

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION
AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF RHUDES)	
CREEK SOLAR, LLC FOR A CERTIFICATE OF)	
CONSTRUCTION FOR AN APPROXIMATELY)	
100 MEGAWATT MERCHANT ELECTRIC SOLAR)	
GENERATING FACILITY AND A RELATED)	CASE NO.
138 KV NONREGULATED ELECTRIC)	2021-00127
TRANSMISSION LINE APPROXIMATELY 1 1/2)	
MILES IN LENGTH IN HARDIN COUNTY,)	
KENTUCKY PURSUANT TO KRS 278.700 AND)	
807 KAR 5:110)	

ORDER

On September 7, 2021, Rhudes Creek Solar LLC (Rhudes Creek Solar) filed an application with the Kentucky State Board on Electric Generation and Transmission Siting (Siting Board) seeking a Construction Certificate to construct an approximately 100-megawatt ground mounted solar photovoltaic electric generating facility (Project) comprising approximately 1,072 acres of land in Hardin County, Kentucky, located approximately seven miles southwest of Elizabethtown, Kentucky. On September 7, 2021, Rhudes Creek Solar also filed an application to construct an overhead 138 kV nonregulated electric transmission line¹ that will span approximately 1.5 miles along a 100-foot-wide easement to connect the Project to Louisville Gas & Electric Company

¹ KRS 278.700(5) defines a nonregulated electric transmission line as an electric transmission line and related appurtenances for which no certificate of public convenience and necessity is required, is not operated an activity regulated by the Public Service Commission and is capable of operating at or above 69 kV.

(LG&E) and Kentucky Utilities Company's (KU) (collectively, LG&E/KU) transmission network.

There are no intervenors in this matter. There were public comments filed in advance of the hearing, after the hearing, and made during the hearing. Pursuant to a procedural schedule established on October 4, 2021, Rhudes Creek Solar responded to two rounds of discovery. A site visit was held on November 18, 2021. Siting Board consultant, BBC Research & Consulting (BBC) filed its report on December 17, 2021 (BBC Report).² Rhudes Creek Solar submitted its response to the BBC Report on January 4, 2022. A local public hearing as provided in KRS 278.712(1), was held on January 10, 2022, in Hardin County, Kentucky. A formal hearing was held on January 13, 2022. Rhudes Creek Solar filed its responses to post-hearing requests for information on January 21, 2022, and supplemented those responses on February 11, 2022. 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. KRS 278.704(1) requires that an application be filed with 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 Rhudes Creek Solar to prepare a site assessment report (SAR) that includes (1) a detailed description of the proposed site; (2) an evaluation

² BBC Corrected Site Assessment Review Report (filed Dec. 20, 2021).

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 proposed by Rhudes Creek Solar to minimize or avoid adverse effects identified in the SAR.

KRS 278.710(1) delineates the criteria on which the Siting Board will grant or deny the certificate, which include (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 Rhudes Creek Solar; and (8) whether the Applicant has a good environmental compliance history.

The filing requirements and standard of review for requests to construct a nonregulated electric transmission line are set forth in KRS 278.714. In accordance with KRS 278.714(2), an application to construct a nonregulated electric transmission line must be filed that includes evidence of public notice and specific information as to location and a full description of the line and its requirements.

KRS 278.714(3) delineates the criteria on which the Siting Board will grant or deny

a construction certificate for a nonregulated electric transmission line, which include a determination that the route will have minimal impact on the Commonwealth's scenic assets, that the line will be built and maintained in accordance with all applicable laws and regulations, and an evaluation of the interstate benefit, if any, that results from the construction of the nonregulated electric transmission line.

PROPOSED FACILITY

The Project will be located on 1,072 acres in Hardin County, Kentucky. The Project will contain approximately 729 acres of panels with associated ground-mounted racking, 26 inverters, and a project substation transformer. The substation and a main transformer will connect to a new switchyard located on the existing LG&E/KU Black Branch transmission line. The nonregulated electric transmission line will span approximately 1.5 miles along a 100-foot wide transmission easement on three properties; the transmission right-of-way has been secured by lease option agreements with the property owners. There are a total of 14 H-frame structures with galvanized steel poles designed for the gen-tie. The structures will carry a 138 kV overhead transmission line.³ The power generated will be sold under a power purchase agreement with LG&E/KU.⁴

DISCUSSION AND FINDINGS

I. KRS 278.708: SAR Filing Requirements and Mitigation Measures

Mitigation Measures Proposed by Rhudes Creek Solar and Siting Board Consultant

³ Transmission Line Application at 3.

⁴ Generation Application at 13.

As required by KRS 278.708(4), Rhudes Creek Solar proposed various mitigation measures consistent with the statutes regarding traffic, noise, roadway preservation, permitting, setbacks, public safety, karst and water protection, and scenic preservation.

In accordance with KRS 278.708(5), BBC recommended mitigation measures in the following areas: site development plan; compatibility with scenic surroundings; potential changes to property value and land use; peak and average noise levels; road and rail traffic, dust, and road degradation; economic impacts; decommissioning; public outreach and communication; and complaint resolution. A majority of the mitigation measures recommended by the BBC Report are consistent with the proposed mitigation measures by Rhudes Creek Solar.

Rhudes Creek Solar agreed with all but one of the proposed mitigation measures of the Siting Board consultant.⁵ The BBC Report recommended that Rhudes Creek Solar prioritize vegetative screening before any construction begins. Rhudes Creek Solar indicated that flexibility on planting would be advisable because the project construction will be spread over the site at different times. Rhudes Creek Solar argued that the planting could be done when a particular section of the Project was being constructed. Rhudes Creek Solar also argued that seasonal weather could impact planting conditions.⁶ Rhudes Creek indicated vegetative screening could be completed for each section before construction began in that area.⁷

⁵ Rhudes Creek Solar's Response to the Consultant's Report (Response to Consultant) (filed Jan. 4, 2022) at 1–2.

⁶ *Id.* at 2.

⁷ Hearing Video Testimony (HVT) of the Jan. 13, 2022 Hearing at 15:03:20–15:04:24.

The Siting Board has reviewed the mitigation measures proposed by Rhudes Creek Solar and BBC, and finds that, in addition to those Rhudes Creek Solar 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 site assessment report and its consultant's 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, 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.

Rhudes Creek Solar submitted the required SAR with its application. The SAR contained detailed site maps that included roadways, railways, project boundaries, property lines, overhead electric lines, dwellings, and hydrological features of the site.⁸ Also included in the SAR were plans detailing the proposed locations for the facility buildings, transmission lines, solar arrays, equipment pads, substation, vegetation, and staging areas for each of the proposed phases of construction.⁹ The legal boundaries of

⁸ SAR, Attachment 1(a).

⁹ *Id.*, Attachment 1(b).

the proposed site are contained in deeds and depicted on the American Land Title Association (ALTA) Survey.¹⁰

A security fence meeting the National Electrical Safety Code (NESC) requirements will enclose the facility and its entrance gates will be secured to allow for emergency and maintenance access.¹¹ The project will require a minor amount of electricity during operation.¹² Rhudes Creek Solar anticipates the water supply for construction to be sourced on site and supplemented by Hardin County Water District 2. No water or wastewater services will be required during operation.¹³

The surrounding area is primarily rural agricultural land, with 62 percent agricultural, 30 percent mixed agricultural/residential land, and 8 percent residential.¹⁴ Ten occupied residences are within 500 feet of the nearest planned solar equipment.¹⁵

The surrounding area does not have significant archaeological features. However, the United States Army Corps of Engineers determined that the Project may affect the Indiana Bat or the Northern Long-eared Bat.¹⁶ Rhudes Creek Solar agreed to mitigate impacts by contributing to the Imperiled Bat Contribution Fund and limiting tree clearing.¹⁷

¹⁰ *Id.*, Attachments 9 and 18.

¹¹ BBC Report (filed Dec. 20, 2021), Section B at 2.

¹² *Id.*

¹³ Rhudes Creek Solar, LLC, Responses to Siting Board Staff's Second Request for Information (Response to Staff's Second Request) (filed Dec. 7, 2021), Item 4.

¹⁴ SAR, Attachment 6 at 6.

¹⁵ BBC Report, Section B at 2.

¹⁶ SAR at 15.

¹⁷ *Id.*

BBC reviewed and evaluated the SAR. BBC stated that Rhudes Creek Solar generally complied with the statutory requirements for describing the facility and a site development plan including the location of buildings, transmission lines, and other structures as required by KRS 278.708.¹⁸

Having reviewed the record of this proceeding, the Siting Board finds that Rhudes Creek Solar 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 it necessary to impose certain mitigation measures and requirements related to the description of the facility and the proposed site development plan. Specifically, the Siting Board will require Rhudes Creek Solar to keep the Siting Board apprised of changes throughout the development of the Project, and as such will order Rhudes Creek Solar to provide the final site plan before the commencement of construction. The final site plan should clearly 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. Additionally, based on the concerns and proposals of the BBC Report, the Siting Board further 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 7.

Compatibility with Scenic Surroundings

Rhudes Creek Solar stated that it considered the visual impact during the planning and development of the facility.¹⁹ Landscaping plans include mitigation measures to

¹⁸ BBC Report, Section B at 8.

¹⁹ Generation Application at 4; and SAR at 6.

shield the Project from view. Rhudes Creek Solar asserted that the layout of the vegetative screening and the location of the solar generating facility portion of the Project relative to the road indicate the cone of vision will not include a view of the bulk of the project.²⁰ The transmission line towers will be 80 feet high, and thus cannot be shielded by vegetation or the lay of the land, but the number of towers and the location will create minimal effect.²¹ BBC found the Project to be compatible with the additional vegetative screening.²² The BBC Report agreed that the proposed route of the nonregulated electric transmission line will not have a significant adverse impact to the scenic assets of Kentucky.²³ Rhudes Creek Solar stated that it will construct and maintain the line according to all applicable legal requirements.²⁴

Based upon the case record, the Siting Board finds that Rhudes Creek Solar's application, including its plans and its agreement to comply with the mitigation measures set forth in the Siting Board consultant's report, is in compliance with statutory requirements.²⁵ The Siting Board also finds that the proposed nonregulated transmission line would not have a significant adverse impact on the scenic assets of Kentucky. However, the Siting Board finds that Rhudes Creek Solar shall implement certain mitigation measures to ensure that the Project will be compatible with its surroundings to the extent practicable. These mitigation measures are set forth in Appendix A to this

²⁰ SAR at 6; and BBC Report, Section C at 16–19.

²¹ BBC Report, Section C at 18 and 26.

²² *Id.*, Section C at 26.

²³ *Id.*, Section B at 3.

²⁴ Transmission Application at 5; and Generation Application at 6.

²⁵ Other than the one measure previously mentioned which appears to now be agreed.

Order, and in particular, mitigation measures 8 through 12.

Impact on Property Values

Rhudes Creek Solar submitted a property value impact report from Kirkland Appraisals (Kirkland Report), a certified real estate appraiser. The Kirkland Report found that, based upon a comparative analysis, the solar facility will have no impact on the property values of abutting or adjacent residential or agricultural properties.²⁶ The Kirkland Report indicated that the solar facility would function harmoniously 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.

The BBC report noted that the central issue regarding the Project's impact on property values is whether, and to what extent, the development and operation of the Rhudes Creek Solar facility will cause nearby property values to change. The BBC Report reviewed the Kirkland Report, noting that the report contained matched pair analysis and a comparative study analyzing data from numerous solar facilities across the country of property values in proximity to such facilities. One study, conducted by the LBJ School of Public Affairs at the University of Texas in 2018, involved a survey of public sector property appraisers in 430 counties with commercial solar facilities. This study found that a majority of survey respondents estimated a value impact of zero and geospatial analysis showed that relatively few homes would be impacted.²⁷ Another study, conducted in 2020

²⁶ See SAR, Attachment 6.

²⁷ BBC Report, Section C at 30.

by economists at the University of Rhode Island, found that, in areas of high population density, houses within a one-mile radius depreciate by about 1.7 percent following the construction of a solar array.²⁸ The BBC Report found this study to be the most robust because it covered a wide and diverse geographical area and observed multiple home sale transactions over a long period of time pre- and post- development. This study found no statistically significant impact on home prices in rural settings such as the majority of areas surrounding the proposed Rhudes Creek Solar facility. BBC based its evaluation of the effect of the Project on property values upon multiple sources. BBC reviewed the SAR, the discovery responses, and independent research; BBC considered other evaluations of similarly situated rural environments by different appraisers in recent cases before the Siting Board in Kentucky; and collected information based on the practical observation made during the site visit. BBC concluded that the Project would be unlikely to have measurable impacts on the values of most adjacent properties.²⁹

Subsequent to the hearing a public comment was filed including a report of a property appraiser, Mary McClinton Clay (Clay Report).³⁰ The Clay Report was submitted at a time in the process that did not allow for BBC or Rhudes Creek Solar to review it, or for the Siting Board to subject it to cross examination. In a recent case the Siting Board had the opportunity to evaluate a similar report from Ms. Clay filed in response to an application from Sebree Solar, LLC for a certificate from the Siting Board. The Siting Board concluded in that case, as did its consultant in that case, that it could be presumed,

²⁸ *Id.*, Section C at 31.

²⁹ *Id.*, Section B at 4.

³⁰ Public Comment of Trina Martin (filed Feb. 15, 2022) including *A Summary of Solar Energy Generation Power Systems Damage Studies as of January 1, 2022*, by Mary McClinton Clay.

based on the practical observation and the multiple studies done by the applicants of other solar projects in Kentucky, situated in similar rural environments, that the impact on property values is negligible and that the report from Ms. Clay did not alter that conclusion in light of multiple shortcomings identified in that Order.³¹

BBC concluded in its report that, given that the Project area is predominantly rural and the Project's proposed vegetative buffers will help conceal the physical view of the Project from nearby residences, the proposed Project is unlikely to have a measurable adverse impact on property values of most adjacent properties.³² BBC further concluded that the property values of some adjacent residential properties with lots smaller than five acres, especially those in closest proximity to the solar panels, might be affected. BBC indicated that the inclusion of new and existing vegetative screening buffers to protect the viewshed may help to minimize any adverse value impacts on these nearby residential properties. Rhudes Creek Solar has indicated additional screening for those properties would be feasible.³³

Having reviewed the record, the Siting Board finds sufficient evidence to conclude that the proposed Rhudes Creek Solar facility will more than likely not have any adverse impact on nearby property values as long as proper mitigation measures are implemented. The characteristic of the solar facility's operations are passive. It does not produce any air, noise, waste, or water pollution nor does it create any traffic issues during

³¹ Case No. 2021-00072, *Electronic Application of Sebree Solar, LLC for a Certificate to Construct an Approximately 250 Megawatt Merchant Solar Electric Generating Facility and an Approximately 4.5 Mile Nonregulated Electric Transmission Line in Henderson County, Kentucky and Webster County, Kentucky Pursuant to KRS 278.700 and 807 KAR 5:110* (K.S.B. Feb. 9, 2022), Order at 7–8.

³² BBC Report, Section B at 4.

³³ HVT of the Jan. 13, 2022 Hearing at 14:01:04–14:02:43.

operations.³⁴ The Clay Report, provided as a public comment, does not alter the Siting Board's conclusion regarding the lack of impact on nearby property values.

Additionally, property owners raised concerns regarding water runoff in the area of the proposed nonregulated electric transmission line. Rhudes Creek Solar indicated that plans have been made relating to water drainage in the area and asserted that the Project will not have negative impact.³⁵ Rhudes Creek Solar filed a Stormwater Pollution Prevention Plan (SWPPP) addressing these concerns.³⁶

However, to reduce the likelihood of a decrease in value of adjoining properties, Rhudes Creek Solar's viewshed screening plan shall implement certain mitigation measures to reduce impacts on the property values of and views from the 15 residential properties that are smaller than a five-acre lot and are adjacent to the proposed project. These mitigation measures are outlined in Appendix A to this Order.

Anticipated Noise Level

The Siting Board evaluated the noise methodologies discussed in the case record and the findings of noise impact during construction and operation. According to an internal noise study by ibV Energy Partners' Engineering & Planning Department (ibV), both construction and operation of the Project are expected to generate moderate to very loud levels of noise.³⁷ Typical sources of construction-related noise are the operation of heavy-machinery, construction traffic, and installation of major plant components via pile

³⁴ SAR, Attachment 6 at 1–2.

³⁵ Rhudes Creek Solar's Response to Staff's Second Request, Item 9.

³⁶ SAR, Attachments 11 and 13.

³⁷ *Id.*, Section 4 at 9.

driving. Potential sources of noise during the operation of the facility include inverters, trackers, and maintenance activities.³⁸ Rhudes Creek Solar's full noise and traffic assessment validated the assumptions contained within the internal noise study and determined that the overall noise impact of the project to nearby residences would be intermittent and minimal.³⁹

During the construction phase, which is estimated to last one year, cumulative sound pressure levels at nearby noise receptors are expected to be in range of 69.4 to 74.4 dBA at 300 feet.⁴⁰ This is within the range of ambient noise levels associated in an area with active farming.⁴¹ The loudest source from construction is anticipated to be pile driving equipment. The maximum anticipated noise produced by pile driving equipment is estimated for any non-participating residence during construction to be approximately 74.3 dBA at 305 feet.⁴² Rhudes Creek Solar stated that the pile driving phase would be completed in sequence, which would result in only short-term noise impacts to nearby residences.⁴³

Rhudes Creek Solar suggested that the actual on-site measurements of construction-related noise are expected to be lower than the results in the noise study because the noise study assumes that all equipment would be operating at the same time

³⁸ *Id.*

³⁹ Noise and Traffic Assessment (filed Dec. 19, 2021), Section 2.4 at 6–8.

⁴⁰ *Id.*, Section 2.2.4 at 4.

⁴¹ *Id.*, Section 2.1.1 at 2.

⁴² *Id.*, Section 2.4 at 7.

⁴³ *Id.*, Section 2.4 at 6–7.

and from the same source location.⁴⁴ Further, the estimated noise pressure levels do not account for additional reduction due to vegetative buffers and geographic topology.⁴⁵

In order to lessen the impact of construction activity, Rhudes Creek Solar committed to limit pile driving activity to 8 a.m. through 5 p.m. with a 15-minute safety stand down for every hour of pile driving.⁴⁶ Rhudes Creek Solar additionally planned to strategically install vegetative buffers to further reduce and muffle construction-related noise, and subcontractors would be equipped with decibel measuring devices.⁴⁷ Rhudes Creek Solar stated that the solar array would be designed in such a way that noise generating activities will be kept as far from neighboring homes as possible.⁴⁸

During the Project's operation phase, solar inverters, transformers, and the substation are expected to result in a cumulative sound pressure level no greater than 45 dBA to the nearest non-participating dwelling.⁴⁹ The solar array will also be fitted with motor tracking systems that would produce mechanical noise one minute out of every 15-minute period.⁵⁰ Noise produced by the tracking system is expected to be no higher than

⁴⁴ SAR, Section 4 at 10.

⁴⁵ *Id.*

⁴⁶ Rhudes Creek Solar's Response to Siting Board Staff's First Request for Information (filed Nov. 19, 2021) (Response to Staff's First Request), Item 20a.

⁴⁷ *Id.*, Items 20a and 20b.

⁴⁸ *Id.*, Item 20c.

⁴⁹ Noise and Traffic Assessment, Section 2.3.3 at 5.

⁵⁰ *Id.*, Section 2.3.1 at 4.

26.9 dBA to non-participating residences.⁵¹ Rhudes Creek Solar explained that these sound levels are less than those typical in a person-to-person conversation.⁵²

BBC's review of noise impacts was somewhat limited due to the late filing of Rhudes Creek Solar's full Noise and Traffic Assessment. BBC could only make comments on the internal noise assessment conducted by ibV.⁵³ BBC determined that the pile driving noise level estimate made by Rhudes Creek Solar was lower than standard published ranges.⁵⁴ Despite this, BBC anticipated that the pile driving activity would likely not exceed the National Institute for Occupational Safety and Health recommended daily exposure limit.⁵⁵ Furthermore, BBC determined that noise levels from inverters, solar tracking motors and the substation transformer were unlikely to be disruptive to local residents.⁵⁶

Based upon the case record, the Siting Board finds that noise from construction will be intermittent and temporary to nearby residences, but nevertheless, significant. As indicated by both the Rhudes Creek Solar and BBC, the construction noise will be loudest during the pile driving portion of the construction process; however, the cumulative construction noise will not be permanently damaging to nearby residents. The Siting Board further finds that the operational noise from the solar inverters, substations, transformers, and tracking motors should have little-to-no effect on residences in the area.

⁵¹ *Id.*, Section 2.3.3 at 5.

⁵² *Id.*, Section 2.4 at 6.

⁵³ BBC Report, Section B at 5.

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.*

Based on the case record, the Siting Board finds that Rhudes Creek Solar's application is in compliance with statutory requirements in its disclosure of noise levels. However, the Siting Board finds that, to ensure the impact of construction noise does not unduly impact nearby residents, Rhudes Creek Solar shall implement certain mitigation measures. These mitigation measures are designed to limit the impact of construction noise by controlling the hours of construction in general, as well as the time and manner in which pile driving activities can occur. Further, the Siting Board will mandate that noise suppression measures be utilized by Rhudes Creek Solar during the pile driving process, similar to those required by other recent applicants for merchant generator construction certificates. Rhudes Creek Solar 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. These mitigation measures are outlined in Appendix A to this Order, and in particular, mitigation measures 13 through 16.

Impact on Roads, Railways, and Fugitive Dust

Construction is expected to take 10 to 12 months. During that time there will be intermittent and temporary impacts on traffic flow and roads near the Project.⁵⁷ State Route 86, Hardinsburg Road, which runs east to west along the boundary of the site, will be the main route of access to the Project during construction and operation.⁵⁸ South Black Branch Road, which runs southwest to northeast through the middle of the Project, will also be impacted.⁵⁹ One existing driveway will be improved to provide main access

⁵⁷ Rhudes Creek Solar's Response to Staff's First Request, Item 3.

⁵⁸ SAR at 12.

⁵⁹ BBC Report, Section C at 40–41.

to the site.⁶⁰ One additional driveway is anticipated to be built during construction for site access.⁶¹ Rhudes Creek Solar stated safety precautions including signage, signaling, flagmen, and temporary lane closures will be utilized as needed.⁶² Rhudes Creek Solar confirmed it will adhere to all local and state requirements related to repair of road infrastructures following construction.⁶³

The operational phase will have little impact on roads and traffic. Few permanent employees or deliveries are expected.⁶⁴

The Siting Board finds that traffic and road degradation issues can be addressed with Rhudes Creek Solar's mitigation measures, the additional mitigation measures proposed by BBC that were agreed to by Rhudes Creek Solar, and mitigation measures set forth in Appendix A to this Order, in particular, mitigation measures 17 through 24.

The Project has an existing right of way owned by Paducah & Louisville Railway.⁶⁵ The line carries freight for industrial and commercial customers. The right of way is managed by Omega Rail Management (Omega). Rhudes Creek Solar has contacted Omega regarding the right of way on the Project site. Rhudes Creek Solar has committed that all requirements of Omega regarding encroachment by the Project will be followed.⁶⁶

⁶⁰ SAR at 12.

⁶¹ *Id.*

⁶² Noise and Traffic Assessment at 9.

⁶³ *Id.*

⁶⁴ BBC Report, Section C at 41.

⁶⁵ SAR at 12.

⁶⁶ *Id.* at 13.

The Project will not utilize the railway during construction or operation.⁶⁷ The Siting Board finds there will be no impact on railways.

The Siting Board anticipates some fugitive dust from the construction phase. Dust will not be a factor during operations. Rhudes Creek Solar proposed measures to reduce fugitive dust during construction, including covering open-bodied trucks.⁶⁸ Due to an increase in dust from gravel roads, Rhudes Creek Solar will use water to reduce dust.⁶⁹ The Siting Board requires additional mitigation measures to address railroad crossing use and to reduce the fugitive dust to the neighboring community, as outlined in Appendix A to this Order, mitigation measures 25 through 26.

II. KRS 278.710(1)-Criteria

In addition to the evaluation of the factors addressed in the SAR, the Siting Board considered the below described factors set forth in KRS 278.710(1) in rendering its decision.

Economic Impact on Affected Region and the State

According to Rhudes Creek Solar's economic impact report, the proposed solar facility will invest over \$100 million in Hardin County including land acquisition, site preparation, solar panel and electrical equipment installation, and landscaping and security fencing.⁷⁰ The Project is expected to generate significant positive economic and fiscal impacts to Hardin County. Such impacts include the creation of hundreds of

⁶⁷ *Id.* at 13.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ Generation Application, Attachment K at 1–2.

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.⁷¹

The IMPLAN model used for the economic impact analysis focused on Hardin County only.⁷² During the project construction phase, Rhudes Creek Solar estimated that approximately 240 temporary, full time jobs will be created over the construction period with a direct payroll of approximately \$12 million.⁷³ This equates to an average wage of \$50,000 per construction job as compared to the 2019 average annual pay for all jobs in Hardin County of \$47,200.⁷⁴ The indirect and induced economic impacts are estimated to contribute another 72 jobs with an additional \$3.2 million in payroll.

The total construction phase economic impact is estimated to be 312 total full-time equivalent jobs in Hardin County with a new payroll of \$15.2 million.⁷⁵ The vast majority of these jobs will be filled by craft workers and contractors such as fencers, electricians, panel installers, equipment operators and construction managers.⁷⁶ The ongoing economic impact from the Project's operational phase is estimated to be very small

⁷¹ *Id.*, Attachment K at 1.

⁷² *Id.*, Attachment K at 2–3.

⁷³ *Id.*, Attachment K at 2 and 4.

⁷⁴ *Id.*

⁷⁵ Generation Application, Attachment K at 4 and Response to Staff's First Request, Item 14. Expanding the employment scope to include the entire state as opposed to Hardin County only, the IMPLAN model predicts an additional 60 jobs would be created through indirect and induced impacts.

⁷⁶ Generation Application, Attachment K at 3.

relative to the one-time impacts from the construction phase. The ongoing operational phase of the Project is expected to modestly support three to four jobs.⁷⁷

Rhudes Creek Solar and Hardin County are not currently negotiating an Industrial Revenue Bond (IRB) and a Payment in Lieu of Taxes (PILOT) Agreement pending further consideration of the project by the Hardin County Planning and Zoning Commission.⁷⁸ If an IRB and PILOT are not reached, Rhudes Creek Solar estimates that it will pay property taxes to local governments of approximately \$1.51 million and the state would receive approximately \$1.91 million over the 35-year project life.⁷⁹ These payments, which average about \$43,000 annually, can be compared to the \$6,500 per year based upon the agricultural use value of the land.⁸⁰ In addition to property taxes, Income tax revenue and Sales and Use tax revenues will be collected. During the construction phase, an estimated \$720,000 in income taxes and \$608,000 in Sales and Use taxes will be collected.⁸¹

Based upon the case record, the Siting Board finds that the Rhudes Creek Solar facility will have a positive economic impact on the region.

⁷⁷ Generation Application, Attachment K at 4; and Rhudes Creek Solar's Response to Staff's First Request, Item 19.

⁷⁸ County Judge Executive Letter (filed Jan 12, 2022).

⁷⁹ Rhudes Creek Solar's Response to Staff's Post Hearing Request for Information, Item 3, Updated Economic and Fiscal Impact of Rhudes Creek solar energy project at 5.

⁸⁰ *Id.*

⁸¹ Rhudes Creek Solar's Response to Staff's First Request, Item 19. The estimates are based upon 5-year average tax rates. Income and Sales and Use tax revenue during the operational phase of the project are dependent on the wages paid to the workers, which has not been determined.

Existence of Other Generating Facilities

There is no other electric generating facility on the site of the proposed Project. The Siting Board is informed that there were efforts made to locate near existing transmission infrastructure⁸². The Project was able to locate only 1.5 miles from the existing KU infrastructure. Rhudes Creek Solar will be able to interconnect its solar facility to that of a nearby existing 138 kV transmission line owned by LG&E/KU, and the nonregulated electric transmission line will interconnect there.⁸³

Local Planning and Zoning Requirements

Rhudes Creek Solar submitted a statement that the Project will comply with all requirements of any governing ordinances in Hardin County, including those for setbacks.⁸⁴ There are currently no noise ordinances in the county.⁸⁵ The Hardin County Planning and Development Commission has approved the zoning, however at present the conditional use permit (CUP) has not been approved.⁸⁶ A CUP would be required prior to construction.

Impact on Transmission System

Rhudes Creek Solar requested TranServ International, Inc. (TranServ) to conduct multiple studies, including a system impact study for the Rhudes Creek Solar project, concerning its proposed 100 MV Solar Generator. TranServ is an Independent

⁸² Generation Application at 13.

⁸³ *Id.*

⁸⁴ *Id.* at 8 and Attachment E at 2.

⁸⁵ SAR at 9.

⁸⁶ HVT of the Jan. 13, 2022 Hearing at 13:19:42 and 13:21:32–13:22:09.

Transmission Organization of LG&E/KU⁸⁷ that manages interconnection requests and studies network impacts on behalf of the Transmission Owner⁸⁸

TranServ completed the following studies, which were filed in the case record: Interconnection Feasibility Study, System Impact Study, Provisional System Impact Study, and a Provisional Facilities Study.⁸⁹ These studies identified any network upgrades and facilities required to interconnect and provide transmission services to a new generator on a transmission network.⁹⁰

TranServ concluded that no thermal, voltage, flow gate, short circuit or stability constraints due to the Project were found. After the completion of the work that Rhudes Creek Solar is required to perform, there should not be a negative impact on the transmission system.⁹¹

The Rhudes Creek Solar transmission line application affirmed that Rhudes Creek Solar will construct and maintain that portion of the Project in accordance with accepted engineering practices of the NESC.⁹²

Based upon the case record, the Siting Board finds that Rhudes Creek Solar has satisfied the requirements of KRS 278.710(f) and that the additional load imposed upon the electricity transmission system, by use of the Rhudes Creek Solar facility, will not adversely affect the reliability of service for retail customers of electric utilities regulated

⁸⁷ Transmission Line Application at 15; and Generation Application Attachment H.

⁸⁸ Generation Application at 15.

⁸⁹ See *Generation* Application, Attachments G, H, I, and J.

⁹⁰ SAR at 4.

⁹¹ *Id.* at 14.

⁹² Transmission Line Application at 5.

by the Kentucky Public Service Commission. This finding is based upon Rhudes Creek Solar's commitment to the interconnection process requirements and its acceptance of any cost obligations resulting from the interconnection process and protocols consistent with the requirements under KRS 278.212. Rhudes Creek Solar has complied to date with all applicable conditions relating to electrical interconnection with utilities.

The Siting Board also finds that Rhudes Creek Solar's proposed nonregulated electric transmission line meets the requirements of KRS 278.714(3), subject to the mitigation measures and conditions imposed in this Order and the attached Appendix A.

Compliance with Setback Requirements

Rhudes Creek Solar stated that the project will comply with required setbacks in the local ordinance in accordance with KRS 278.704(3), which provides that any setback established by a local planning and zoning ordinance takes precedence over the setback requirements in KRS 278.704(2) and (5).⁹³ Hardin County's current setback requirements for an Agricultural Zone (A-1) are 70 feet for the front yard and 100 feet for the side and back yards.⁹⁴ Rhudes Creek Solar committed to additional setbacks farther from adjoining residences than is required by the ordinance. Rhudes Creek Solar agreed to 100-foot setbacks from road right-of-way and exterior perimeter property lines, 20-foot maximum height requirements for solar arrays, and 300-foot distances from any adjoining residential dwelling.⁹⁵

The Siting Board finds that setbacks proposed by Rhudes Creek Solar, the

⁹³ Generation Application, Attachment E at 2.

⁹⁴ *Id.*

⁹⁵ SAR at 6.

additional mitigation measures proposed by BBC that were agreed to by Rhudes Creek Solar, and mitigation measures set forth in Appendix A to this Order, in particular, mitigation measure 16, will comply with the objectives of the statute.

History of Environmental Compliance

Rhudes Creek Solar asserted that it has not violated any state or federal environmental laws or regulations, nor has any person or entity with an ownership interest in Rhudes Creek Solar done so.⁹⁶ No evidence has been presented to the contrary. The Siting Board considers this an important factor and finds additional requirements are necessary in the event the certificate is transferred or the ownership/control is changed. This will be set forth more fully in Appendix A to this Order at mitigation measure 27.

Decommissioning

There is no final plan yet prepared for decommissioning. The applicable property leases contain covenants to the property owners regarding decommissioning. The Siting Board finds that mitigation measures are necessary to insure protection from potential nonperformance of the decommissioning obligation. The Siting Board will require Rhudes Creek Solar to implement mitigation measures that require Rhudes Creek Solar, and its successors and assigns, to meet all land restoration requirements in the leases with participating landowners, as well as mitigation measures that require a decommissioning plan specific to the Project. These additional mitigation measures are set forth in Appendix A to this Order, mitigation measures 28 through 32 and 34.

CONCLUSION

After carefully considering the criteria outlined in KRS Chapter 278, the Siting

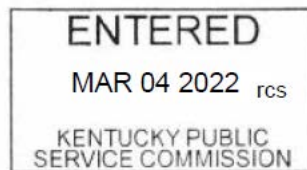
⁹⁶ Generation Application at 17.

Board finds that Rhudes Creek Solar 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 the full implementation of all mitigation measures and other requirements described herein and listed in Appendix A to this Order. A map showing the location of the proposed solar generating facility and line is attached hereto as Appendix B.

IT IS THEREFORE ORDERED that:

1. Rhudes Creek Solar's application for a Construction Certificate to construct an approximately 100 MW merchant solar electric generating facility in Hardin County, Kentucky, and a connected 138 kV electric transmission line is conditionally granted subject to full compliance with the mitigation measures and conditions prescribed in Appendix A.
2. Rhudes Creek Solar shall fully comply with the mitigation measures to which it has committed and those contained in Appendix A.
3. In the event mitigation measures within the body of this Order conflict with those prescribed in Appendix A, the measures in Appendix A shall control.
4. This case is closed and removed from the Commission's docket.

By the Kentucky State Board on Electric
Generation and Transmission Siting



ATTEST:

Nancy Vinsel for

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

Case No. 2021-00127

APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING IN CASE NO. 2021-00127 DATED MAR 04 2022

MITIGATION MEASURES AND CONDITIONS IMPOSED

The following mitigation measures and conditions are hereby imposed on Rhudes Creek Solar LLC (Rhudes Creek Solar) 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 or the transmission line location from the information which formed this evaluation shall be submitted to the Siting Board for review.

3. The Siting Board will determine if any deviation in the boundaries or site layout plan is likely to create a materially different pattern or magnitude of impacts. If not, no further action is required, but if yes, the application will support the Siting Board's effort to revise its assessment of impact and mitigation requirements.

4. Rhudes Creek Solar 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.

5. Prior to construction, Rhudes Creek Solar shall provide a finalized

Emergency Response Plan to the local fire district, first responders and any County Emergency Management Agency. Rhudes Creek Solar will provide site specific training for local emergency responders at their request. Access for fire and emergency units must be set up after consultations with local authorities.

6. Rhudes Creek Solar's access control strategy shall also include appropriate signage to warn potential trespassers. Rhudes Creek Solar must ensure that all site entrances and boundaries have adequate signage, particularly in locations visible to the public, local residents, and business owners.

7. 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.

8. 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. Rhudes Creek Solar will not remove any existing vegetation except to the extent it must remove such vegetation for the construction and operation of Project components.

9. Rhudes Creek Solar shall implement planting of 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 Rhudes Creek Solar 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. Such

planting shall be done prior to construction of panel arrays commencing in any phase of development identified in the record.

10. Rhudes Creek Solar shall carry out visual screening consistent with the plans proposed in its application, SAR, and the maps included and ensure that the proposed new vegetative buffers are successfully established and develop as expected over time. Should vegetation used as buffers die over time, Rhudes Creek Solar shall replace that as appropriate.

11. Rhudes Creek Solar shall provide a visual buffer as set forth in any plan to be submitted to the Hardin City-County Planning Commission and the requirements of the CUP if it is issued. In particular such additional vegetative screening shall be added next to residential lots of five acres or less that are adjacent to the Project. To the extent that an affected adjacent property owner indicates to Rhudes Creek Solar that such a buffer is not necessary, Rhudes Creek Solar will obtain that property owner's written consent and submit such consent in writing to the Siting Board.

12. Rhudes Creek Solar shall cultivate at least two acres of native, pollinator friendly species onsite.

13. Rhudes Creek Solar is required to limit the 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 the hours of 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., Monday through Sunday, including field visits, arrival, departure, planning meetings, mowing, surveying, etc.

14. If the pile driving activity occurs within 1,500 feet of a noise sensitive receptor, Rhudes Creek Solar 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). Rhudes Creek Solar 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.

15. Rhudes Creek Solar 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 33 herein, at least one month prior to the start of construction.

16. Rhudes Creek Solar 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 agrees with Rhudes Creek Solar's proposed setback from residences of a minimum of 300 feet between any solar panel and any adjacent residences, and 100 feet from any exterior property line. Nevertheless, Rhudes Creek Solar 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. Rhudes Creek Solar 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 construction of the Project.

17. Rhudes Creek Solar 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 be controlling.

18. Rhudes Creek Solar shall comply with all laws and regulations regarding the use of roadways.

19. Rhudes Creek Solar 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 delays during AM and PM peak hours.

20. Rhudes Creek Solar shall consult with the Kentucky Transportation Cabinet (KYTC) regarding truck and other construction traffic and obtain necessary permits from the KYTC.

21. Rhudes Creek Solar shall consult with the Hardin County Road Department (HCRD) regarding truck and other construction traffic and obtain necessary permits from the HCRD.

22. Rhudes Creek Solar shall develop special plans and obtain necessary permits before transporting heavy loads, especially the substation transformer, onto state or county roads.

23. Rhudes Creek Solar shall comply with any road use agreement executed with HCRD. Such an agreement might include special considerations for overweight loads, routes utilized by heavy trucks, road weight limits, and bridge weight limits.

24. Rhudes Creek Solar shall develop and implement a traffic management plan to minimize the impacts 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.

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

26. Rhudes Creek Solar shall obtain final permission from Omega with regard to the use of the railroad crossing and comply with all its requirements. Rhudes Creek Solar will file verification with the Siting Board when received, before construction in that area of the project.

27. If any person shall acquire or transfer ownership of, or control, or the right to control the Project, by sale of assets, transfer of stock, or otherwise, or abandon the same, Rhudes Creek Solar or its successors or assigns shall request explicit approval from the Siting Board with notice of the request provided to the Hardin County Fiscal Court. In any application requesting such abandonment, sale or change of control, Rhudes Creek Solar shall certify its compliance with KRS 278.710(1)(i).

28. As applicable to individual lease agreements, Rhudes Creek Solar, 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.

29. Rhudes Creek Solar shall file a full and explicit decommissioning plan with the Siting Board. This plan shall commit Rhudes Creek Solar to removing 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 prior to construction of the Project.

30. Rhudes Creek Solar shall file a bond with the Hardin County Fiscal Court, equal to the amount necessary to effectuate the explicit or formal decommissioning plan naming Hardin County Fiscal Court 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 Hardin County will have the authority to draw upon the bond to effectuate the decommissioning plan. For land in which there is no bonding requirement otherwise, Hardin County shall be the primary beneficiary of the decommissioning bond for that portion of the project. The bond(s) shall be filed with the Hardin County Treasurer or with a bank, title company or financial institution reasonably acceptable to the county. The acceptance of the county of allowing filing the bond(s) with an entity other than the Fiscal Court, through the Hardin County Treasurer, can be evidenced by a letter from the Judge-Executive, the Fiscal Court, or the 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 Rhudes Creek Solar'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 Hardin County Fiscal Court. Such certification shall be by letter and shall include

the current amount of the anticipated bond and any change in the costs of removal or decommissioning.

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

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

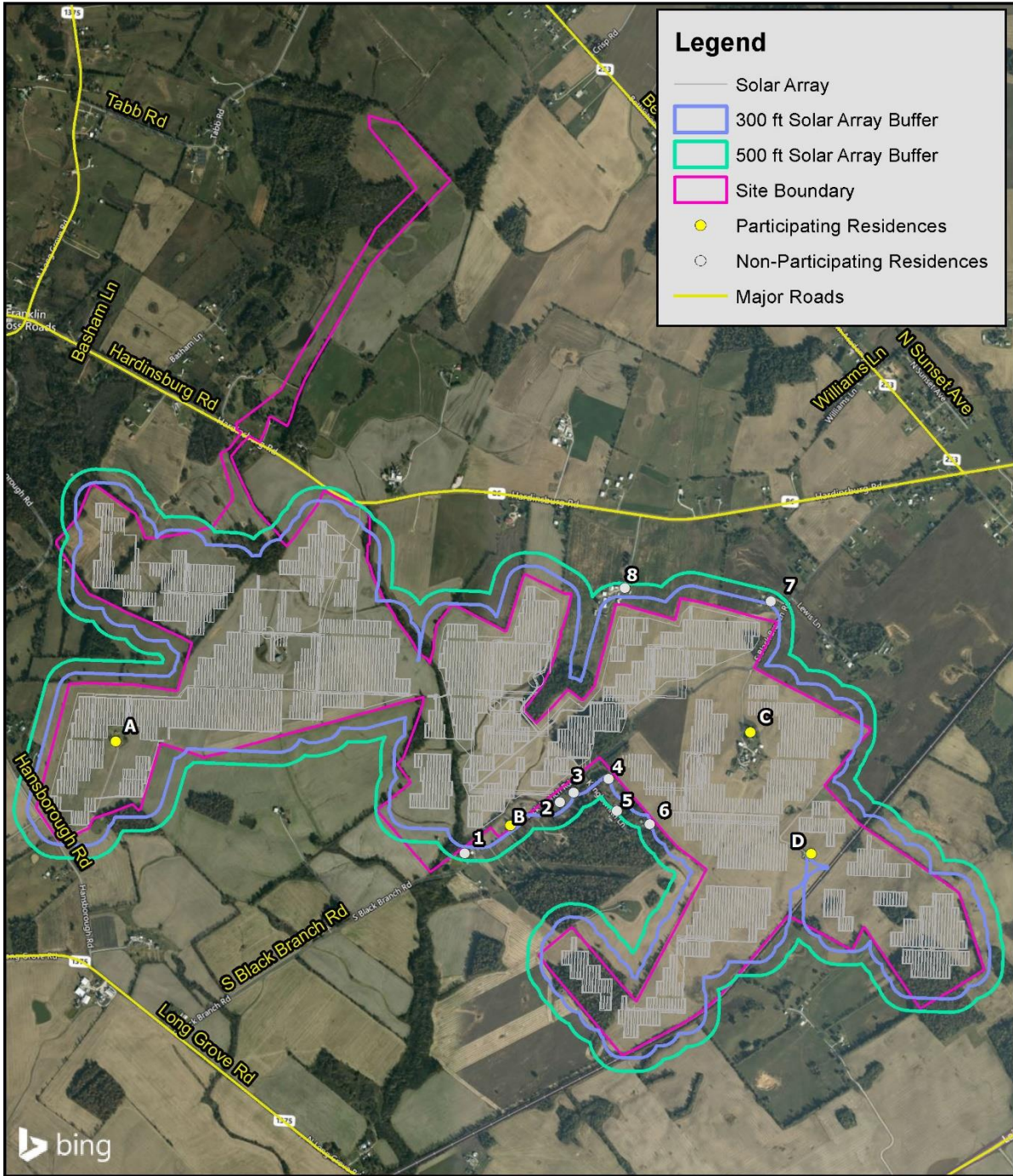
33. Rhudes Creek Solar shall implement a Complaint Resolution Program to address any complaints from surrounding landowners. Rhudes Creek Solar shall also submit annually a status report associated with its Complaint Resolution Program, providing, among other things, the individual complaints, how Rhudes Creek Solar addressed those complaints, and the ultimate resolution of those complaints.

34. Within 30 days of entry, Rhudes Creek Solar will send a copy of this Order to all the adjoining landowners who previously were required to receive notice of the Project.

APPENDIX B

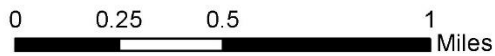
APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON
ELECTRIC GENERATION AND TRANSMISSION SITING IN
CASE NO. 2021-00127 DATED MAR 04 2022

ONE PAGE TO FOLLOW



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**Figure 4 -
Noise Receptor Map**



Rhudes Creek Solar Project
Hardin County, Kentucky
December 2021

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