition prevalent across AEP's pre-1930s era lattice transmission line network

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BOUNDLESS ENERGY"

Tower Conditions

- The towers consist of galvanized steel
- Conditions vary with environmental exposure
- Typical life of galvanizing is 70 years
- The towers are all supported by steel grillage foundations buried in the ground
- The tower leg is subject to significant risk of corrosion where it enters the ground


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BOUNDLESS ENERGY"

Ground Line Corrosion





- Tower legs have lost greater than 50% of section due to corrosion
- Subject to collapse

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BOUNDLESS ENERGY

Insulator & Hardware Corrosion



- **Section Loss:** The connecting elements including the tower attachment hole and the insulator hook have experienced serious section loss due to corrosion and wear. This loss of metal cross-section significantly reduces the capacity of the connection
- **Corrosion:** The insulator caps and connecting hardware have experienced heavy to complete loss of galvanizing. When the protective galvanized coating is gone or significantly compromised the bare steel corrodes at an accelerated rate

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BOUNDLESS ENERGY"

Broken Insulators





- Broken, cracked and otherwise damaged insulators lead to premature flashover causing permanent outages
- When the insulator assembly breaks, the wire falls to the ground potentially damaging other conductors, and present an increased public safety concern

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BOUNDLESS ENERGY™

Typical 1930s Lattice Line



- Pitting and deterioration of base steel
- Corroded connecting pins will drop conductor when they fail



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BOUNDLESS ENERGY"

Typical 1930s Lattice Line







- Insulator failure due to corrosion and wear of connecting element
- Close up views of connections showing corrosion and loss of section

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Typical 1930s Lattice Tower



Tower members with corrosion and damage. Lattice tower structures have little structural redundancy. A failure of one member of the structure will impact the integrity of the structure and may cause the entire tower to collapse.

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BOUNDLESS ENERGY"

Typical 1930s Era Steel Core Conductor



- Significant deterioration exists
- Aluminum Conductor Steel Reinforced (ACSR) conductor consists of aluminum strands wrapped around a core of galvanized steel strands. The steel provides the structural strength. Like other steel elements the strands of the core have also lost the galvanized coating and steel section
- The degraded state results in significant loss of tensile strength and potential risk to the public if the conductor was to fail and fall to the ground





Typical 1930s Era Steel Core Conductor



- Conductor damage is usually not visible in a field inspection
- Specific conductor samples, from the belly of the sag (lowest point) and/or inside the clamps at the insulators, have confirmed significant corrosion
- During the restoration or construction activities, conductors often break at adjacent locations due to handling, introducing a potential safety risk and increase public safety concern

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BOUNDLESS ENERGY"

Estimated Asset Expected Life

• Timeframe guided by typical industry experience

Asset Type	CEATI Estimated Expected Life of Transmission Line Components (Years)*
Wood Poles	35-75
Wood Cross Arms	20-55
Steel Towers	35-100
Steel Poles	50-80
Conductor	40-80
Porcelain Insulators	40-50
Polymeric Insulators	10-30

*The Centre for Energy Advancement through Technological Innovation (CEATI) Report No. T144700-3257: Statistical Data and Methodology for Estimating the Expected Life of Transmission Line Components

• AEP focuses on evaluating the condition and performance of each asset and the risk that the failure of each poses to the system, connected customers, personnel and the public

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BOUNDLESS ENERGY"

Effect of Age on Component Failure

- All assets are made up of individual components
- Each component has a failure profile unique to its material



- All material behaves similarly in that failures increase dramatically at the end of life. This is known as the "bathtub curve"
- The timelines and rates vary by components and material. (e.g. wood crossarms fail sooner than wood poles; polymer insulators fail sooner than porcelain)



TRANSMISSION





 The performance characteristics of an asset degrade with time due to deterioration of the individual component failures

An AEP Company

- Improvements are gained
 through rehabilitation efforts
- At some stage maintenance and rehabilitation is no longer a cost effective method to restore reliability
- If the replacement decision is delayed too long the risk to reliability and the public becomes unacceptable

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BOUNDLESS ENERGY"

Rehabilitate vs. Replace

Characteristics of Rehabilitation projects

- Individual material components entering the early life failure stage
- Conditions where limited investment can substantially improve reliability
- Rehabilitation options are component specific

Characteristic of Replacement projects

- Assets well into lifespan with experienced and/or expected multiple component failures that impact future performance – reliability, resilience, safety
- Assets that require significant replacements where the investment is not commensurate with the expected improved performance or life extension
- Asset that have inadequate or obsolete design characteristics
- Lack of vendor support and/or replacement parts

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Summary

- This presentation is for educational purposes regarding a group of AEP assets and is intended to provide useful background information for customers and stakeholders to support future discussions
- While this presentation is intended to provide a useful reference for future SRRTEP discussions, it is <u>not</u> intended to define any specific project or asset need
- All individual asset and project-specific needs, including those that include any Pre-1930s era lattice towers, are presented under the PJM planning process beginning with identified asset-specific needs

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Wooton-Stinnett Line Structure Characteristics

Line Structure Characteristics

Year	Str Count	Material		
1942*	40	Wood		
1949**	3	Lattice Steel		
1999	6	Wood		
2002	2	Wood		
2005 1		Steel		
2020	1	Wood		
All Structures from K124-40C to K124-91, Including 717-1 &				

717-2 on Leslie Loop

*Estimated Based on Hazard-Pineville 161kV Line Asset Age ** Estimated Based on Leslie Loop 161kV Line Asset Age

DATA REQUEST

KPSC 1_11 Refer to Koehler Testimony at 13, lines 16–17. Explain whether two 161 kV MOAB Ws are being replaced at the Leslie Substation.

RESPONSE

There is only one MOAB 'W' that exists at Leslie Substation. It is a 600 A switch towards Hazard 161 kV. This switch is being replaced as part of Leslie Substation work. The 161 kV XF#1 high-side switch is also being proposed to be replaced. The referenced Testimony erroneously refers to MOAB "W" twice.

DATA REQUEST

KPSC 1_12 Refer to Koehler Testimony at 13–14, generally. In the project description, there is no mention of the actual line being replaced. Explain whether the electrical transmission capability of the existing line has deteriorated and whether the new conductor will be more efficient or have a greater transmission capacity than the existing line.

RESPONSE

The electrical transmission current carrying capability of the conductor has not deteriorated. The deterioration is in the condition of the line which may impact the overall reliability of the line. The 795 ACSR conductor the Company proposes to use for the Project is more efficient, has lower impedance, and thus reduces the heat loses across the conductor as compared with the existing, obsolete 500 KCM COPPER conductor. Because of these capabilities, the 795 ACSR conductor is the current standard conductor across the AEP system. The proposed line work also installs newer steel transmission structures which will support the weight and sag of this new conductor resulting in more efficient and better overall transmission capacity.

DATA REQUEST

KPSC 1_13 Refer to Koehler Testimony at 14, lines 1–5. Explain the purpose of the optical ground wire (OPGW) and whether it currently exists along the proposed route.

RESPONSE

The optical ground wire (OPGW) cable contains a tubular structure with one or more optical fibers in it, surrounded by layers of steel and aluminum wires. The OPGW cable at the top of the transmission lines serves two purposes: it grounds lighting strikes over transmission line and provides communications via the fiber optics inside the cable. The proposed OPGW-96 fiber cable will provide fiber connectivity to Leslie and Stinnett Substations, and with upgraded station metering and monitoring will be used to monitor of the condition of the Leslie and Stinnett Substations.

The proposed fiber on this project will extend network fiber connectivity to the Leslie and Stinnett Substations.

DATA REQUEST

KPSC 1_14 Refer to the Koehler Testimony at 14, lines 8–20, which states that structure replacements are needed on a total of 19 structures (79 percent of the line section between the Wooton and the Leslie Substations, and a total of 22 structures (69 percent of the line section) between the Leslie and the Stinnett Substations.

a. State what standards are applied by Kentucky Power in determining that a structure needs to be replaced rather than repaired.b. State the estimated costs of repairing the structures rather than replacing them (if possible), and how long that would extend their useful lives.c. State the expected useful lives of the proposed new structures.

RESPONSE

a. The standards are set out in "AEP's Guidelines For Transmission Owner Identified Needs" (Exhibit 19).

Solutions for the identified needs are developed by considering a holistic view of all the needs. Typically, several solutions are developed and scoped. Kentucky Power applies the appropriate industry standards, engineering judgment, and Good Utility Practices to develop these solution options. Solution options consider many factors including, but not limited to, environmental conditions, community impacts, land availability, permitting requirements, customer needs, system needs, and asset conditions in ultimately identifying the best solution to address the identified need. In addition, the overall performance, condition, and risk of the given asset is evaluated to determine the most prudent action to be taken on an asset-by-asset basis. See the Company's response to KPSC 1-7(c).

Kentucky Power actively maintains its transmission infrastructure. The determination of when replacement is more appropriate than rehabilitation is based on the asset's condition, performance, and risk of failure. As equipment approaches the end of its useful life, there are consequences to consider. Wood structures become weaker, line components deteriorate, equipment tolerances decline, and lines have a higher risk of frequent and prolonged outages due to failure. These can also lead to safety considerations for workers and the public. Additionally, federal and state regulatory agencies set reliability requirements that must be met by Kentucky Power and AEP's other operating companies. Delaying or deferring projects that are needed can have

negative consequences, such as outages that result in lost economic activity, crippled communication devices and networks, and potential safety issues. The majority of the open conditions include rot, insect damage, woodpecker damage, and bowing conditions. Replacement of these impacted structural components is the only solution to fully remediate the conditions present, ensuring that future maintenance costs, including failures, are mitigated.

b. It is not practicable nor prudent to forego replacement in favor of repair. Please see Company Witness Koehler's testimony at Page 10, lines 5-10. The majority of the open conditions include rot, insect damage, woodpecker damage, and bowing conditions. Replacement of these impacted structural components is the only solution to remediate the most common conditions present on the line.

Repairing structures, even if the option were available, would not address the risk of an increasing number of conditions on similar vintage equipment that could require additional repair or remediation in the future. Please see Company Witness Koehler's testimony at Page 14, lines 11-13.

c. The expected useful life of steel pole transmission line structures generally range between 50 and 80 years as stated by the Company in the "AEP Eastern System Pre-1930s Era Lattice Tower and Transmission Line System" Presentation in December 2019 to PJM, Slide 21 (see KPCO_R_KPSC_1_10_Attachment1).

DATA REQUEST

KPSC 1_15 Refer to the Koehler Testimony at 15, lines 13–14, which states "Piecemeal replacement would also increase the overall cost of the project due to increased mobilization and construction costs." State how much the overall cost would increase by making incremental repairs rather than going forward with the proposed project, which is estimated to cost approximately \$49 million.

RESPONSE

The requested analysis has not been performed. To do individual structure replacements, an outage would be required for every structure replacement, affecting all customers each time the line is taken out, resulting in numerous scheduled outages. Additional outages could be expected as other aging structures, hardware, and conductor deteriorate, creating a continuing power quality issue for customers. From a cost per mile standpoint, rebuilding the asset fully between two substations, provides efficiency in costs through buying and shipping larger quantities of material and reducing construction mobilization and overhead costs. See also the Company's response to KPSC 1-2.

DATA REQUEST

KPSC 1_16 Refer to the Direct Testimony of Emily S. Larson at 9, lines 16–21. Provide a list of the land owner requests and the materials provided in response to the requests.

RESPONSE

See KPCO_R_KPSC_1_1_Attachment1 for copies of comments received during the virtual open house, including landowner requests. Personal and private information has been removed. Requests for additional information were received from two landowners pertaining to existing easements on their property. See attachment KPCO_R_KPSC_1_16_Attachment1 through KPCO_R_KPSC_1_16_Attachment3 for copies of easements provided to landowners in response to their requests.

Witness: Emily S. Larson

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TOGETHER with the right to said party of the second part, its successors and assigns, to place, erect, maintain, inspect, add to the number of, and relocate at will, poles, towers, crossarms or fixtures, and string wires and cables, adding thereto from time to time, across, through or over the premises above referred to; to cut and at its option, remove from said premises or the premises of the parties of the first part adjoining the same on either side any trees, overhanging branches or other obstructions which may endanger the safety or interfere with the use of said poles and towers or fixtures or wires attached thereto or any structure on said premises; and the right of ingress and egress to and over the premises above referred to, and any of the adjoining lands of the parties of the first part, at any and all times, for the purpose of patroling the line, or repairing, renewing or adding to the number of said poles, towers, structures, fixtures and wires, and for doing anything necessary or useful or convenient for the enjoyment of the easement herein granted; also the privilege of removing at any time any or all of said improvements erected upon, over or on said land;

(over)

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TOGETHER	with the	rights,	easements,	privileges	and appr	irtenances	in or to said	l lands	which ma	y be re-
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It is agreed that the foregoing is the entire contract between the parties hereto, and was fully understood before its execution, and there is no consideration for said contract except the consideration herein set forth, and that it is understood that the agent of the party of the second part securing this contract has no authority to contract for or to bind the party of the second part by any verbal representations or promise, and that this written agreement is complete in all its terms and provisions.

IN WITNESS WHEREOF, the parties of the first part have hereunto set their hands and seals the day and year first above written.

(SEAL) Signed and Acknowledged in the presence of: airden) (SEAL) В (SEAL) (SEAL) (SEAL) (SEAL) (SEAL) (SEAL) STATE OF KENTUCKY TO-WIT:anmen COUNTY OF Degley, a Notary Public (or County Clerk), in and for the County and State aforesaid, hereby certify that the foregoing deed of conveyance from 3 West and this day produced to me in my said County and State, and acknowledged by. \$ 5 5 5 Kg and grantors therein, to be their act and deed in due form of law. My commission expires Given under my hand and-notarial-seal this Fursh County Clerk). tuilues to be JUL 15192 E F'. CO ROANOKE REAL ESTATE OFFICE WEC Re-Chacked 1504540 Ciscked By DEAL SSTATE OFEIG 6 **Received For Record** this Recorded in Deed Book_42 Page 3 County State of Kentucker 16 this day of Attest 4-2

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of removing at any time any or all of said improvements erected upon, over or on said land;

interfere with the use of said poles and towers or fixtures or wires attached thereto or any structure on said premises; and the right of ingress and egress to and over the premises above referred to, and any of the adjoining lands of the parties of the first part, at any and all times, for the purpose of patroling the line, or repairing, renewing or adding to the number of said poles, towers, structures, fixtures and wires, and for doing anything necessary or useful or convenient for the enjoyment of the easement herein granted; also the privilege

28-2

TOGETHER with the rights, easements, privileges and appurtenances in or to said lands which may be required for the full enjoyment of the rights herein granted; provided, however, the said Kentucky and West Virginia

Power Company, Incorporated, its successors or assigns, shall further pay to $\frac{me}{us}$ or $\frac{my}{our}$ heirs or assigns, the sum of $\frac{m}{s}$ for each pole, and the sum of $\frac{m}{s}$ for each tower erected on said lands, hereinbefore described, from time to time, whenever and as soon as any poles or towers are erected thereon.

TO HAVE AND TO HOLD the same unto said party of the second part, its successors and assigns forever.

It is agreed that the foregoing is the entire contract between the parties hereto, and was fully understood before its execution, and there is no consideration for said contract except the consideration herein set forth, and that it is understood that the agent of the party of the second part securing this contract has no authority to contract for or to bind the party of the second part by any verbal representations or promise, and that this written agreement is complete in all its terms and provisions.

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	WITNESSETH That for and in consideration of the sum of One & 00/00 Dollars,
	That for and in consideration of the sum of <u>Une C</u> <u>100</u> Dollars, the receipt of which is hereby acknowledged, and other valuable considerations hereinafter set forth, the said
	parties of the first part hereby grant, bargain, sell, convey and warrant to the party of the second part, its suc-
	cessors and assigns, a right of way and easement with the right, privilege and authority to said party of the second part its successors, assigns, lessees, and tenants to construct, erect, operate and maintain a line for the purpose of
	transmitting electric or other power, in, on, along, over, through, or across the lands of the parties of the first
	cessors and assigns, a right of way and easement with the right, privilege and authority to said party of the second part its successors, assigns, lessees, and tenants to construct, erect, operate and maintain a line for the purpose of transmitting electric or other power, in, on, along, over, through, or across the lands of the parties of the first part situated in <u>MO</u> , <u>One</u> <u>MO</u> <u>fut</u> <u>For</u> <u>ial</u>
	District in the County of Aeslie in the State of Aulusly , and
	on or near the waters of Minder 7.K. Ty. Gure, and bounded:
	On the North by the lands of als. Morgan Herry. Clark Shurtow.
	On the East by the lands of M. F. Brashear
	On the South by the lands of Ir. J. Williamani
	On the West by the lands of W. J. Brashear
	e e e e e e e e e e e e e e e e e e e
28	
	81년 2017년 ¹⁹ 1 1917년 - 1917년 19
	Being an easement over the same property conveyed to grantor herein by MM Mellon
γ	uster Brune, by deed dated Nor. 20. 1937, and recorded in
	geolie County, Deed Book No. 40 Page, 412, Date June 29, 1938
	TOGETHER with the right to said party of the second part, its successors and assigns, to place, erect,
	maintain, inspect, add to the number of, and relocate at will, poles, towers, crossarms or fixtures, and string
	wires and cables, adding thereto from time to time, across, through or over the premises above referred to;
	to cut and at its option, remove from said premises or the premises of the parties of the first part adjoining the same on either side any trees, overhanging branches or other obstructions which may endanger the safety or
	interfere with the use of said poles and towers or fixtures or wires attached thereto or any structure on said
	premises; and the right of ingress and egress to and over the premises above referred to, and any of the ad- joining lands of the parties of the first part, at any and all times, for the purpose of patroling the line, or repair-

of removing at any time any or all of said improvements erected upon, over or on said land;

0.096

10.00

8.55

ing, renewing or adding to the number of said poles, towers, structures, fixtures and wires, and for doing anything necessary or useful or convenient for the enjoyment of the easement herein granted; also the privilege

(over)

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45-1

KPSC Case No. 2022-00118 Commission Staff's First Set of Data Requests Dated June 30, 2022 Item No. 16 Attachment 3 Page 2 of 2

			-
	TOGETHER with the rights, easements, privileges quired for the full enjoyment of the rights herein granted;	and appurtenances in or to said lands which may be re-	- To - T
	Power Company, Incorporated, its successors or assigns,		q
	sum of $\$$ for each pole, and the sum of hereinbefore described, from time to time, whenever and	of $\frac{1}{25.55}$ for each tower erected on said lands,	sered
	. It is agreed that the foregoing is the entire contract before its execution, and there is no consideration for sai	between the parties hereto, and was fully understood d contract except the consideration herein set forth, and	er C
	that it is understood that the agent of the party of the contract for or to bind the party of the second part by a ten agreement is complete in all its terms and provisions.		2 W 1
		part have hereunto set their hands and seals the day $1 - 1 - p$	Å
	Signed and Acknowledged in the presence of:	Rebelle Lewis (SEAL)	Ø
		(SEAL)	R
	to a sub-sector a	(SEAL)	E.
	(SEAL)	(SEAL)	2
	(SEAL)	(SEAL)	8
	STATE OF KENTUCKY,) 	
	country on Lealis	TO-WIT:—	oa
(CE	COUNTY OF CALLER,		4
1	I, Mailler, C. Degley, a Notary	-Public-(or County Clerk), in and for the County and	ma
Ê.	State aforesaid, hereby certify that the foregoing deed	of conveyance from T. D. Lewest	a
بسی ر" ا		Tentucky aller Virginia Poware dao, was	0
	this day produced to me in my said County and State,	$' \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow $	6
			× j
	and grantors , grantors	therein, to be their act and deed in due form of law.	24
	My confileion oxpices		19.
	Given under my hand and potarial-scal this_22	day of, 19_44.	in the second se
		Watter Blgley elester	X
9		Hotary Bublic (& County Clerk).	4
、	ADDBUTTERTATION	By Jal Morgan DB	à
	Lever the spectra		2
	AVAC A VECC	A. E. P. CO.	E
		ROANOKE REAL ESTATE OFFICE	C .
		Checked By	X
	a	Dite	é
		an An an	(
	Received For Record this_4	the day of areasent, 1941	and a
	Recorded in Deed Book_42_Page.	501	••
	State of Kentrucky this 28 day of	Ourgust 19 4 1	
	đ	Way - C- Bellen	
	A	Attest: Belle O.	C
		Thread I	45.7

F.





Koehler W-S Discovery Verification.doc

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E-Signature Summary

E-Signature 1: Nicolas C Koehler (NCK)

July 11, 2022 09:02:09 -8:00 [881B02D7EC0B] [167.239.221.104] nckoehler@aep.com (Principal) (Personally Known)

E-Signature Notary: Jennifer Young (JAY)

July 11, 2022 09:02:09 -8:00 [3D6D3030C1D5] [167.239.221.101] jayoung1@aep.com

I, Jennifer Young, did witness the participants named above electronically sign this document.



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VERIFICATION

The undersigned, Nicolas C. Koehler, being duly sworn, deposes and says he is the Director of Transmission Planning for American Electric Power Service Corporation, that he has personal knowledge of the matters set forth in the forgoing responses, and the information contained therein is true and correct to the best of his information, knowledge and belief after reasonable inquiry.

Nicolas C Koehler	819220/2005	
Signed on 2022/07/11 09:02:09 -8:00		

Nicol	las	С.	Koeh	ler

Commonwealth of Kentucky)

County of Boyd

Case No. 2022-00118

Subscribed and sworn to before me, a Notary Public in and before said County

and State, by Nicolas C. Koehler, on ____July 11, 2022_____

)

)

Notary Public

JENNIFER A. YOUNG ONLINE NOTARY PUBLIC STATE AT LARGE KENTUCKY Commission # KYNP31964 My Commission Expires Jun 21, 2025

Notarial act performed by audio-visual communication

My Commission Expires ____06/21/2025_____

Notary ID Number _____KYNP31964______

VERIFICATION

The undersigned, Emily S. Larson, being duly sworn, deposes and says she is the Manager of Transmission Line Siting for American Electric 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)

County of Boyd

Case No. 2022-00118

Subscribed and sworn to before me, a Notary Public, by Emily S. Larson this 11* day of July, 2022.

Scott 6. Bishop Notary Public

My Commission Expires June 24, 2025

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)

Notary ID Number <u>LXNP 32110</u>

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

VERIFICATION

The undersigned, Brian K. West, being duly sworn, deposes and says he is the Vice President, Regulatory & Finance for Kentucky Power Company, that he 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 his information, knowledge, and belief.

Brian K. West

Commonwealth of Kentucky

County of Boyd

Case No. 2022-00118

Subscribed and sworn before me, a Notary Public, by Brian K. West this 6th day of July, 2022.

F. Bishof

Notary Public

My Commission Expires June 24 2025

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Notary ID Number: KYNP 32 110

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