COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF KENTUCKY UTILITIES COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF TRANSMISSION FACILITIES IN HARDIN COUNTY, KENTUCKY	**)**	**CASE NO. 2022-00066**

REBUTTAL TESTIMONY OF ELIZABETH J. MCFARLAND VICE PRESIDENT - TRANSMISSION KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY

Filed: May 27, 2022

INTRODUCTION

Q. Please state your name, position, and business address.

A. My name is Elizabeth J. McFarland. I am Vice President of Transmission for Kentucky Utilities Company ("KU") and Louisville Gas and Electric Company ("LG&E") (collectively, the "Companies"), and an employee of LG&E and KU Services Company, which provides services to the Companies. My business address is 220 West Main Street, Louisville, Kentucky 40202. A complete statement of my education and work experience is attached to my March 31, 2022 Direct Testimony in this matter.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to rebut the intervenor testimony that Thomas Wade and Marty Marchaterre filed on behalf of Intervenor Wade Family Farm Management, LLC ("Wade") and to respond to the intervenor testimony that Allen Summers, Michael Billings, and Gunes Demirbas filed on behalf of Intervenors Frank and Martha Brown ("Brown"). The thrust of the Wade testimony is to criticize the Team Spatial Siting Study that was attached to KU's March 31, 2022 Application in an effort to avoid having a transmission line cross the Wade property at all. I will explain how the Wade criticisms of the Team Spatial Siting Study are misplaced or erroneous. The thrust of the Brown testimony is different than the Wade testimony. Instead of attempting to avoid their property altogether, the Browns have proposed a reasonable alternate route on their property. I will explain the suitability of that alternate route.

Q. Does any of the intervenor testimony question the need of the transmission facilities KU has proposed in this case?

A. No. To meet the electricity needs of Ford Motor Company's and SK Innovation's (collectively, "Ford") planned battery facilities, suppliers supporting the Ford facility,

and additional associated load growth in the area, KU has proposed the construction of two 345 kV lines (an eastern and a western line), two 138 kV lines, and two substations. These facilities are needed to serve our customers. The intervenor testimony does not dispute the need for the proposed facilities.[1] Therefore, the most basic question in any case for a Certificate of Public and Convenience and Necessity, i.e., is there a need for the project, is undisputed in testimony. Likewise, there is nothing in the intervenor testimony that disputes where the east 345 kV line will be located, where the two 138 kV lines will be located, or where the two substations will be located. Based on intervenor testimony, the *only* issue in dispute is *where* certain small portions of the western 345 kV line will be located.

THE WADE TESTIMONY

Q. Before summarizing and addressing the Wade testimony specifically, do you have any initial general comments about the Wade criticism of the Team Spatial Siting Study?

A. Yes. At my direction, Team Spatial performed the Team Spatial Siting Study, and, upon completion, my team and I reviewed it. I accepted the recommendations after carefully evaluating the data and methods used in the study. The study is robust, comprehensive, and data-driven and is based upon an established siting methodology previously approved by the Commission. It recommends the most reasonable least impactful transmission line routes in the built, natural, and engineering environments

[1] After the May 12, 2022 Wade intervenor testimony was filed, on May 23, 2022, Wade filed its responses to Staff's Information Request to Wade. In response to No. 1, Wade stated that "the need for two 345 kV lines has not been demonstrated." Certainly, KU disagrees with that and the record proves otherwise.

subject to the 500-foot centerline deviation authority KU has requested in this case. My rebuttal will address the Wade misunderstandings and criticisms of the study.

Q. Please summarize the Wade testimony.

A. Taken together, Thomas Wade's and Marty Marchaterre's testimony are a general criticism of the Team Spatial Siting Study and the process by which Team Spatial identified the optimal route for the western 345 kV line. Those criticisms include criticism of the Study Area itself, an alleged improper departure from the Kentucky Siting Model on which Team Spatial relied, complaints about the effects of avoiding the Wade pivot irrigation system, and an alleged lack of thoroughness of factors that should have been considered.

Q. Does the Wade testimony reflect a fundamental misunderstanding of the comprehensive nature of the Team Spatial Siting Study?

A. Yes. The Wade testimony (and particularly Mr. Marchaterre's) presents a fundamental misunderstanding of the methodical approach Team Spatial used to recommend a preferred route for the western 345 kV line. The Wades agree with and have no criticism of the methodology used to select the eastern 345 kV line[2] which does not cross the Wade property, yet they criticize the same methodology as applied to the western 345 kV line which is proposed to cross their property.

Q. Can you describe Team Spatial's methodology?

A. Yes. As I explained in my direct testimony, Team Spatial's methodology is summarized at page 7 of the Siting Study.[3] Team Spatial's model uses the Electric Power Research Institute's (EPRI) – GTC (Georgia Transmission Corporation) Siting

[2] Marchaterre testimony, p. 11.
[3] The methodology is also explained in KU's response to Brown 1-10.

Methodology and the Kentucky Siting Model. The model uses a "funnel" approach[4] whereby macro-corridors are first identified. Then alternate corridors are identified, followed by possible routes, and then, by using the Expert Judgment Model, a preferred route is identified.

The siting methodology considers the "Built Criteria" which means a consideration of where people live, work, and play by analyzing building density, building proximity, proposed development, spannable lakes and ponds, land use, and proximity to eligible historical and archaeological sites.[5] It also considers the "Natural Criteria" which means a consideration of rivers, streams, 100-year floodplain, land cover, and wildlife habitat.[6] It also considers the "Engineering Criteria," which includes an assessment of existing linear infrastructure (roads, railroads, and existing transmission lines), slope, and sinkholes.[7] By using Built Criteria, Natural Criteria, and Engineering Criteria, Team Spatial completed a robust and thorough assessment of all possible route alternatives for the 345 kV lines and identifies the best available routes for those lines upon which KU made its decision. This is the same methodology Team Spatial used in Case No. 2019-00417 in which the Commission approved a Big Rivers Electric Corporation transmission line in reliance on the Team Spatial study in that case.[8]

After all of that analysis, Team Spatial identified two final routes (Route A and Route D) for the western 345 kV line. Then Team Spatial applied the Expert Judgment

[4] Siting Study, p. 7.
[5] Siting Study, pp. 11-18.
[6] Siting Study, pp. 19-25.
[7] Siting Study, pp. 26-32.
[8] *In the Matter of: Electronic Application of Big Rivers Electric Corporation for a Certificate of Public Convenience and Necessity to Construct and Acquire a 345 kV Transmission Line in Meade County, Kentucky*, Case No. 2019-00417, May 1, 2020 Order, p. 6.

Model to identify the preferred route which is Route A. Mr. Marchaterre contends that Route D should have been chosen at this final stage. But that contention appears to be based on one fact – Route D would not cross the Wade property.

Although Route D was considered, its centerline is within 300 feet of some 14 residences.[9] Route A's centerline is within 300 feet of only 7 residences.[10] Under the Expert Judgment Model, Community Issues (such as proximity to residences) were heavily considered in deciding (a 30% weight) between Routes A and D for an obvious reason; proximity to residences is and should be highly significant. Route A has half the number of residences in close proximity to the centerline compared to Route D. That fact also means Route D is more susceptible to construction delay. Route D would have also required the actual purchase of two residences because of its proximity to those two residences. Although Route A is slightly more expensive, Route A crosses more farmland which makes it more accessible than Route D which crosses a more congested area. Thus, for all these reasons, the Siting Study appropriately identified Route A as the preferred route.[11]

Q. Do you disagree with other Wade criticisms of the Team Spatial Siting Study?

A. Yes. Mr. Marchaterre believes the Study Area is too small. I disagree. The identification of the Study Area is based on simple geographic proximity. The closest KU 345 kV line to the Glendale Megasite is the Brown North – Hardin County line. Any other 345 kV line, such as the Daviess County – Hardin County line, is further away and would thus be more expensive. Therefore, the Study Area was defined as

[9] Siting Study, p. 53.
[10] Siting Study, p. 53.
[11] Siting Study, pp. 60-61.

the entire area between the Brown North – Hardin County line and the Glendale Megasite that could reasonably accommodate the two 345 kV lines that are proposed without expensive lateral moves east and west that would produce cost-prohibitive results.

Those lateral moves would require tapping the Brown North – Hardin County line further to the east and Daviess County – Hardin County line further to the west. Because of the due easterly direction and due westerly direction of the Brown North – Hardin County line and Daviess County – Hardin County line, respectively, the incremental distance of taps further east and west would result in significantly longer diagonal distances to get south to the Glendale Megasite. This would mean greater cost, more affected land parcels, and ultimately a greater impact. Thus, the existing Study Area is appropriate, and with that sensibly defined Study Area, Team Spatial completed its process of identifying corridors, alternate corridors, alternate routes, and then the preferred routes.

Q. Do you agree that Team Spatial improperly "departed" from the Kentucky Siting model upon which Team Spatial relied?

A. No. In fact, I disagree that there was a "departure" at all. The Kentucky Siting Model uses "layers" that are given percentage weights in assessing alternate corridors. Layers are items such as: sinkholes and slope in the Engineering Environment; floodplain and wildlife habitat in the Natural Environment; and building density and proximity to eligible historic and archeological sites in the Built Environment.[12] The existing layers for a study area must add up to 100%. Therefore, if a layer does not exist in a study

[12] Siting Study, p. 8 (the lines shaded in green with percentage weights are layers used in developing the alternate corridors)

area, it is not considered, but the remaining layers that are present must be reweighted so the total is 100%. For example, there were no public lands in the Study Area. Thus, that layer of the Natural Environment was not assigned a weight and other layers in the Natural Environment were adjusted upward on a prorated basis.

There is nothing manipulative, results-oriented, or inappropriate about accounting for absent layers. Indeed, it should and must occur for the model to work. Simply stated, it would make no sense for the model to assign weight to a layer that does not exist. The results would be inappropriately skewed. Likewise, Team Spatial added a layer for sinkholes so that the presence or absence of sinkholes in a corridor could be factored into the process. The Siting Study provides complete transparency on this point by identifying the "sinkholes" as a layer and including the associated weighting percentage.[13] The relevant area is known to have Karst features, so it is appropriate to account for that in the modeling. Indeed, Mr. Marchaterre and Mr. Wade stress the importance of accounting for sinkholes in their testimony.[14] Therefore, criticism of KU and Team Spatial for allegedly "departing" from the Kentucky Siting Model by adding a layer for sinkholes in misplaced.

Q. Do you agree with Mr. Marchaterre that Team Spatial failed to account for the presence of cemeteries[15] in the Study Area?

A. No. In any study such as this, it is critical to consider the presence of cemeteries, and Team Spatial did so. In fact, cemeteries and church parcels are "Areas of Least Preference" in the Built Environment.[16] This means they are to be avoided. While it

[13] Siting Study, p. 8.
[14] Marchaterre testimony, p. 14; Thomas Wade testimony, p. 7.
[15] Marchaterre testimony, p. 9.
[16] Siting Study, p. 8.

is true that "Cemetery Parcels" is grayed out on page 8 of the Siting Study, that was only because the cemeteries in the Study Area are *church* cemeteries and were already included as Church Parcels, which is also an Area of Least Preference.

Three of the cemeteries Mr. Marchaterre identified are, by their own names, church cemeteries, and they were included as Church Parcels: Glendale Christian Church Cemetery; New Horizon Baptist Fellowship Church Cemetery; and Little Zion Baptist Church Cemetery. They were all modeled as an Area of Least Preference and thus avoided.[17] Mr. Marchaterre identified a fourth cemetery (the Monin Family Farm Cemetery with three graves) as being in the Study Area. In fact, it is not in the Study Area. It appears to be located near the intersection of Gilead Church Road and Monin Lane,[18] which is not in the Study Area.

Q. What is your reaction to the Wade testimony relating to the existing pivot irrigation system?

A. The Team Spatial Siting Study intentionally considers the presence of the Wade pivot irrigation system and avoids it. Mr. Marchaterre recognizes that fact and seems to agree with it. However, he then states "in [avoiding the irrigation system], they have created other issues related to the planned clear-cutting of a forest along the creek."[19] He and Mr. Wade then add much discussion about Civil War history, what might be in that forest in the way of "earthworks," and a discussion of the history of the Wade Family Farm and Maplehurst, which is a residence on the farm.

[17] Siting Study, p. 10, Figure 4, showing Places of Worship as Areas of Least Preference.
[18] https://www.findagrave.com/cemetery/2652566/monin-family-farm-cemetery
[19] Marchaterre testimony, p. 7.

The Wade position on this point illustrates perfectly their ultimate (and understandable) goal which is to avoid their property altogether. At this section of the route, it could either interfere with the pivot irrigation system or it could enter the nearby forest. Entering the forest is a much better option, but neither is acceptable to the Wades. This ignores the reality that the line must be built *somewhere* so that KU can meet its obligation to serve customers and meet the electricity needs for the greater good. KU understands and sympathizes with the Wades and all other landowners who are affected by this project and this is precisely why KU and Team Spatial worked diligently to propose routes that are as least impactful as possible. It is also one of the reasons why KU has proposed a 500-foot centerline deviation request as that would allow KU to account for landowner preferences if possible. Finally, I also note that the Wades and all other affected property owners will be fairly compensated as part of the easement acquisition process.

Q. Are there other criticisms in the Wade testimony you would like to address?

A. Yes. The Wade testimony has the following additional criticisms: (1) the Siting Study overprotects for snuffbox mussels because it modeled for all streams which includes intermittent streams that are not a suitable habitat for snuffbox mussels; (2) the Siting Study does not fully account for conservation areas; (3) the Siting Study does not use complete data for historic resources (including consideration of Maplehurst's inclusion on the National Register of Historic Places) and archeological sites; (4) the Siting Study does not use current roadway information; (5) KU is inconsistent on how the possible presence of underground storage tanks will be handled; and (6) a lack of clarity as to

whether Team Spatial contacted Hardin County planning and development officials for input data.

All of these criticisms are misplaced and they ignore the basic fact that KU used a reliable, comprehensive, and PSC-recognized model to determine the optimal routes for the 345 kV lines. No route will be beloved by affected property owners, but the best KU can do is to propose a reasonable route that is as least impactful as possible which it has done.

As for the snuffbox mussel criticism, if there is an overprotection for snuffbox mussels based on including all streams in the Siting Study, it would be slight and immaterial. On the issue of whether Team Spatial appropriately modeled conservation areas, it did so in conformance with the Kentucky Siting Methodology.[20]

The Siting Study uses the best available data for historic resources and archeological sites by using known eligible and listed data. Mr. Marchaterre agrees that Team Spatial used that data,[21] but claims Team Spatial did not go far enough because of the alleged *possibility* of other historic resources or archeological sites in the area.[22] KU knows of no historic resources or archeological sites that were not considered and Mr. Marchaterre, who clearly has extensive experience in the environmental assessment area, has not identified any either. With all due respect,

[20] Team Spatial's conservation research included: U.S. National Park Service, Kentucky State Parks, Kentucky State Park Resorts, Kentucky Department of Fish and Wildlife Resources, U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Refuge System, U.S. Forest Service Wilderness Areas, U.S. Forest Service, The Nature Conservancy, U.S. Army Corps of Engineers, Kentucky Nature Preserves Commission, Kentucky State Forests, University Lands, University Forests, Heritage Land Conservation Fund, and the National Resource Conservation Service. See the Kentucky Transmission Line Siting Methodology, p. 2-10 (https://www.epri.com/research/products/1016198)

[21] Marchaterre testimony, p. 8.

[22] KU does not agree with the conclusion that, because John Hunt Morgan was present in the general vicinity of Elizabethtown in December 1862, this transmission project should be halted for an extensive examination of nearby woods.

transmission lines (which will be used to serve the greater good) would never get built under the standard the Wade testimony would require.

On the issue of Maplehurst, first and foremost, the Siting Study considered Maplehurst and its inclusion in the National Register of Historic Places and avoided it.[23] The Wade testimony claims that the boundary of Maplehurst's inclusion in the National Register of Historic Places could get expanded which could affect line location. This is conjecture and not something than can be realistically modeled in transmission line siting as the modeling process would never reach conclusion.

On the issue of using current roadway data, Team Spatial used the most current and *enacted* highway plan from the Kentucky Transportation Cabinet which is dated May 2020.[24] Contrary to the suggestion in the Wade testimony, it would be imprudent to rely on any other plan that has not been enacted yet.[25] KU has not been inconsistent on how it will handle the presence of underground tanks. Team Spatial completed a desktop review, and if KU identifies one in field work that presents a constructability issue, KU will be able to address it using the 500-foot centerline deviation authority it has requested in this case. Finally, I can assure this Commission that, as part of its process, Team Spatial solicited and received development information from the Hardin County Planning and Development Commission and factored that information into its Siting Study.

Q. Do you have any final comments on the Wade testimony?

[23] Siting Study, p. 10 (figure 4).
[24] A link to that plan is https://transportation.ky.gov/Program-Management/Highway Plan/2020HighwayPlanAll.pdf.
[25] KU has reviewed the 2022 recommended plan and sees nothing in that plan that would affect its proposal in this case.

A. Yes. The Team Spatial Siting Study is robust, comprehensive, and data driven and it identifies the optimal route for the 345 kV lines. Therefore, the Commission should approve it. KU remains committed to working with the Wades and all other landowners in considering their routing preferences on their land to the extent possible.

THE BROWN TESTIMONY

Q. Please summarize the Brown testimony.

A. Taken together, the three pieces of Brown testimony from Mr. Summers, Mr. Billings, and Mr. Demirbas are fundamentally different than the Wade testimony.

Mr. Summers describes the Brown preference for an alternate route on the Brown property, described as "Alternative C," for the portion of the western 345 kV line crossing the Brown property. Mr. Billings describes the alleged negative effect that a line bisecting the Brown property would have on the potential for development of the Brown property. Mr. Demirbas opines that Alternative C is engineeringly feasible. Like the Wade testimony,[26] the Brown testimony does not dispute the need for KU's project. But unlike the Wade testimony which takes the position that the Wade property should be avoided altogether, the Brown testimony recommends Alternative C as the location for the line within the Brown property.

Q. Is the Brown Alternative C constructible and engineeringly feasible on the Brown property?

A. If the results of KU's ongoing geotechnical work for Alternative C do not present any problems that cannot be solved with reasonable effort and expense, then, yes, Brown

[26] Again, KU acknowledges Wade's post-testimony data response questioning whether the need for two 345 kV lines has been demonstrated.

Alternative C is constructible and engineeringly feasible on the Brown property.[27] Thus, KU will construct it assuming the Commission approves the requested 500-foot centerline deviation request.

Q. Does this mean KU is modifying its proposed route as set forth in the Team Spatial Siting Study?

A. No, there is no reason to modify the proposed route in this case. KU's proposed route is the optimal route. The Browns presented a minor modification to that route that is feasible and practical and within KU's request for the 500-foot centerline deviation. The Brown preference is a perfect example of why KU made the 500-foot request. It will allow KU to make a minor modification to the proposed route that will accommodate a workable landowner preference.

Q. Has KU informed the Browns that their Alternative C will be constructed subject to the geotechnical caveat expressed above?

A. Yes, through counsel, KU has done so.

Q. Does KU agree with everything in the Brown testimony?

A. No. At this time and subject to field study, KU agrees with Mr. Demirbas that Brown Alternative C is engineeringly feasible. However, KU does not agree with Mr. Billings' economic harm conclusions. Regardless of where the line crosses the Brown property, KU will fairly compensate them for the easement to be obtained. However, the issue of the cost of easements is not before the Commission. The fair market value of the easement will be decided in negotiations with landowners, and, if necessary, in

[27]Brown Alternative C is not confined to just the Brown property as it includes a change of location for contiguous property. KU will need to conduct additional geotechnical work on contiguous parcels and seek approval from the owners of those additional parcels.

the condemnation process. The issue of *where* the transmission lines should be located is before the Commission and KU will endeavor to construct the western 345 kV line as depicted in Brown Alternative C if the Commission grants the 500-foot centerline deviation requested and if field study supports it.

CONCLUSION

Q. What is your recommendation for the Commission?

A. I continue to recommend approval of the Certificate of Public Convenience and Necessity requested in this matter.

Q. Does this conclude your testimony?

A. Yes.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Elizabeth J. McFarland**, being duly sworn, deposes and says that she is Vice President, Transmission, for Kentucky Utilities Company, an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of her information, knowledge, and belief.

Elizabeth J. McFarland

Elizabeth J. McFarland

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 24th day of May 2022.

Notary Public

Notary Public ID No. 603967

My Commission Expires:

July 11, 2022