

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION
AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF HUMMINGBIRD)	
ENERGY, LLC FOR A CERTIFICATE OF)	
CONSTRUCTION FOR AN APPROXIMATELY 200)	
MEGAWATT MERCHANT ELECTRIC SOLAR)	CASE NO.
GENERATING FACILITY AND NONREGULATED)	2022-00272
ELECTRIC TRANSMISSION LINE IN FLEMING)	
COUNTY, KENTUCKY PURSUANT TO KRS)	
278.700 AND 807 KAR 5:110)	

ORDER

On June 23, 2023, Hummingbird Energy, LLC (Hummingbird Energy) filed an application with the Kentucky State Board on Electric Generation and Transmission Siting (Siting Board) seeking a construction certificate to construct an approximately 200-megawatt, ground-mounted solar photovoltaic electric generating facility (Project) comprising of approximately 4,000 acres of land and an approximately 300 feet nonregulated transmission line in Fleming County, Kentucky.

There are no intervenors in this matter. Pursuant to a procedural schedule established on August 1, 2023, Hummingbird Energy responded to two rounds of discovery. A site visit was held on September 18, 2023. Siting Board consultant Harvey Economics (Harvey) filed its report (Harvey Report) on October 13, 2023. Hummingbird Energy submitted its response to the Harvey Report on October 20, 2023. A formal hearing was held on October 24, 2023. Hummingbird Energy filed a post-hearing brief.

Hummingbird Energy filed its responses to post hearing requests for information on November 14, 2023. The matter now stands submitted for a decision.

LEGAL STANDARD

The filing requirements and standard of review for requests to construct a merchant generating facility are set forth in KRS 278.700-.718.¹ KRS 278.704(1) requires that an application be filed and approved by the Siting Board before the construction of a merchant electric generating facility can commence. KRS 278.706 requires that the application include evidence of public notice and compliance with local planning and zoning ordinances.

KRS 278.708(2) requires Hummingbird Energy to prepare a site assessment report (SAR) that includes (1) a detailed description of the proposed site; (2) an evaluation of the compatibility of the facility with scenic surroundings; (3) potential changes in property values and land use resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the site; (4) evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; (5) the impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and any anticipated degradation of roads and lands in the vicinity of the facility; and (6) any mitigating measures suggested by Hummingbird Energy to minimize or avoid adverse effects identified in the SAR.

¹ On June 29, 2023, the Kentucky General Assembly enacted modifications to KRS 278.704–KRS 278.710. The modifications to the statutes were not made retroactive by the General Assembly, so this application is reviewed under the laws as June 23, 2023.

KRS 278.710(1) delineates the criteria on which the Siting Board will grant or deny the certificate, which includes (1) impact on scenic surroundings, property values, and surrounding roads; (2) anticipated noise levels during construction and operation of the facility; (3) economic impact on the region and state; (4) whether the proposed facility will meet all local planning and zoning requirements existing on the date the application was filed; (5) impact of the additional load on the reliability of jurisdictional utilities; (6) setback requirements; (7) efficacy of mitigation measures proposed by Hummingbird Energy; and (8) whether Hummingbird Energy has good environmental compliance history.

PROPOSED FACILITY

The Project will be located on 4,141 acres near Mt. Carmel, Fleming County, Kentucky. The Project will contain approximately 401,476² solar photovoltaic panels with associated ground-mounted racking, 53 inverters, and a substation transformer.³ The project will interconnect with an approximately 300-foot 138 kV nonregulated transmission line⁴ that will connect with an East Kentucky Power Cooperative (EKPC) switchyard.⁵

DISCUSSION AND FINDINGS

I. KRS 278.708: SAR Filing Requirements and Mitigation Measures

Mitigation Measures Proposed by Hummingbird Energy and Siting Board Consultant

As required by KRS 278.708(4), Hummingbird Energy proposed various mitigation measures consistent with the statutes regarding traffic, noise, roadway preservation,

² SAR, Exhibit I at 4.

³ Application, Exhibit H, SAR at 2.

⁴ SAR, Exhibit H, at 5.

⁵ Application, Exhibit H, SAR at 4.

permitting, setbacks, public safety, glare, and scenic preservation.⁶ In accordance with KRS 278.708(5), Harvey recommended mitigation measures in the following areas: site development planning; compatibility with scenic surroundings; noise levels during construction and operation; road traffic and degradation; economic impacts; decommissioning; public outreach; and complaint resolution programs.⁷ Hummingbird Energy generally agreed with the mitigation measures recommended by the Harvey Report, but stated it is important to ensure clear mitigation measures in the final Order because based upon the amendments to KRS 278.700-278.714, the Kentucky Energy and Environment Cabinet (EEC) will be enforcing the obligations instead of the Siting Board.⁸

The Siting Board has reviewed the mitigation measures proposed by Hummingbird Energy and in the Harvey Report, and finds that, in addition to those Hummingbird Energy initially proposed, the mitigation measures set forth in Appendix A and discussed throughout this Order are appropriate and reasonable because they achieve the statutory purpose of mitigating the adverse effects identified in the SAR and the Harvey Report in accordance with KRS 278.708.

Detailed Site Description

KRS 278.708(3)(a)(1–6) requires that the detailed site description in the SAR include a description of (1) surrounding land uses for residential, commercial, agricultural,

⁶ Application, Exhibit H, SAR 16.

⁷ Harvey Economics Review and Evaluation of Hummingbird Energy, LLC Site Assessment Report (Harvey Report) (filed October 12, 2023) at VI-2 – VI-8.

⁸ Applicant's Response to the Consultant's Report (filed Oct. 20, 2023) referencing the statutes promulgated by the General Assembly in June 2023.

and recreational purposes; (2) the legal boundaries of the proposed site; (3) proposed access control to the site; (4) the location of facility buildings, transmission lines, and other structures; (5) location and use of access ways, internal roads, and railways; and (6) existing or proposed utilities to service the facility.

Hummingbird Energy submitted the required SAR with its application.⁹ The SAR contained a preliminary site plan,¹⁰ which was updated during the pendency of the proceedings.¹¹ The site plan included participating parcels, existing roadways, transmission lines, gas pipelines, wetland features, and possible karst features. The site plan also contained proposed features of the project including the solar array, access roads, facility entrances, setbacks, inverters, fencing, project substation, switchyard, and maintenance facility, and battery energy storage system (BESS).¹² The legal boundaries of the proposed site are contained in the application and in maps of tax parcels.¹³ Hummingbird Energy holds the leases for all the property to be used in the project.¹⁴

An approximately seven-foot security fence meeting the National Electrical Safety Code (NESC) will enclose the site.¹⁵ All site entrances will be gated and locked outside of normal working hours and all the entrances will comply with applicable design

⁹ Application, Exhibit H, SAR.

¹⁰ Application, Exhibit A, C.200.

¹¹ See Hummingbird Energy's Response to Siting Board Staff's Third Request for Information (Staff's Third Request for Information) (filed Oct. 3, 2023) for a full conceptual layout as well as cross sections of the project.

¹² Application Exhibit A, C.200 and Response to Staffs Third Request.

¹³ SAR Exhibit C: Legal Property Description

¹⁴ Hummingbird Energy's Response to Siting Board Staff's Post-Hearing Request for Information (Staff's Post-Hearing Request), Item 5 (filed Nov. 14, 2023).

¹⁵ SAR at 5.

requirements for safe access and egress.¹⁶ Fixed lighting at the perimeter will be limited to gates and the substation area and will be motion-activated to minimize light spillage.¹⁷ Proposed vegetative screen plans were included with the SAR that were designed to limit the amount of tree clearing of already established plants.¹⁸

The leased project area is approximately 4,141 acres.¹⁹ However, only approximately 2,000 acres will be built upon.²⁰ The large discrepancy in the leased acreage and the acreage to be included in the project is due to the leases containing all of a landowners property on the lease even though only a small portion of that particular property is to be used for the project.²¹ The portions of the project with the solar arrays and various buildings are not contiguous with other portions of the project.²² However, Hummingbird Energy stated the project is contiguous because collection lines will run through the noncontiguous portions, because of easements and lease agreements, to ultimately connect all portions of the project.²³

The area has been used primarily for agricultural purposes. Acreage surrounding the Project site is largely agricultural with scattered residential properties. A total of 257

¹⁶ Harvey Report at II-2.

¹⁷ SAR at 3.

¹⁸ SAR, Exhibit G, Landscape Plan.

¹⁹ Harvey Report at III-1.

²⁰ Hearing Video Testimony (HVT) of the October 24, 2023 Hearing at 09:46:12 – 09:46:59.

²¹ HVT of the October 24, 2023 Hearing at 09:46:12–09:46:59.

²² See Response to Staff's Third Request.

²³ HVT of the October 24 2023 Hearing.

residential structures are located within 2,000 feet of the project's boundaries.²⁴ The large number of homes is due in part to the noncontiguous layout of the property. Two churches and three businesses are also located within 2,000 feet of the project boundary.²⁵

Having reviewed the record of this proceeding, the Siting Board finds that Hummingbird Energy has complied with the requirements for describing the facility and a site development plan as required by KRS 278.708. However, the Siting Board finds that it necessary to impose specific mitigation measures and requirements related to the description of the facility and the proposed site development plan. The Siting Board will require that Hummingbird Energy keep the Siting Board apprised of changes throughout the development of the Project and, as such, will order Hummingbird Energy to provide the final site plan before the commencement of construction. The final site plan should indicate and highlight any change, including those to the design and boundaries of the Project, from the proposed site plan provided to the Siting Board during the pendency of this matter. Furthermore, based on the findings and proposals of the Harvey Report, the Siting Board finds that additional mitigation measures are required. These mitigation measures are outlined in Appendix A to this Order and, in particular, mitigation measures 1 through 9.

Additionally, even though this application was filed prior to June 29, 2023, the Siting Board shall require Hummingbird Energy to comply with all the recently enacted requirements in KRS 278.710.²⁶ These requirements that will be monitored by the EEC

²⁴ Hummingbird Energy Motion for Deviation from Setback Requirements (filed July 12, 2023).

²⁵ Harvey Report at II-1.

²⁶ See KRS 278.710 for all of the post-construction monitoring requirements of the Kentucky Energy and Environment Cabinet.

and are related to decommissioning and continued compliance with all the mitigation measures in this order. However, the new requirements do not impose any additional burden on Hummingbird Energy. The Siting Board's conditional approval of the construction certificate includes compliance with all mitigation measures in Appendix A, many of which mirror the new requirements in KRS 278.710.

Compatibility with Scenic Surroundings

Hummingbird Energy indicated that the Project site is generally agricultural, with clusters of residential properties.²⁷ The view will be impacted primarily by solar panels on the site.²⁸ Hummingbird Energy has indicated that it will mitigate the visual impacts of the facility by utilizing the topography of the land and with the addition of vegetative buffers.²⁹ Harvey also reviewed the effect on the surroundings and concluded the facility would be compatible with the scenic surroundings by adding vegetative buffers and other proposed mitigation.³⁰

Having reviewed the record, the Siting Board finds that, while there will always be an impact on the scenery of neighboring properties, the impact of this Project will be minimal. The proposed vegetative buffer, along with other mitigation measures proposed by Hummingbird Energy and Harvey, will minimize the effect that the proposed facility will have on the scenic surroundings of the site. However, the Siting Board will require

²⁷ Harvey Report at II-3.

²⁸ Harvey Report at II-3.

²⁹ Harvey Report at II-3.

³⁰ Harvey Report at II-3.

mitigation measures in addition to those proposed by Hummingbird Energy. Those are set forth in Appendix A to this Order and, in particular mitigation measures 10 through 14.

Impact on Property Values

Hummingbird Energy submitted a property value impact report conducted by Kirkland Appraisals (Kirkland Report), a certified real estate appraiser.³¹ The Kirkland Report found that, based upon a comparative analysis the solar facility will have no impact on the property values of abutting or adjoining residential or agricultural properties.³² The report indicated that the solar facility would function in a harmonious manner with the nearby surroundings, which is mostly agricultural, and that operation of the solar facility would not generate the level of noise, odor, or traffic impacts to negatively impact the nearby surroundings as compared to a fossil fuel generating facility or other industrial facilities.³³

Harvey also evaluated the impact of the project on property values.³⁴ After reviewing additional research studies, Harvey spoke with the Fleming County Property Value Administrator (PVA).³⁵ The Fleming County PVA indicated that there is always concern about property value but there have been no specific statements regarding the project and property values. The Fleming County PVA also stated that property values

³¹ Application, Exhibit G at 2.

³² Application, Exhibit G at 2.

³³ Application, Exhibit G at 2 and 128.

³⁴ Harvey Report at II-4.

³⁵ Harvey Report at II-4.

in Fleming County are strong.³⁶ Harvey concluded that visual buffers would limit the effect of the project on surrounding property values.³⁷

Having reviewed the record, the Siting Board finds sufficient evidence to conclude that the proposed Hummingbird Energy facility will not have any significant adverse impact on nearby property values as long as proper mitigation measures are implemented. The characteristics of the solar facility's operations are passive, and the facility will be temporary, with the land returned to its natural state after a few decades of operation. The facility does not produce any air, noise, waste, or water pollution, nor does it create any traffic issues during operations.

Anticipated Noise Level

Hummingbird Energy's Noise Assessment was completed by Stantec.³⁸ Construction of the project will follow typical solar panel and electrical equipment installation. Typical construction equipment is expected to be used for site preparation and infrastructure installation and may include dump trucks, pile drivers, backhoes, dozers, and excavators.³⁹ Stantec used the Federal Highway Administration Roadway Construction Noise Model to evaluate noise generation during construction.⁴⁰ Stantec estimated maximum intermittent equipment noise levels during construction will occur during pile driving and is estimated to be 86.5 dBA.⁴¹ Stantec estimated maximum

³⁶ Harvey Report at II-4.

³⁷ Harvey Report at II-5.

³⁸ SAR, Exhibit D.

³⁹ SAR, Exhibit D at 4 and 5.

⁴⁰ SAR, Exhibit D at 4.

⁴¹ SAR, Exhibit D at 8.

equipment noise levels during construction without pile driving is estimated to be 64.2 dBA.⁴² Hummingbird Energy indicated that construction will typically occur from 7 a.m to 7 p.m.⁴³ Stantec stated that during project operations the estimated expected noise level to a receptor from an inverter is 12.2 dBA.⁴⁴

Harvey evaluated the noise study conducted by Stantec and concluded that the project's construction phase will produce the highest noise levels and that the noise generated from the operational phase of the project will produce below 50 dBA at the nearest noise receptor.⁴⁵

The Siting Board finds that noise from the construction phase will be intermittent and temporary but will be significant to the nearest residences. As indicated by both Stantec and Harvey, the noise will be loudest during the construction phase but will not be permanently damaging to nearby residents. The Siting Board further finds that the operational noise from inverters and the main transformer should have little-to-no effect on residences in the area.

Based on the case record, the Siting Board finds that Hummingbird Energy's application is in compliance with the statutory requirements in disclosing noise levels. However, the Siting Board further finds that based on the entire record, to ensure the impact of construction noise does not unduly impact nearby residents, Hummingbird Energy will be required to implement specific mitigation measures to ensure the impact

⁴² SAR, Exhibit D at 8.

⁴³ SAR, Exhibit D at 6.

⁴⁴ SAR, Exhibit D at 8.

⁴⁵ Harvey Report at II-5.

of construction noise does not unduly impact nearby residents. The mitigation measures implemented by the Siting Board are designed to limit the effects of construction noise by controlling the hours of construction in general, as well as the time and manner in which pile driving can occur. The Siting Board will require Hummingbird Energy to mitigate construction noise up to 1,000 feet to ensure the surrounding community is not negatively impacted by the construction noise. Hummingbird Energy may forego noise suppression if it employs a panel installation method that does not involve pile driving, so long as the method does not produce noise levels similar to pile driving. These mitigation measures are further outlined in Appendix A to this Order and, in particular, mitigation measures 15 through 17.

Impact on Roads, Railways, and Fugitive Dust

Construction is anticipated to take 18 months.⁴⁶ Given the disjointed nature of the site, many roads will be used to access the project: Kentucky-57 (Mt. Carmel Road), Kentucky-344 (Foxport Road), Kentucky-559 (Fox Spring/Wallingford Road), Kentucky-3301 (Beechtree Pike) Fleming County Road 1027 (Carpenter Road), Fleming County Road 1036 (Wilson Run Road), and Fleming County Road 1037 (Maddox Pike). Hummingbird Energy does not anticipate any change to the operational level of the surrounding roads during the construction phase of the project.⁴⁷

Harvey found there would be noticeable increases in traffic volumes on local roads during the construction phase.⁴⁸ This is partially due to the low amount of traffic on the

⁴⁶ Hummingbird Energy Response to Commission Staff's First Request for Information (Response to Staff's First Request) (filed Aug. 18, 2023), Item 49.

⁴⁷ SAR, Exhibit E at 8.

⁴⁸ Harvey Report at II-5.

local roads prior to construction, making any increase in traffic noticeable.⁴⁹ Harvey also indicated that construction activities may impede access for residents on some local roads in the project area.⁵⁰

During the operational phase of the project, a small maintenance crew will regularly travel through the area with pickup trucks.⁵¹ Little to no impact on traffic is expected during operations.⁵²

The Siting Board finds that traffic and road degradation issues can be addressed with Hummingbird Energy mitigation measures, the additional mitigation measures proposed by Harvey, and mitigation measures set forth in Appendix A to this Order and, in particular, mitigation measures 19 through 27.

The Siting Board anticipates some fugitive dust from the construction phase. Hummingbird Energy stated it will mitigate the dust from construction by covering soil piles and application of water as necessary.⁵³ Dust will not be a factor during the operations phase. The Siting Board requires additional mitigation measures to reduce any potentially harmful effects on the area, which are outlined in Appendix A to this Order. The Siting Board will require Hummingbird Energy to inform the Siting Board and EEC of the date construction will commence, 30 days prior, to ensure the proper permits have been obtained and whether proper steps have been taken to comply with the mitigation measures set forth in Appendix A to this Order.

⁴⁹ Harvey Report at II-5.

⁵⁰ Harvey Report at II-5.

⁵¹ SAR Exhibit E at 8.

⁵² SAR Exhibit E at 8.

⁵³ SAR at 10.

II. KRS 278.710(1) – Criteria

Economic Impact on Affected Region and the State

According to Hummingbird Energy's economic impact report from Mangum Economics, the total capitalized investment is estimated at \$245.4 million. Approximately \$87.8 million will be invested within the state of Kentucky, with 26 percent of this total going to Fleming County and the remainder going to vendors within the state.⁵⁴ This investment includes architecture, engineering, site preparation, and other development and construction costs.⁵⁵ The project is expected to generate significant positive economic and fiscal impacts to Fleming County. Such impacts include the creation of hundreds of construction jobs, expansion of the local tax base, and the benefits of having a long-term employer and corporate citizen in the region. The project will be conducted in two phases: a construction phase and an operation phase.⁵⁶

The Impact Analysis for Planning (IMPLAN) model focused on both Fleming County and the state of Kentucky as a whole.⁵⁷ During the project construction phase, Hummingbird Energy estimates that approximately 216 construction jobs will be created in Fleming County supporting a direct payroll of approximately \$6.5 million and an economic output of \$22.5 million.⁵⁸ The indirect and induced economic impacts are estimated to contribute another 52 jobs, with an additional \$1.8 million in payroll and

⁵⁴ Application, Exhibit F at 16.

⁵⁵ Application, Exhibit F at 16. The balance of the total construction cost (approximately \$157.6 million) is to be spent on capital equipment and associated costs from vendors outside Fleming County and Kentucky.

⁵⁶ Application, Exhibit F at 2.

⁵⁷ Application, Exhibit F at 16.

⁵⁸ Application, Exhibit F at 16.

\$7.7 million in economic output.⁵⁹ The total construction phase economic impact is estimated to be 268 total jobs supporting a new payroll of \$8.2 million and economic output of \$30.2 million.⁶⁰ In addition, the above economic activity is estimated to generate \$1.7 million in state and local tax revenue.⁶¹

For the state of Kentucky the anticipated direct economic impact from the construction phase is the creation of approximately 638 construction jobs supporting a payroll of \$31.2 million and an economic output of \$87.8 million.⁶² The indirect and induced economic impacts are estimated to contribute another 302 jobs supporting an additional \$14.3 million in payroll and \$49.0 million in economic output.⁶³ The total construction phase economic impact is estimated to be 940 total jobs supporting a new payroll of \$45.6 million and economic output of \$136.8 million.⁶⁴ In addition, the above economic activity is estimated to generate \$6.8 million in state and local tax revenues.⁶⁵

The ongoing economic impact from the project's operational phase is estimated to be very small relative to the one-time impacts from the construction phase. For Fleming County alone, the ongoing operational phase of the project is expected to directly support four jobs with a total payroll of \$96,496 and an economic impact of \$357,943.⁶⁶ The

⁵⁹ Application, Exhibit F at 17 and Table 1 at 17.

⁶⁰ Application, Exhibit F at 16-17 and Table 1 at 17.

⁶¹ Application, Exhibit F at 16.

⁶² Application, Exhibit F at 17.

⁶³ Application, Exhibit F Table 2 at 17.

⁶⁴ Application, Exhibit F at 17.

⁶⁵ Application, Exhibit F Table 2 at 17.

⁶⁶ Application, Exhibit F at 18.

indirect and induced economic activity from the operational phase is expected to support four jobs, with a total payroll of \$138,353 and an economic output of \$557,091.⁶⁷ The total economic activity from the operational phase is expected to support eight jobs, with a combined payroll of \$234,849 and an economic output of \$915,034.⁶⁸

For the state of Kentucky, the ongoing operational phase of the project is expected to directly support four jobs with a total payroll of \$96,496 and an economic impact of \$357,943.⁶⁹ The indirect and induced economic activity from the operational phase is expected to support five jobs, with a total payroll of \$180,086 and an economic output of \$693,667.⁷⁰ The total economic activity from the operational phase is expected to support nine jobs in total, with a combined payroll of \$276,582 and an economic output of \$1.1 million.⁷¹

Hummingbird Energy and Fleming County are pursuing the negotiation of an Industrial Revenue Bond (IRB) and a Payment in Lieu of Taxes (PILOT) Agreement, but nothing has been finalized.⁷² Without an IRB and PILOT in place, Fleming County is expected to receive \$150,299 per year for 40 years for a cumulative total of \$6.0 million in local real estate tax revenue.⁷³ These values factor in both taxes to the land itself and improvements to the land because of the Project. Fleming County is additionally

⁶⁷ Application, Exhibit F at 18 and Table 3 at 18.

⁶⁸ Application, Exhibit F at 18.

⁶⁹ Application, Exhibit F.

⁷⁰ Application, Exhibit F at 19 and Table 4 at 19.

⁷¹ Application, Exhibit F at 19.

⁷² Staff's First Request, Item 87.

⁷³ Application, Exhibit F at 20-21 and Table 5 at 22.

expected to receive a total of \$4.1 million over the 40-year life of the project in Personal Property Tax revenue.⁷⁴

The state of Kentucky is expected to receive \$19,654 per year for 40 years for a cumulative total of approximately \$0.8 million in state real estate tax revenue.⁷⁵ These values factor in both taxes to the land itself and improvements to the land because of the Project. The state of Kentucky is expected to receive a total of \$5.0 million over the 40-year life of the project in machinery property tax revenue.⁷⁶ Additionally, the state of Kentucky is expected to receive a total of \$2.0 million over the 40-year life of the project in Personal Property Tax revenue.⁷⁷

Harvey Economics conducted a review of Hummingbird Energy's Economic Impact Study. Based upon its review and analysis, Harvey Economics concluded that the project would provide significant positive economic effects to the region and Commonwealth during the construction phase. The operational phase would provide much smaller positive effects.⁷⁸

Having reviewed the record, the Siting Board finds that the Hummingbird Energy facility will have a net positive economic impact on the region.

Existence of Other Generating Facilities

⁷⁴ Application, Exhibit F at 23 and Table 6 at 24-25.

⁷⁵ Application, Exhibit F at 21 and Table 5 at 22.

⁷⁶ Application, Exhibit F at 26 and Table 7 at 26.

⁷⁷ Application, Exhibit F at 23 and Table 6 at 24-25.

⁷⁸ Harvey Report at II-6.

Hummingbird Energy indicated that there are no existing facilities near the proposed site that generate electricity.⁷⁹ Hummingbird Energy stated that the Project was sited in a location with proximity to existing transmission infrastructure,⁸⁰ and that the Project will tap into an existing EKPC 138 kV transmission line.⁸¹

Local Planning and Zoning Requirements

Fleming County does not have planning and zoning and has not enacted any zoning ordinances or setback requirements.⁸² The statutory requirements of KRS 278.706(2)(e) apply unless a deviation is applied for and granted by the Siting Board. KRS 278.706(2)(e) requires that all proposed structures or facilities used for generation of electricity must be 2,000 feet from any residential neighborhood, school, hospital, or nursing home facility. The project will be closer than that to residences, but there are no schools, hospitals, or nursing homes within 2,000 feet.⁸³

Impact on Transmission System

The project is located within the territory of the PJM Interconnection LLC (PJM). Hummingbird Energy filed an application with PJM to interconnect with the EKPC Goddard to Plumville 138 kV transmission line.⁸⁴ The gen-tie will be approximately 300 feet in length and will be located entirely within the project's footprint.⁸⁵ EKPC will be

⁷⁹ Application at 11.

⁸⁰ Application at 11.

⁸¹ Application at 11.

⁸² Application at 7.

⁸³ Application at 7.

⁸⁴ Application at 6.

⁸⁵ Application at 6.

responsible for any transmission equipment, other than the gen-tie, located on the project's switchyard.⁸⁶

Initially the project was submitted to PJM for interconnection as two projects because of the substantial number of parcels and the project layout.⁸⁷ PJM has completed two system impact studies for the separate portions of the project.⁸⁸ Hummingbird Energy has now requested the two requests for interconnection be combined for one project.⁸⁹ PJM still must complete a facilities study for the project, and it is not expected until mid-2024.⁹⁰

Based upon the case record, the Siting Board finds that Hummingbird Energy has satisfied the requirements of KRS 278.710(f) and that the additional load imposed upon the electricity transmission system by the generation of electricity at the Hummingbird Energy facility will not adversely affect the reliability of service for retail customers of electric utilities regulated by the Kentucky Public Service Commission. This finding is based upon Hummingbird Energy's commitment to the interconnection process and protocols consistent with the requirements of KRS 278.212.

Hummingbird Energy also filed an application for a nonregulated transmission line pursuant to KRS 278.714. Hummingbird Energy stated the nonregulated transmission line will be approximately 300 feet and will run from the project's substation to a planned

⁸⁶ Application at 6.

⁸⁷ HVT of the October 24, 2023 Hearing at 11:59:09.

⁸⁸ See Application, Exhibit D and Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 8 for the full PJM studies.

⁸⁹ Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 10.

⁹⁰ HVT of the October 24, 2023 Hearing at 11:26:40.

EKPC switchyard.⁹¹ The nonregulated transmission line will have a voltage of 138 kV and will have a right of way of 100 feet.⁹² The right of way will all be in one parcel of property.⁹³ The transmission line and appurtenances will be constructed and maintained in accordance with the NESC.⁹⁴ The transmission line will be approximately 1,300 feet from the nearest participating residential structure and 738 feet from the nearest nonparticipating residential structure.⁹⁵ The transmission line will be within one mile of a residential neighborhood, but there are no nearby schools or parks.⁹⁶

Based upon the case record, the Siting Board finds Hummingbird Energy's application for a construction certificate for a nonregulated transmission line should be approved. The transmission line is minimal in length and is contained within the project's boundaries. The transmission line will have minimal effects on the scenic surroundings and Hummingbird Energy has stated it will abide by the NESC in the construction and operation of the transmission line.

Compliance with Setback Requirements

There are no applicable setbacks established by Fleming County for the project. KRS 278.706(2)(e) requires that all proposed structures or facilities used for electric generation be at least 2,000 feet from any residential neighborhood, school, hospital, or

⁹¹ Application at 3.

⁹² Application at 3.

⁹³ Application at 3.

⁹⁴ Application at 3.

⁹⁵ Application at 3.

⁹⁶ Application at 3.

nursing home facility.⁹⁷ KRS 278.704(4) authorizes the Siting Board to grant a deviation from the setback requirements in KRS 278.706(2)(e) if requested.⁹⁸ Hummingbird Energy has requested a deviation from the setback requirements in KRS 278.706(2)(e).⁹⁹ Hummingbird Energy stated there are five residential neighborhoods within 2,000 feet of the project's boundaries.¹⁰⁰

Of the five residential neighborhoods, the Beech Springs neighborhood is the closest.¹⁰¹ The projects fencing is proposed to be 304 feet from the closest residence in the Beech Springs neighborhood.¹⁰² The closest solar panel is proposed to be 350 feet from the closest residence in the Beech Springs neighborhood.¹⁰³ The Mount Caramel and Dalesburg neighborhoods are the closest to the project's inverters.¹⁰⁴ The closest inverter is 1,529 feet from the closest home in the Mount Caramel neighborhood and 1,715 feet from the closest home in the Dalesburg neighborhood.¹⁰⁵ All neighborhoods are over 3,500 feet from the projects substation and battery storage area.¹⁰⁶

⁹⁷ KRS 278.706(2)(e).

⁹⁸ KRS 278.704(4).

⁹⁹ Hummingbird Energy's Motion for Deviation from Setback Requirements (Motion for Deviation) (filed Jul. 12, 2023).

¹⁰⁰ Motion for Deviation at 2.

¹⁰¹ Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 7.

¹⁰² Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 7.

¹⁰³ Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 7.

¹⁰⁴ Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 7.

¹⁰⁵ Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 7.

¹⁰⁶ Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 7.

The Siting Board finds given the totality of the mitigation measures proposed by Hummingbird Energy, the natures of the surrounding property, and the mitigation measures the Siting Board has imposed in Appendix A, the statutory purposes are met by the project. The Siting Board grants a deviation from this requirement as to residences and residential neighborhoods as set forth in Appendix A to this Order. Exceptions to these setback requirements for participating landowners, and easement holders, are included in Appendix A, mitigation measure 18.

History of Environmental Compliance

In the application, Hummingbird Energy stated that neither it, nor anyone with an ownership interest in it, has violated any environmental laws, rules or administrative regulations that resulted in criminal confiscation, or a fine greater than \$5,000.¹⁰⁷ Further Hummingbird Energy is not the subject of any pending judicial or administrative actions.¹⁰⁸

Transfer of Ownership

Solar developments are often sold to other companies during the planning, construction, and operation of projects. When a construction certificate for a solar facility is sought, the project and the developers are thoroughly evaluated to ensure that the project will comply with all statutory and regulatory requirements. After review, the construction certificate is conditionally granted on the condition of full compliance with all mitigation measures, some of which continue into the operation of the project. As noted in the preceding section, the Siting Board not only reviews the history and abilities of the

¹⁰⁷ Application at 12 and Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 4.

¹⁰⁸ Application at 12.

Person¹⁰⁹ seeking the certificate, but also the entities that have an ownership interest in the Project. Here, the applicant has no resources or employees of its own, and instead depends on the resources and employees of affiliates or entities with an ownership interest in it. Recurrent Energy Development Holdings, LLC will employ the persons responsible for compliance with the construction certificate during construction and the persons responsible for the continued compliance during operations.¹¹⁰ Without Recurrent Energy Development Holdings, LLC, Hummingbird Energy would not have the managerial, technical, or financial capability necessary to construct or operate the facility, nor to comply with the conditions required herein. As such, the Siting Board will require approval of the transfer of ownership or control of Hummingbird Energy, the Person seeking and being granted, with conditions, the construction certificate in this matter. Without knowledge of who is providing the resources and employees to Hummingbird Energy to ensure ongoing compliance with the measures required herein, there is no way to ensure the requirements are adhered to throughout the life of the Project. To be clear, this condition does not apply to the actual transfer of the facility, but rather the transfer of ownership or control of the Person holding the certificate to construct. The measures related to the transfer of ownership or control of the Person holding the construction certificate are set forth more fully in Appendix A, mitigation measure 28.

Decommissioning

¹⁰⁹ KRS 278.700(3) defines a person as any individual, corporation, public corporation, political subdivision, governmental agency, municipality, partnership, cooperative association, trust, estate, two (2) or more persons having a joint or common interest, or any other entity.

¹¹⁰ Hummingbird Energy's Response to Staff's Post-Hearing Request, Item 1.

Hummingbird Energy submitted a decommissioning plan with the application.¹¹¹ The decommissioning plan and the applicable property leases contain covenants to remove all underground components.¹¹² Hummingbird Energy indicated it will secure a bond to assure financial performance of the decommissioning obligation.¹¹³

The Siting Board finds that Hummingbird Energy must return the land to its original use, to the extent possible, at the end of the Project's life. Returning the land back to its original state and use after decades of operation is an important part of the Siting Board's finding regarding the impact of the facilities on scenic surroundings, property values, and the economy. The relatively "temporary" nature of the facilities compared to other types of more permanent development, such as thermal merchant generation facilities, industrial operations, or housing, is a prime consideration of the Siting Board in granting a certificate, with conditions, in this matter. An inability or unwillingness to return the land back to its prior state after the life of the facility, including leaving underground facilities in excess of three feet, increases the permanence of the facility. As such, the Siting Board requires the removal of all components above and below ground. Removal of all underground components and regrading or recompacting the soil for agricultural use will mitigate any damage to the land, thus returning the land to a state that provides at least as great of an economic impact as it does today. The Siting Board will also require additional mitigation measures related to decommissioning, which are outlined in Appendix A to this Order, mitigation measures 29 through 31.

¹¹¹ Application, Exhibit I.

¹¹² Application, Exhibit I at 2-3 and Hummingbird Energy's Response to Staff's First Request, Item 1, Attachments 1 of 2 and 2 of 2.

¹¹³ Application, Exhibit I at 12.

CONCLUSION

After carefully considering the criteria outlined in KRS Chapter 278, the Siting Board finds that Hummingbird Energy has presented sufficient evidence to support the issuance of a construction certificate to construct the proposed merchant solar facility and nonregulated electric transmission line. The Siting Board conditions its approval upon full implementing all mitigation measures and other requirements described herein and listed in Appendix A to the Order. A map showing the proposed transmission line is attached to this Order as Appendix B.

IT IS THEREFORE ORDERED that:

1. Hummingbird Energy's application for a construction certificate to construct an approximately 200-MW merchant solar electric generating facility in Fleming County, Kentucky, and an approximately 300-foot nonregulated electric transmission line in Fleming County is conditionally granted subject to full compliance with the mitigation measures and conditions prescribed in Appendix A to this Order.
2. Hummingbird Energy's motion for deviation from the setback requirements in KRS 278.704(2) is granted. Hummingbird Energy shall comply with the setbacks prescribed in the mitigation measures in Appendix A to this Order.
3. Hummingbird Energy shall fully comply with the mitigation measures and conditions prescribed in Appendix A to this Order.
4. In the event mitigation measures within the body of this Order conflict with those prescribed in Appendix A to this Order, the measures in Appendix A shall control.
5. This case is closed and removed from the Siting Board's docket.

KENTUCKY STATE BOARD ON ELECTRIC
GENERATION AND TRANSMISSION SITING



Chairman, Public Service Commission



Vice Chairman, Public Service Commission



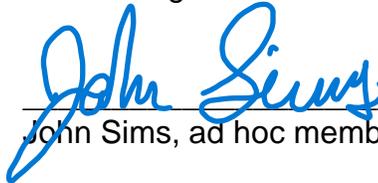
Commissioner, Public Service Commission



Secretary, Energy and Environment Cabinet,
or her designee



Secretary, Cabinet for Economic Development,
or his designee



John Sims, ad hoc member

ATTEST:



Executive Director
Public Service Commission
on behalf of the Kentucky State
Board on Electric Generation
and Transmission Siting



APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE COMMISSION IN CASE NO. 2022-000272 DATED DEC 13 2023

MITIGATION MEASURES AND CONDITIONS IMPOSED

The following mitigation measures and conditions are hereby imposed on Hummingbird Energy, LLC (Hummingbird Energy) to ensure that the facilities proposed in this proceeding are constructed as ordered.

1. A final site layout plan shall be submitted to the Siting Board upon completion of the final site design. Deviations from the preliminary site layout should be clearly indicated on the revised graphic. Those changes could include, but are not limited to, location of solar panels, inverters, transformers, substation, operation and maintenance building, transmission line route, or other Project facilities and infrastructure.

2. Any change in the Project boundaries from the information that formed this evaluation shall be submitted to the Siting Board for review.

3. The Siting Board will determine whether any deviation in the boundaries or site layout plan is likely to create a materially different pattern or magnitude of impacts.

4. Hummingbird Energy shall provide the date construction will commence to the Siting Board and the Kentucky Energy and Environment Cabinet (EEC) 30 days prior to that date.

5. Hummingbird Energy shall comply with all requirements in KRS 278.710 for monitoring by EEC.

6. Prior to construction, Hummingbird Energy shall provide a finalized Emergency Response Plan to the local fire district, first responders, and any County Emergency Management Agency. Hummingbird Energy shall provide site specific

training for local emergency responders at their request. Access for fire and emergency units shall be set up after consultation with local authorities.

7. Hummingbird Energy or its contractor will control access to the site during construction and operation. All construction entrances will be gated and locked when not in use.

8. Hummingbird Energy access control strategy shall also include appropriate signage to warn potential trespassers. Hummingbird Energy must ensure that all site entrances and boundaries have adequate signage, particularly in locations visible to the public, local residents, and business owners.

9. The security fence must be installed prior to activation of any electrical installation work in accordance with NESC standards. The substation shall have its own separate security fence and locked access installed in accordance with NESC standards.

10. Existing vegetation between solar arrays and nearby roadways and homes shall be left in place to the extent feasible to help minimize visual impacts and screen the Project from nearby homeowners and travelers. Hummingbird Energy will not remove any existing vegetation except to the extent it must remove such vegetation for the construction and operation of Project components.

11. Hummingbird Energy shall implement planting of native evergreen species as a visual buffer to mitigate visual viewshed impacts, in areas where those viewshed impacts occur from residences or roadways directly adjacent to the Project and there is not adequate existing vegetation. If it is not adequate, then vegetation ten feet thick reaching six feet at maturity (in four years) will be added by Hummingbird Energy between Project infrastructure and residences, or other occupied structures, with a line of sight to

the facility to the reasonable satisfaction of the affected adjacent property owners. Planting of vegetative buffers may be done over the construction period; however, Hummingbird Energy should prioritize vegetative planting at all periods of construction to reduce viewshed impacts. All planting shall be done prior to the operation of the facility.

12. Hummingbird Energy shall cultivate at least two acres of native, pollinator friendly species on-site.

13. Hummingbird Energy shall carry out visual screening consistent with the plan proposed in its application, SAR, and the maps included, and ensure that the proposed new vegetative buffers are successfully established and developed as expected over time. Should vegetation used as buffers die over time, Hummingbird Energy shall replace plantings as necessary.

14. To the extent that an affected adjacent property owner indicates to Hummingbird Energy that a visual buffer is not necessary, Hummingbird Energy will obtain that property owner's written consent and submit such consent in writing to the Siting Board.

15. Hummingbird Energy is required to limit construction activity, process, and deliveries to the hours between 8 a.m. and 6 p.m. local time, Monday through Saturday. The Siting Board directs that construction activities that create a higher level of noise, such as pile-driving, will be limited to 9 a.m. to 5 p.m. local time, Monday through Friday. Non-noise causing and non-construction activities can take place on the site between 7 a.m. and 10 p.m. local time, Monday through Sunday, including field visits, arrival, departure, planning, meetings, mowing, surveying, etc.

16. If the pile-driving activity occurs within 1,500 feet of a noise-sensitive receptor, Hummingbird Energy shall implement a construction method that will suppress the noise generated during the pile-driving process (i.e., semi-tractor and canvas method, sound blankets on fencing surrounding the solar site, or any other comparable method). Hummingbird Energy can forego using noise suppression measures if it employs a panel installation method that does not use pile driving, so long as that method does not create noise levels similar to pile driving.

17. Hummingbird Energy shall notify residents and businesses within 2,400 feet of the project boundary about the construction plan, the noise potential, any mitigation plans, and its Complaint Resolution Program referred to in Item 34 of this Appendix, at least one month prior to the start of construction.

18. Hummingbird Energy shall place panels, inverters, and substation equipment consistent with the distances to noise receptors to which it has committed in its maps and site plans. The Siting Board approves Hummingbird Energy's proposed setback from residences of 300 feet from any panel or string inverter. The Siting Board also approves a distance of 300 feet between any solar panel or string inverter and any residential neighborhood and 100 feet from any exterior property line. Nevertheless, Hummingbird Energy shall not place solar panels or string inverters, if used, closer than 150 feet from a residence, church, or school, 25 feet from non-participating adjoining parcels, or 50 feet from adjacent roadways. Hummingbird Energy shall not place a central inverter, and if used, energy storage systems, closer than 450 feet from any adjacent residences, church, or school. These further setbacks shall not be required for residences owned by landowners involved in the Project that explicitly agree to lesser

setbacks and have done so in writing. All agreements by participating landowners to lesser setbacks must include language advising the participating landowners of the setbacks otherwise required herein. All agreements by participating landowners to lesser setbacks must be filed with the Siting Board prior to commencement of the Project.

19. Hummingbird Energy shall fix or pay for repairs for damage to roads and bridges resulting from any vehicle transport to the site. For damage resulting from vehicle transport in accordance with all permits, those permits will control.

20. Hummingbird Energy shall comply with all laws and regulations regarding the use of roadways.

21. Hummingbird Energy shall implement ridesharing between construction workers when feasible, use appropriate traffic controls, or allow flexible working hours outside of peak hours to minimize any potential traffic delays during AM and PM peak hours.

22. Hummingbird Energy shall consult with the Kentucky Transportation Cabinet (KYTC) regarding truck and other construction traffic and obtain necessary permits from the KYTC.

23. Hummingbird Energy shall consult with the Fleming County Road Department (FCRD) regarding truck and other construction traffic and obtain any necessary permits from the FCRD.

24. Hummingbird Energy shall develop special plans and obtain necessary permits before transporting heavy loads, especially the substation transformer, onto state or county roads.

25. Hummingbird Energy shall comply with any road use agreement executed with FCRD. Such an agreement might include special considerations for overweight loads, routes utilized by heavy trucks, road weight limits, and bridge weight limits.

26. Hummingbird Energy shall develop and implement a traffic management plan to minimize the impact on traffic flow and keep traffic safe. Any such traffic management plan shall also identify any traffic-related noise concerns during the construction phase and develop measures that would address those noise concerns.

27. Hummingbird Energy shall properly maintain construction equipment and follow best management practices related to fugitive dust throughout the construction process, including the use of water trucks. Dust impacts shall be kept at a minimal level. The Siting Board requires Hummingbird Energy's compliance with 401 KAR 63:010.

28. If any Person as defined by KRS 278.700(3) shall acquire or transfer ownership of, or control, or the right to control Hummingbird Energy, by sale of assets, transfer of stock, or otherwise, or abandon the same, Hummingbird Energy or its successors or assigns shall request explicit approval from the Siting Board with notice of the request provided to the Fleming County Fiscal Court. In any application requesting such abandonment, sale, or change of control, Hummingbird Energy and any proposed entity with an ownership interest in Hummingbird Energy shall certify its compliance with KRS 278.710(1)(i).

29. As applicable to individual lease agreements, Hummingbird Energy, its successors, or assigns will abide by the specific land restoration commitments agreed to by individual property owners, as described in each executed lease agreement.

30. Hummingbird Energy shall file a complete and explicit decommissioning plan with the Siting Board. This plan shall commit Hummingbird Energy to remove all facility components, above ground and below ground, regardless of depth, from the Project site. Upon its completion, this plan shall be filed with the Siting Board or its successors. The decommissioning plan shall be completed at least one month before the construction of the Project.

31. Hummingbird Energy shall file a bond with the Fleming County Fiscal Court, equal to the amount necessary to effectuate the explicit or formal decommissioning plan naming Fleming County as a third-party obligee (or secondary, in addition to individual landowners) beneficiary, in addition to the lessors of the subject property insofar as the leases contain a decommissioning bonding requirement so that Fleming County will have the authority to draw upon the bond to effectuate the decommissioning plan. For land with no bonding requirement otherwise, Fleming County shall be the primary beneficiary of the decommissioning bond for that portion of the Project. The bond shall be filed with the Fleming County Treasurer or with a bank, title company, or financial institution reasonably acceptable to the county. The acceptance of the county of allowing the filing the bond with an entity other than the Fiscal Court, through the Henderson County Treasurer, can be evidenced by a letter from the Fleming County Judge-Executive, the Fleming County Fiscal Court, or the Fleming County Attorney. The bond(s) shall be in place at the time of commencement of operation of the Project. The bond amount shall be reviewed every five years at Hummingbird Energy's expense to determine and update the cost of removal amount. This review shall be conducted by an individual or firm with experience or expertise in the costs of removal or decommissioning of electric generating

facilities. Certification of this review shall be provided to the Siting Board or its successors and the Fleming County Fiscal Court. Such certificate shall be by letter and shall include the current amount of the anticipated bond and any change in the costs of removal or decommissioning.

32. Hummingbird Energy or its assigns shall provide notice to the Siting Board, if, during any two-year (730 days) period, it replaces more than 20 percent of its facilities. Hummingbird Energy shall commit to removing the debris and replaced facility components from the Project site and from Fleming County upon replacement. If the replaced components are properly disposed of at a permitted facility, they do not have to be physically removed from Fleming County. However, if the replaced facility components remain in the County, Hummingbird Energy must inform the Siting Board of the location where the components are being disposed.

33. Any disposal or recycling of Project equipment, during operations or decommissioning, shall be done in accordance with applicable laws and requirements.

34. Hummingbird Energy shall initiate and maintain the Complaint Resolution Program provided to the Siting Board in the case record to address any complaints from community members. Hummingbird Energy shall also submit annually a status report associated with its Complaint Resolution Program, providing, among other things, the individual complaints, how Hummingbird Energy addressed those complaints, and the ultimate resolution of those complaints identifying whether the resolution was to the complainant's satisfaction.

35. Hummingbird Energy shall provide the Fleming County Planning & Development Commission contact information for individuals within the company that can

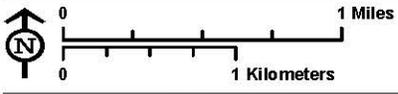
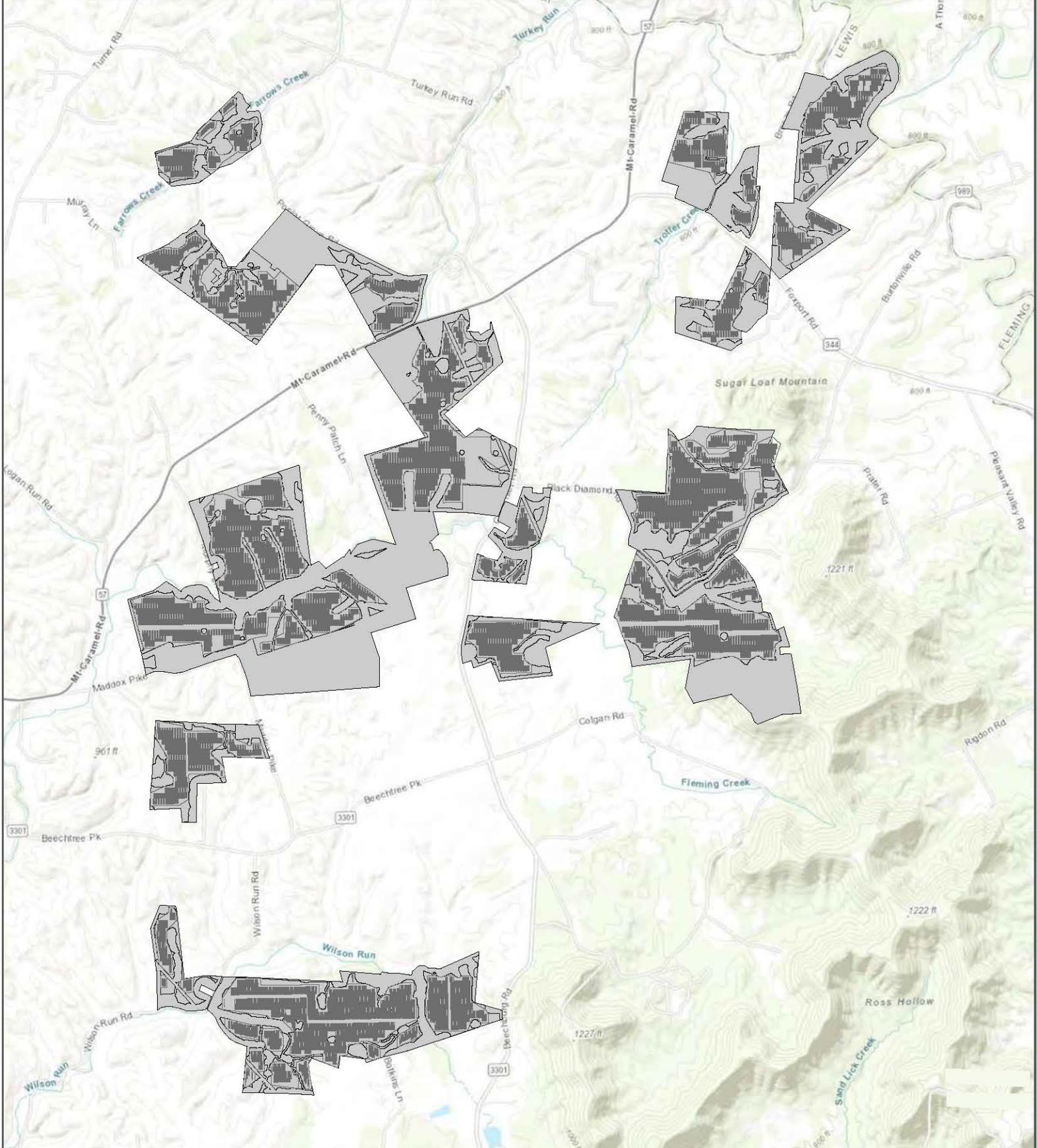
be contacted with concerns. This shall include contact information for the general public to reach individuals that can address their concerns. Hummingbird Energy shall update this contact information yearly, or within 30 days of any change in contact information.

36. Within 30 days of entry, Hummingbird Energy shall send a copy of this Order to all the adjoining landowners who previously were required to receive notice of this Project.

APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2022-00272 DATED DEC 13 2023

ONE PAGE TO FOLLOW



7.5' Quadrangles:
 Cynthia, KY (1984)
 Shady Nook, KY (1984)
 Shawhan, KY (1984)
 Millersburg, KY (1984)

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1-2: Preliminary Project Layout Map

Visual Resource Assessment for the Hummingbird Solar Project

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