#### **COMMONWEALTH OF KENTUCKY**

# BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING

IN THE MATTER OF:

THE ELECTRONIC APPLICATION OF	)	
THOROUGHBRED SOLAR, LLC FOR A CERTIFICATE	)	
TO CONSTRUCT A 50 MEGAWATT MERCHANT	)	
SOLAR ELECTRIC GENERATING FACILITY IN	)	CASE NO. 2022-00115
HART COUNTY, KENTUCKY PURSUANT TO	)	
KRS 278.700, ET SEQ. AND 807 KAR 5:110, ET SEQ.	)	

# THOROUGHBRED SOLAR, LLC'S MOTION FOR DEVIATION FROM SETBACK REQUIREMENT

Comes now Thoroughbred Solar, LLC ("Thoroughbred" or "Applicant"), by counsel, and requests the Kentucky State Board on Electric Generation and Transmission Siting ("Board") grant a deviation from the setback requirements of KRS 278.706(2)(e) as allowed under KRS 278.704(4) for its proposed Thoroughbred Solar merchant solar electric generating facility ("the Project"). In support of this motion, Applicant states as follows:

# I. <u>STATUTORY AUTHORITY</u>

1. KRS 278.706(2)(e) establishes setback requirements for merchant generating facilities such as the Project by requiring that "all proposed structures or facilities used for generation of electricity [be] two thousand (2,000) feet from any residential neighborhood, school, hospital or nursing home facility." Because Hart County has no planning and zoning ordinances governing relevant setback requirements, these statutory setback requirements apply. KRS 278.704(4) authorizes the Board to grant a deviation from setback requirements to allow a shorter distance upon "a finding that the proposed facility is designed to and, as located, would meet the

goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716 at a distance closer than [statutorily prescribed]."

# II. <u>PROPERTIES WITHIN 2,000 FEET OF THE PROJECT</u>

2. **Exhibit A** to this Motion shows in blue a buffer distance of 2,000 feet from the Project Area. There are no schools, hospitals, or nursing homes within 2,000 feet of Applicant's proposed location of structures or facilities used for generating electricity.

3. KRS 278.700(6) defines "residential neighborhood" as "a populated area of five (5) or more acres containing at least one (1) residential structure per acre." There are three groupings of residences that arguably meet the statutory definition of "residential neighborhood" and are within 2,000 feet of Applicant's proposed location of structures or facilities used for the generation of electricity (e.g., the solar panels). These three groupings are as follows:

- <u>Residential Neighborhood 1</u> (shown in relation to the Project on **Exhibit B** to this Motion) is located to the east of the Project, along Maple Grove Lane, and consists of a portion of the unincorporated community of Rowletts. The boundary shown around Residential Neighborhood 1 encompasses approximately 11 acres and includes 24 residences. The nearest proposed structures or facilities used for the generation of electricity (specifically, solar panel arrays) are at least 311 feet from the closest residence in Residential Neighborhood 1 and at greater distances from most residences;
- <u>Residential Neighborhood 2</u> (shown in relation to the Project on **Exhibit C** to this Motion) is located farther east of Residential Neighborhood 1, separated from Residential Neighborhood 1 by existing infrastructure (a railroad and, for some of the residences, a state roadway). The boundary shown around Residential Neighborhood 2 encompasses approximately 6 acres and includes 9 residences. The nearest proposed structures or facilities used for the generation of electricity (specifically, solar panel arrays) are at least 960 feet from the closest residence in Residential Neighborhood 2 and at greater distances from most residence.
- <u>Residential Neighborhood 3</u> (shown in relation to the Project on **Exhibit D** to this Motion) is located near the Project, along G Wilson Road. The boundary shown around Residential Neighborhood 3 encompasses approximately 6 acres and includes 6 residential structures. The nearest proposed structures or facilities used for the generation of electricity (specifically, solar panel arrays) are at least 534 feet from the closest residence in Residential Neighborhood 3 and at greater distances from most residences.

4. The drawn boundaries circumscribe areas that may meet the KRS 278.700(6) criteria of "five (5) or more acres containing at least one (1) residential structure per acre"; however, boundaries that included all of the property associated with each residence might not meet those criteria.<sup>1</sup> In addition, each circumscribed area might not be considered to be a "populated area" within the meaning of KRS 278.700(6) or the areas might be disqualified from being a "residential neighborhood" by another factor (*e.g.*, the presence of a dividing railroad or road (as is particularly the case for Residential Neighborhood 2)).

5. Uncertainty about whether all or any combination of the three groupings are "residential neighborhoods" within the meaning of KRS 278.700(6) leads Applicant to request two alternative forms of relief in this Motion. Primarily, Applicant requests approval of a deviation from the requirement that "all proposed structures or facilities used for generation of electricity" be at least 2,000 feet "from any residential neighborhood . . ." In the alternative, Applicant requests a determination that no deviation is necessary because all or any combination of the three groupings are not a "residential neighborhood."

## III. <u>REQUEST FOR DEVIATION</u>

6. The Board should grant a deviation from the 2,000-foot setback requirement from residential neighborhoods because the Project "is designed to and, as located, would meet the goals of [the cited provisions in KRS Ch. 224 and 278] at a distance closer than those provided" by statute. KRS 278.704(4).

<sup>&</sup>lt;sup>1</sup> As an example, in Residential Neighborhood 3, the land ownership appears to extend more broadly than the "residential area" immediately surrounding each of the residences.

7. In the first 15 years of its history, the Board considered several requests for deviations from setback requirements.<sup>2</sup> Since 2020 when applications for construction certificates for solar facilities began to be filed, the Board has regularly considered and permitted deviations from the statutory setback requirements for merchant solar energy projects like the Project, subject to certain mitigation measures.<sup>3</sup>

8. To allow a deviation, the Board must make a finding that the proposed facility is designed to and, as located, would meet the goals of the designated statutes. KRS 278.704(4). Included in the listed statutes are the setback requirements themselves, *i.e.*, KRS 278.706(2)(e). In the *ecoPower* decision, Case No. 2009-00530, the Board stated regarding the similar setback requirements found in KRS 278.704(2), that they "were enacted to afford some level of protection for persons occupying a property adjacent to a property where a merchant generating plant is to be constructed and operated."<sup>4</sup> Therefore, "it is the effects of the planned facility on adjoining residents that the Siting Board must consider when determining whether to grant a deviation pursuant to KRS 278.704(4)."<sup>5</sup> By its express words, KRS 278.704(4) simply requires a showing

<sup>&</sup>lt;sup>2</sup> See Case No. 2002-00149, Application of Kentucky Mountain Power, LLC/Enviropower, LLC for a Merchant Power Plant Construction Certificate in Knott County, Kentucky near Talcum (Siting Board Sep. 5, 2002, Final Order); Case No. 2009-00530, Application of ecoPower Generation-Hazard, LLC for a Certificate to Construct and Operate a Merchant Electric Generating Facility and a 69kV Transmission Line in Perry County (Siting Board Apr. 22, 2010, Order denying deviation without prejudice and May 18, 2010 Final Order granting deviation request); Case No. 2014-00162, Application of SunCoke Energy South Shore, LLC for a Certificate to Construct a Merchant Electric Generating Facility and Non-Regulated Transmission Line (Siting Board Feb. 20, 2015 Final Order).

<sup>&</sup>lt;sup>3</sup> See Case No. 2020-00040, *Turkey Creek* (Order 9/23/2020); Case No. 2020-00043, *Glover Creek* (Order 9/23/2020); Case No. 2020-00190, *Horseshoe Bend* (Order 6/11/2021); Case No. 2020-00206, *AEUG Fleming* (Order 5/24/2021); Case No. 2020-00208, *Northern Bobwhite* (Order 6/18/2021); Case No. 2020-00280, *Ashwood Solar I, LLC* (Order 6/21/2021); Case No. 2020-00272, Flat Run Solar, LLC (Order 10/7/2021); Case No. 2021-00029, Martin County Solar Project, LLC (Order 11/15/2021); Case No. 2020-00226, Mt. Oliver Creek Solar, LLC (Order 11/3/2021); Case No. 2020-00370, Fleming Solar, LLC (Order 11/24/2021); and Case No. 2020-00244, Caldwell Solar, LLC (Order 4/8/2022).

<sup>&</sup>lt;sup>4</sup> Case No. 2009-00530, *ecoPower* (Siting Board 5/18/10 Order at 31).

<sup>&</sup>lt;sup>5</sup> *Id.* at 32 (referring to the 1,000-foot standard, which is inapplicable here).

that the goals of the statutes cited therein can be met with facilities at a distance less than what is statutorily provided in KRS 278.706(2)(e).

9. In the circumstances presented by this Project, the question is whether the statutory goals are met even though some structures or facilities used for generating electricity will be closer to a Residential Neighborhood than 2,000 feet. For the reasons set forth below, and as more completely detailed in Thoroughbred's Application for Merchant Electric Generating Facility Construction Certificate, filed on October 12, 2022, the answer is yes, and the requested deviation should be granted.

## IV. <u>COMPLIANCE WITH STATUTORY GOALS</u>

10. **KRS 224.10-280** requires submission of a Cumulative Environmental Assessment ("CEA") to the Kentucky Energy and Environment Cabinet ("Cabinet") before beginning construction of an electric power plant. Applicant included a copy of its CEA as part of its Application (Application Exhibit 12 at Attachment N) and also submitted it to the Cabinet on October 12, 2022. Applicant's CEA includes a discussion of potential impacts and mitigation plans for air pollutants, water pollutants, wastes, and water withdrawal, which are briefly discussed below. By submitting a CEA to the Cabinet, the goals of KRS 224.10-280 have been met. As examples of steps Applicant is taking to protect nearby property owners from any negative impacts from the Project, the elements of the CEA are briefly discussed as follows:

a. Regarding air pollutants, the CEA concludes that air quality impacts from construction would occur during daylight hours over the approximately 10-12 month construction period. However, anticipated emissions generated by construction are expected to be minor due to the scale and duration of operations, and no air permit is required for the Project. Temporary fugitive air pollutant emissions (dust and other suspended particulates) will be mitigated using Best Management Practices ("BMPs") so that ambient air quality standards will not be exceeded.

Any emissions from the operation of the Project would be generated by worker vehicles and maintenance equipment and would be negligible. By providing a zero-emissions source of energy for the region, the Project will yield an overall benefit to air quality at both the local and regional levels.

b. Regarding water pollutants, as discussed in more detail in the CEA and Application (Application Exhibit 12and Attachment N), no ponds or creeks are present within the Project boundary. Only one small wetland (0.25 acres) is present within the Project boundary. No resources on or directly adjacent to the site have been designated as Kentucky Special Waters by the Kentucky Division of Water ("DoW").

i. The Project will follow BMPs to limit surface water pollution from dust and sediment from erosion during construction. The Applicant will mitigate the effects of construction activities that may result in stormwater discharges through the use of such measures as silt fences and other BMPs. BMPs will also be used to minimize the spill risk of any hazardous materials (fuel, lubricants, fluids) related to construction that may potentially contaminate groundwater. Once construction is complete, locally-appropriate vegetation cover will be planted and safely maintained to stabilize disturbed soil.

ii. No Project roads or structures will be sited within mapped floodplains; therefore, risk of damage from a flood will remain unchanged.

iii. No impacts to Army Corps of Engineers jurisdictional waters are proposed by the Project.

iv. The Applicant will work with DoW to design and implement a storm water pollution prevention plan ("SWPPP") and comply with a DoW Construction Storm Water

Discharge General Permit. A preliminary stormwater report is provided in the Application as Attachment M to Exhibit 12.

v. Similarly, with respect to groundwater, any hazardous materials (including but not limited to fuel, lubricants, hydraulic fluids, herbicides, and fertilizers) will be limited to essential use only, be properly stored, and will be used following proper techniques. Proper maintenance of machinery, spill prevention protocols, and readily available spill kits will be used to reduce the risk of groundwater contamination.

vi. Because much of the current land use is dedicated to cultivated crops and pasture, which has the potential to introduce fertilizers, herbicides, and pesticides into the local water system, surface and/or ground water conditions may improve over the life of the Project by converting the land to solar energy use. The conversion of the Project area from agricultural land use to solar energy production likely will produce a net reduction in fertilizer, herbicide, and pesticide application to the land, and minor benefits to groundwater systems are also anticipated as a result.

c. Regarding wastes, Applicant's CEA notes that Project construction will generate small quantities of waste, including hazardous waste, during construction and operation. To avoid any on and off-site impacts, all waste will be stored, handled, and disposed of in accordance with local, state, and federal regulations. Applicant will develop a hazardous materials business plan to ensure materials are handled, used, and stored using BMPs, with resources and operating procedure guidelines in place in case of a spill. Waste materials will be monitored daily during construction to ensure proper handling and stored in containers most appropriate for each type of waste, acquired from certified waste disposal contractors. Solid construction wastes will

be recycled if possible, and non-recyclable solid materials will be removed from the Project site and disposed of at an appropriate facility.

d. Finally, regarding water withdrawal, construction and operation of Applicant's solar electric generating facilities are not anticipated to be water intensive. The Project plans to use either a new well developed within the Project Area or existing municipal water. In either case, water withdrawal for the Project is not expected to create negative effects on regional water resources.

11. **KRS 278.010** sets forth definitions to be used for KRS 278.010 to 278.450, 278.541 to 278.544, 278.546 to 278.5462, and 278.990 — none of which are directly applicable to Applicant or the Project. To the extent relevant,<sup>6</sup> Applicant has satisfied any goals of KRS 278.010 by preparing and presenting its Project proposal and Application in terms consistent with the statutory definitions.

12. **KRS 278.212** requires the filing of plans and specifications for electrical interconnection with merchant electric generating facilities and imposes the obligation upon a merchant electric generating developer for any costs or expenses associated with upgrading the existing electricity transmission grid as a result of the additional load caused by the merchant electric generating facility. Applicant anticipates having an executed interconnect agreement with East Kentucky Power Cooperative ("EKPC") in the first quarter of 2023 to connect to the existing transmission grid via an on-site tap and pay the related costs.<sup>7</sup> As designed and as located, Applicant's proposed Project therefore meets the goals of KRS 278.212.

<sup>&</sup>lt;sup>6</sup> As the first section in the chapter, KRS 278.010 may have been mistaken for a "purposes and goals" statement for Chapter 278. Or its inclusion in the KRS 278.704(4) list may have been to help discern the goals of the other Chapter 278 sections listed.

<sup>&</sup>lt;sup>7</sup> See Application Exhibit 9.

13. **KRS 278.214** governs the curtailment of service and establishes the progression of entities whose service may be interrupted or curtailed pursuant to an emergency or other event. To the extent this section applies to the operation of Applicant's proposed generation or the Project, Applicant commits to following all appropriate and legally binding operating procedures. The Project is thus designed and located to meet the goals of KRS 278.214.

14. **KRS 278.216** requires utilities under the jurisdiction of the Kentucky Public Service Commission ("PSC") to obtain a site compatibility certificate before beginning construction of an electric generating facility capable of generating more than 10 megawatts ("MW"). As with Siting Board certificates, applications for utility site compatibility certificates must include a site assessment report as specified in KRS 278.708(3) and (4) or show compliance with the National Environmental Policy Act. Applicant's filing of a Site Assessment Report (Application Exhibit 12 and Attachments A through Q thereto) as part of its Application in the present proceeding satisfies the goals of KRS 278.216.

15. **KRS 278.218** governs certain transfers of utility assets having an original book value of \$1 million or more. Applicant is not a utility as defined in KRS 278.010(3), and therefore this statute does not apply to Applicant. However, to the extent Board approval may at some time be required for change of ownership or control of assets owned by Applicant or its parent company, Applicant will comply with the applicable rules and regulations that govern its operation.

16. **KRS 278.700** – **KRS 278.716** governs the Siting Board's jurisdiction and process. Applicant's application and timely participation in the present proceeding demonstrates that the Project is designed to, and as located, would meet the goals of KRS 278.700 *et seq.*, including the allowance for deviation from setback requirements in KRS 278.704(4). Moreover, the mitigation measures discussed in the Application relative to noise, traffic, scenic views, and other impacts of

the proposed Project are additional steps Applicant has committed to take to minimize the effects of the Project on the potential Residential Neighborhoods discussed herein (as well as on the broader surrounding community).

#### V. <u>MITIGATION EFFORTS</u>

17. The Noise Report attached to the Applicant's Site Assessment Report (Application Exhibit 12, Attachment G) concludes that noise associated with the Project during operations will not exceed World Health Organization ("WHO") daytime or nighttime guidelines. The highest Project sound levels in the residential areas will be at least 9 dB below WHO guidelines (at 36 A-weighted decibels ("dBA")) during both daytime and nighttime operations. This is also well below sound levels produced by typical sources already existing in the Project area such as a vehicle idling at a distance of 50 feet or a lawnmower. (Application Exhibit 12, Attachment G at p. 15). Construction noise may increase above background sound levels and be audible at times, however it will be temporary (*Id.* at p. 11), and louder activities will be restricted to daytime hours. Sound levels from generation facilities at the Project are sufficiently low that the daytime-only output from the arrays and inverters closest to the residences in the three Residential Neighborhoods will fall below 45 dBA (the WHO nighttime guideline) before reaching a residence or any part of the grouping. (*Id.* at p. 9, Figure 2). As more fully reported in the Site Assessment Report and Noise Report:

a. Noise will be present on the Project site during construction; however, due to the size, construction sound will reach maximal levels presented in the report for short periods of times. In addition, the Applicant will only perform louder activities such piling and racking during daytime hours (Application Exhibit 12, Attachment G at p. 11).

b. Periodic noise associated with the solar panel tracking system will only occur during daytime operation. Except when being used for VAR control, the inverter sound will

be present only during daytime operation. As noted above, sound levels from Project equipment will be well below WHO daytime and nighttime guidelines. Given the equipment setbacks and anticipated levels of existing sound, noise associated with the Project will be appropriately mitigated. The noise produced by the inverters will fall below 45 dBA (the WHO nighttime guideline) inside of the proposed Project fencing in most cases, and well before all residential groups. (*See id.* at pp. 9-10, Figures 2-3.) The brief and intermittent sound from the tracking system motors will be low. The nighttime Project design goal sound threshold will not be exceeded under any operational conditions.

c. The substation transformer sound levels will be at or below 45 dBA within approximately 350 feet of the transformer. (*Id.* at p. 9). The nearest Residential Neighborhood is well over 3,000 feet away from the proposed substation. (*Id.*) Applicant commits to siting the substation at least 690 feet from any residence in the final layout.

d. Site visits and maintenance activities, such as mowing, will take place during daylight hours. (Application Exhibit 12 at p. 10.) The sound associated with these activities is very similar to that currently generated onsite by agricultural and offsite by commercial and agricultural uses. (*See id.*)

18. As discussed in Applicant's Site Assessment Report (Application Exhibit 12, Attachment I, Landscape and Lighting Plan), the visual impact of the Project on neighboring property owners is low and is mitigated by vegetative buffers and steps taken to minimize light pollution.

a. As set forth in Applicant's Landscape Screening Plan (Application Exhibit 12, Attachment I at Attachment A thereto), vegetative screening is planned to mitigate potential visual impacts to nearby properties. If a natural vegetation buffer is not already present between

the Project boundary and adjacent residential structures, one will be planted. The Screening Plan provides for robust areas of vegetation to minimize to the extent practicable views of the Project from surrounding properties. Existing natural screening will be retained and supplemented with planted vegetative buffers, including heavy vegetative screening along the perimeter of the Project in areas nearest the three Residential Neighborhoods.

b. A Glare Report (Application Exhibit 12, Attachment H) was prepared for the Project and found only very limited opportunity for glare during the course of a year, and at locations well more than 2,000 from any of the three Residential Neighborhoods. Therefore, no effect relative to glare will result from a deviation from the statutory setback.

c. Applicant will place security lighting at entrances that are down-lit; this lighting will be manually controlled and motion activated. In addition, lights at each inverter will be switch controlled for repair purposes, so that the lights will be on only when needed. (Application Exhibit 12, Attachment I, at p. 4.)

d. Given that adjacent property values are not anticipated to be impacted by the siting of the solar Project (Application Exhibit 12 at Attachment J, Property Value Impact Study), implementation of vegetative screening buffers, and compliance with all regulatory requirements, the Project is scenically compatible with its surroundings (Application Exhibit 12 at pp. 13-14).

19. As discussed in the Traffic Study included in the Applicant's Site Assessment Report (Application Exhibit 12, Attachment K), traffic will temporarily increase during the construction phase of the Project and any traffic effects during the operations phase will be negligible; neither is expected to adversely affect traffic function. Mitigation measures will be employed during construction to reduce the contribution of fugitive dust and other airborne

materials. (Application Exhibit 12 at pp. 17-20) These and other measures related to traffic will be employed by the Applicant to mitigate potential Project impacts.

20. Furthermore, the residents in all three Residential Neighborhoods will be provided 30 days' advance notice by Applicant about the construction plan, noise potential, and mitigation plans and to respond to noise-related complaints and work with complaining residents to reduce noise-related concerns.

21. In addition, Application has committed to placing panels, inverters, and the substation no closer to residences in each of the Residential Neighborhoods as follows:

Residential Neighborhood	Closest Distance to Solar Panel*	Closest Distance to Inverter*	Closest Distance to Project Substation*
1	311 feet	807 feet	3,438 feet
2	960 feet	1,439 feet	3,981 feet
3	534 feet	1,340 feet	4,048 feet

\*Other residences within each Residential Neighborhood would be at greater distances from these features.

# VI. <u>CONCLUSION</u>

The proposed mitigation measures will protect residents in the three residential groupings from any adverse impact that may result from the proposed Project being located closer than 2,000 feet. The Applicant will continue to work closely with property owners throughout the design phase of the Project and proposes to retain natural buffers and to implement mitigation measures to address any property owners' concerns.

WHEREFORE, because the proposed Facility is designed to and, as located, would meet the goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716, at a distance closer to the two residential groupings than 2,000 feet, the Applicant

respectfully requests a deviation from the setback requirements of KRS 278.706(2)(e). In the alternative, the Applicant respectfully requests a determination that no deviation is needed because one or more of the three groupings does not constitute a "residential neighborhood" within the meaning of KRS 278.700(6).

Respectfully submitted,

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- Nearby Residential Houses 0 Access Roads
- Array Trackers Proposed Fenceline
  - 2,000 Feet from Solar Panels
- Residential Neighborhoods Project Area

Proposed Substation

Proposed Switchyard

- 1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. 2. AERIAL IMAGERY SOURCE: KENTUCKY GEOGRAPHY NETWORK DATE 2021
- No schools, hospitals or nursing homes are located within 2,000 feet of the solar panels
  - 1.100 SCALE IN FEET

2,200



Exhibit A Facility Location With Residential Neighborhoods





SCALE IN FEET

Inverters





Nearby Residential Houses 0 Access Roads Array Trackers Proposed Fenceline

Inverters

Proposed Switchyard Residential Neighborhoods Project Area

Proposed Substation

#### NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. 2. AERIAL IMAGERY SOURCE: KENTUCKY GEOGRAPHY NETWORK DATE 2021

SCALE IN FEET

1,440



Exhibit C Facility Location With Residential Neighborhood Two





Nearby Residential Houses 0 Access Roads Array Trackers Proposed Fenceline

Inverters



Proposed Substation

#### NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. 2. AERIAL IMAGERY SOURCE: KENTUCKY GEOGRAPHY NETWORK DATE 2021

SCALE IN FEET

1,160



Exhibit D Facility Location With Residential Neighborhood Three

