

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION
AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF BLUE MOON)	
ENERGY LLC FOR A CERTIFICATE OF)	
CONSTRUCTION FOR AN APPROXIMATELY 70)	
MEGAWATT MERCHANT ELECTRIC SOLAR)	CASE NO.
GENERATING FACILITY AND NONREGULATED)	2021-00414
ELECTRIC TRANSMISSION LINE IN HARRISON)	
COUNTY, KENTUCKY PURSUANT TO KRS)	
278.700 AND 807 KAR 5:110)	

ORDER

On February 8, 2022, Blue Moon Energy, LLC (Blue Moon 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 70-megawatt ground mounted solar photovoltaic electric generating facility (Project) comprising of approximately 1,581 acres of land in Harrison County, Kentucky located near Cynthiana.¹ Blue Moon Energy also filed an application to construct an overhead non-regulated electric transmission line that will run west to east within the project boundaries to interconnect to an existing transmission line owned and operated by East Kentucky Power Cooperative (EKPC).

There are no intervenors in this matter. Pursuant to a procedural schedule established on February 25, 2022, Blue Moon Energy responded to two rounds of

¹ Blue Moon Energy tendered its application on January 28, 2022, and tendered an amended application on February 7, 2022. By letters dated January 31, 2022, and February 8, 2022, the Commission rejected the application, and the amended application for filing deficiencies. The deficiencies were subsequently cured, and the application was deemed filed on February 8, 2022.

discovery. A site visit was held on April 18, 2022. Siting Board consultant Wells Engineering (Wells) filed its report (Wells Report) on May 27, 2022. Blue Moon Energy submitted its response to the Wells Report on June 3, 2022. A formal hearing was held on June 24, 2022. Blue Moon Energy filed a brief in support of its post-hearing position on July 1, 2022, and the responses to post hearing requests for information on July 8, 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 and approved by the Siting Board before the construction of a merchant electric generating facility can commence. KRS 278.708 requires that the application include evidence of public notice and compliance with local planning and zoning ordinances.

KRS 278.708(2) requires Blue Moon Energy to prepare a site assessment report (SAR) that includes (1) a detailed description of the proposed site; (2) an evaluation of the compatibility with scenic surroundings; (3) potential changes in property values and land use resulting from the siting, construction, and operation of the proposed facility and 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 and 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 Blue Moon Energy 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 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 Blue Moon Energy; and (8) whether Blue Moon Energy has good environmental compliance history.

In accordance with KRS 278.714(2), an application to construct a nonregulated transmission line must include 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 non-regulated electric transmission line, which includes 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 non-regulated transmission line.

PROPOSED FACILITY

The Project will be located on 1,581 acres near Cynthiana in Harrison County Kentucky. The Project will contain approximately 648 acres of solar photovoltaic panels with associated ground-mounted racking, 19 inverters, and a substation transformer. The proposed non-regulated transmission line will be no more than 500 feet and will be entirely

within the project boundaries.² The non-regulated transmission line will connect with an EKPC transmission line. EKPC will provide any necessary transmission equipment needed for the connection.³

DISCUSSION AND FINDINGS

I. **KRS 278.708: SAR FILING REQUIREMENTS AND MITIGATION MEASURES**

Mitigation Measures Proposed by Blue Moon Energy and Siting Board Consultant

As required by KRS 278.708(4), Blue Moon Energy proposed various mitigation measures consistent with the statutes regarding traffic, noise, roadway preservation, permitting, setbacks, public safety, and scenic preservation. In accordance with KRS 278.708(5), Wells recommended mitigation measures in the following areas: site development plan; compatibility with scenic surroundings; set-back; noise control during construction; and protection of water resources.⁴

Blue Moon Energy generally agreed with the recommendations made in the Wells Report.⁵ Blue Moon Energy stated it has already provided detailed site plans, but will update prior to construction.⁶ Blue Moon Energy agreed to adhere to the setbacks in the Conditional Use Permit (CUP) and will adhere to further setbacks for certain equipment.⁷ Blue Moon Energy objected to the use of the word “neighbor” for the mitigation measure

² Hearing Video Testimony of the June 24, 2022 Hearing at 09:30:19.

³ Application, paragraph 9.

⁴ Wells Report at 41.

⁵ Blue Moon Energy’s Response to Siting Board Consultant’s Report (Response to Consultant’s Report) (filed June 3, 2022).

⁶ Response to Consultant’s Report at 1-2.

⁷ Response to Consultant’s Report at 4.

that stated notice should be provided before construction noise and requested the use of “adjacent landowner.”⁸

Blue Moon Energy filed a Post-Hearing Brief that addressed various mitigation measures.⁹ Blue Moon Energy stated that the conditions contained in the Cynthiana-Harrison County Berry Joint Planning Commission (Harrison County Planning Commission) CUP were developed over a lengthy process, including a hearing with public involvement. Blue Moon Energy argued that the conditions in the CUP reflect the will of the local community and address many mitigation measures the Siting Board normally considers, particularly the issues of construction work hours and decommissioning.¹⁰

In this case, the Siting Board notes that the CUP issued by the Harrison County Planning Commission is comprehensive and takes into consideration many of the factors in KRS 278.710 that the Siting Board must use to make the determination of whether a construction certificate should be granted. With regards to construction work hours, the CUP allows construction Monday through Saturday from 7:00 a.m. to 9:00 p.m. with no time limitations on noise causing activity. Sunday construction is permitted to make up delays or meet specific deadlines. Construction permits and work times are not an issue specific or unique to solar developments. The Harrison County Planning Commission addresses construction permitting for a variety of projects and must address construction work hours in each project that comes before it. Since construction work hours is not an issue that requires specific knowledge only developed through the Siting Board process, the Siting Board will adopt the CUP mitigation measure regarding construction work time.

⁸ Response to Consultant’s Report at 4.

⁹ Blue Moon Energy’s Post-Hearing Brief (Post-Hearing Brief) (filed July 1, 2022).

¹⁰ Post-Hearing Brief at 2-3.

The Siting Board, through the discovery process in this case, and through the institution itself, has experience in decommissioning electric generating facilities. Additionally, the Siting Board has knowledge of the Underground Facilities Damage Prevention Act and the exceptions to that Act relating to farmland.¹¹ The Harrison County Planning Commission has no such experience. For these reasons, the Siting Board declines to adopt the CUP requirement regarding decommissioning.

The Siting Board has reviewed the remaining mitigation measures proposed by Blue Moon Energy, Wells, and the requirements of the CUP and finds that in addition to the measures Blue Moon Energy proposed in its application, 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 consultant's report in accordance with KRS 278.708.

Detailed Site Description

KRS 278.(3)(a)(1)(6) requires that the detailed site description in this 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 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.

Blue Moon Energy submitted the required SAR with its application. The SAR contained a preliminary site plan that included the existing roadways, project boundaries, property lines, overhead electric transmission lines, hydrography, buildable areas,

¹¹ See KRS 367.4901 – KRS 367.4917.

exclusion areas, existing structures, and vegetation. The preliminary site plan also included the proposed features for the site including security fencing, access roads, solar array, substations, laydown yard, and evergreen plantings.¹² The project site contains 17 parcels obtained through real estate agreements.¹³ The legal boundaries of the proposed project are depicted in the ALTA/NPMS Land Title Survey.¹⁴

A security fence meeting the National Electrical Safety Code (NESC) and the Harrison County Planning Ordinance requirements will enclose the site.¹⁵ The proposed substation and switchyard will be enclosed by an additional security fence.¹⁶ The project plans to use generators and water trucks during the construction of the project.¹⁷ The project will not use auxiliary power or retail water during operations.

The surrounding area is primarily rural agricultural land with scattered rural residential properties. The land use is 55 percent agriculture, 39 percent agricultural/residential, and 6 percent residential.¹⁸ There are seven schools and two parks within a two-mile site radius.¹⁹

¹² SAR, Exhibit A and Supplemental Response to Staff's First and Second Request for Information (Supplemental Response) (filed Aug. 8, 2022).

¹³ Application, paragraph 3.

¹⁴ Response to Consultant's Report, Attachment.

¹⁵ Application, paragraph 5.

¹⁶ Application, paragraph 5.

¹⁷ Blue Moon Energy's Response to Siting Board Staff's First Request (Response to Staff's First Request), Items 28 and 35 (filed Apr. 13, 2022).

¹⁸ SAR, Exhibit B, at 4.

¹⁹ Application, paragraph 4; and Application, Exhibit A.

Wells reviewed and evaluated the SAR and stated that Blue Moon Energy generally complied with the statutory requirements for describing the facility and site development plan as required by KRS 278.708.²⁰

After reviewing the record of this proceeding, the Siting Board finds that Blue Moon 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 it necessary to impose certain mitigation measures related to the description of the facility and the proposed site development plan. Specifically, the Siting Board will require Blue Moon Energy to keep the Siting Board apprised of changes throughout the development of the project and, as such, will order Blue Moon Energy to provide the final plan before 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. Additionally, based on the findings and proposals of the Wells Report, the Siting Board further finds that additional 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

Blue Moon Energy indicated the project will be compatible with scenic surroundings. The area is largely agricultural with scattered residential properties. The chief impact on the view will be the solar panels. Blue Moon Energy indicated it will create

²⁰ Wells Engineering Report (Wells Report), Section V at 2–3.

vegetative screening requirements to mitigate potential visual impacts to the neighboring properties and the roadways.²¹ Wells reviewed the SAR and found the project will be compatible with scenic surroundings with the mitigation measures.²²

The Cynthiana-Harrison County Airport is located within a two-mile radius of the project.²³ According to the Glint and Glare Analysis conducted by Fisher Associates there is a potential for yellow and green glare near the runway causing interference with take-off and landing.²⁴ The Federal Aviation Administration and the Kentucky Airport Zoning Commission reviewed the project and determined there should not be visual impacts to pilots.²⁵ The Kentucky Airport Zoning Commission permit requires that if glare is discovered once the project is operational Blue Moon Energy must mitigate the glare.²⁶

Based upon the case record, the Siting Board finds that Blue Moon Energy'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 the statutory requirements. 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 Blue Moon Energy shall implement certain mitigation measures to ensure that the Project will be compatible with its surroundings to the extent

²¹ SAR, paragraphs 16-18.

²² Wells Report at 38.

²³ Response to Staff's First Request, Item 24.

²⁴ Blue Moon Energy's Response to Staff's Post-Hearing Request for Information (Response to Staff's Post-Hearing Request), Item 3, Fisher Associates Glint and Glare Study unnumbered at 2 (filed July 8, 2022).

²⁵ Response to Staff's Post-Hearing Request, Items 4 and 5.

²⁶ Response to Staff's Post-Hearing Request for Information, Item 5.

practicable. Those mitigation measures are set forth in Appendix A to this Order, and in particular, mitigation measures 8 through 12.

Impact on Property Values

Blue Moon Energy submitted a Property Value Impact Report from Kirkland Appraisals (Kirkland Report).²⁷ The Kirkland Report found that, based upon a comparative analysis, that the solar facility will have no impact on the property values of abutting or adjacent residential or agricultural properties.²⁸ The report indicated that the solar facility would function in a harmonious manner with the nearby surroundings, which are 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 facility.²⁹

The Wells Report provided a review and analysis by Clark Toleman, MAI-SRA, on the Kirkland Report and its findings.³⁰ The review by Mr. Toleman analyzed the paired sales analysis prepared by the Kirkland Report to determine if there is a strong indicator that the proximity to a solar facility has a neutral impact on adjoining property values when with proper setbacks and landscaped buffers are utilized.³¹ The Wells Report found that the Kirkland Report Property Impact study concerning the Blue Moon Energy facility to be

²⁷ SAR, Exhibit B.

²⁸ SAR, Exhibit B at 2.

²⁹ SAR, Exhibit B at 2 and 116.

³⁰ Wells Report, Attachment C.

³¹ Wells Report, Attachment D at 6.

credible and representative of the market conditions that would exist should the project be constructed.³²

Having reviewed the record, the Siting Board finds that there is sufficient evidence to conclude that the proposed Blue Moon Energy facility will more than likely not have any adverse impact on nearby property values. The characteristics of a solar facility operation is passive in nature in that it does not produce any air, noise, waste, or water pollution, nor does it create any traffic issues during operations.

Anticipated Noise Level

Cardno, Inc. (Cardno) provided a construction noise assessment for Blue Moon Energy.³³ Cardno determined the bulk of noise issues will occur during construction. According to Cardno, construction sound levels will be similar to those produced by typical farm equipment, such as farm tractors or combines, which produce sound at 85 to 100 dBA.³⁴ Typical construction equipment emit sounds between 75 to 85 dBA at a distance of 50 feet.³⁵ The loudest anticipated noise, 98 to 101 dBA at 50 feet, will occur during pile driving.³⁶ During the pile driving noise tests, the sound experienced 500 feet from the nearest panel was approximately 63.8 dBA, while the nearest receptor experienced a sound of 67.2 dBA.³⁷ Pile driving activity is expected to take six to eight months during the construction period.³⁸ Cardno concluded that no sound generated by

³² Wells Report at 38-39.

³³ SAR, paragraph 14.

³⁴ Response to Staff's First Request, Item 17.

³⁵ SAR, Exhibit D, Construction Noise Assessment at 3.

³⁶ SAR, paragraph 21.

³⁷ Response to Staff's First Request, Item 17.

³⁸ SAR, Exhibit D, Construction Noise Assessment at 3.

typical sources of construction-related noise would violate Harrison County Ordinance 254.³⁹

Hessler Associates, Inc. (Hessler) conducted an operational noise assessment for Blue Moon Energy. Hessler concluded that no prolonged noise levels above 45 dBA are expected to affect adjacent residences, as all are outside of the 45 dBA sound contour.⁴⁰ The main source of operational sound within a solar facility are the inverters, with an average noise level of 75 dBA, which is comparable to the noise from a vacuum cleaner.⁴¹ The inverters will be located at least 772 feet from participating residences, and at least 928 feet from nonparticipating residences.⁴² The inverters will be inactive during the night hours of 10 PM to 7 AM, and will comply with Harrison County Ordinances No. 254 and 283.⁴³ Other potential sources of noise during long-term operation include tracking motors and maintenance activities.⁴⁴ Hessler concluded that no residences will be disturbed by normal operational sound due to the distance between the project and the residences.⁴⁵

Blue Moon Energy updated the site plan that included a new switchyard and substation location. These features were moved within the site layout because Blue Moon Energy must deed the land the switchyard and substation are on to EKPC, and the

³⁹ SAR, Exhibit D, Construction Noise Assessment at 2-3.

⁴⁰ SAR, Exhibit D, Sound Emissions Assessment at 5.

⁴¹ SAR, Exhibit D, Sound Emissions Assessment at 2.

⁴² Response to Staff's Post Hearing Request, Item 6.

⁴³ SAR, paragraph 30.

⁴⁴ SAR, paragraph 27.

⁴⁵ SAR, Exhibit D, Sound Emissions Assessment at 7.

new parcel is the only one available to purchase and transfer.⁴⁶ The new placement of the substation and switchyard will further minimize noise effects to non-participating residents because it is further away from any noise sensitive receptors.⁴⁷ There was found to be no material impact on noise levels with the new switchyard and substation location.⁴⁸

Wells contracted with Cloverlake Consulting Services (Cloverlake) to conduct a Noise & Environmental Assessment.⁴⁹ Cloverlake found the noise studies provided in the SAR were acceptable.⁵⁰ Wells recommended Blue Moon Energy use ready-made sound blankets as noise mitigation during construction, specifically during the pile driving phase.⁵¹ Wells also recommended providing notice to neighboring landowners about potential construction noise.⁵²

Blue Moon Energy stated it has no experience with the noise mitigation measures found in recent Siting Board orders.⁵³ Blue Moon Energy stated it was unaware of any studies showing these measures are effective and it did not analyze whether any of the mitigation measures in Siting Board orders are feasible.⁵⁴ Blue Moon Energy requested

⁴⁶ Supplemental Response at 1-4.

⁴⁷ Supplemental Response at 1.

⁴⁸ Supplemental Response at 2.

⁴⁹ Wells Report at 9.

⁵⁰ Wells Report, Attachment B, at 17.

⁵¹ Wells Report, Attachment E at 4.

⁵² Wells Report at 41.

⁵³ Post-Hearing Brief at 5.

⁵⁴ Post-Hearing Brief at 5.

the Siting Board exclude the requirement for noise suppression during the pile driving phase of construction.⁵⁵

The Siting Board finds that the noise from construction will be intermittent and temporary, but will be significant. As indicated by both Blue Moon Energy and Wells, the noise will be the loudest during the pile driving phase of construction, but 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.

Based on the case record the Siting Board finds that Blue Moon Energy's application is in compliance with the statutory requirements in disclosing noise levels. However, the Siting Board finds that, to ensure the impact of construction noise does not unduly impact nearby residents, Blue Moon Energy will be required to implement specific mitigation measures. The Siting Board finds that noise mitigation during construction is an important issue in the granting of a construction certificate and the argument that Blue Moon Energy does not have experience in this area is not compelling. 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. Blue Moon Energy may forego noise suppression if it employs a panel installation method that does not involve pile driving, so long as that 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 13 through 15.

⁵⁵ Post-Hearing Brief at 5.

Impact on Roads, Railways, and Fugitive Dust

Construction is expected to take 12 to 15 months.⁵⁶ During that time there will be intermittent and temporary impacts on traffic flow and roads near the Project.⁵⁷ The Project will be accessed from KY-392 (Republican Pike), KY-32 (Millersburg Road), KY-1940 (Ruddles Mill Road), Old Lair Pike, Shady Nook Pike, and Shaw Lane.⁵⁸ As part of the SAR, Fisher Associates conducted a study of the construction traffic on the roads near the Project and found the project will not have a significant impact on roads in the area.⁵⁹ Blue Moon Energy stated it will adhere to mitigation methods found in the SAR to minimize any impacts to traffic during construction.⁶⁰ The operational phase will have little impact on roads and traffic. Few permanent employees or deliveries are expected during operations.⁶¹ There are no railways that will be affected during construction or operations.⁶²

The Siting Board finds that traffic and road degradation issues can be addressed with Blue Moon Energy's proposed mitigation measures and the mitigation measures outlined in Appendix A, in particular, mitigation measures 17 through 24.

The Siting Board anticipates fugitive dust from the construction phase. Blue Moon Energy proposed measures to reduce fugitive dust during construction, including the use

⁵⁶ Response to Staff's First Request, Item 32.

⁵⁷ SAR, Exhibit E, unnumbered page 19.

⁵⁸ SAR, Exhibit E, unnumbered page 8-9.

⁵⁹ SAR, Exhibit E, unnumbered page 19.

⁶⁰ SAR, paragraph 35.

⁶¹ SAR, Exhibit 3, unnumbered page 6.

⁶² SAR, paragraph 34.

water for dust control.⁶³ The Siting Board requires an additional mitigation measure to reduce the fugitive dust to the neighboring community, as outlined in Appendix A to this Order, mitigation measure 25.

II. **KRS 278.710(1) – Criteria**

Economic Impact on Affected Region and the State

According to Blue Moon Energy's Economic Impact Report, the total capitalized investment is estimated at \$91.8 million with approximately \$28.1 million invested in Harrison County with the state of Kentucky. Harrison County will receive approximately 74 percent of the investment and the remainder going to vendors within the state.⁶⁴ The investment includes architecture, engineering, site preparation and other development and construction costs.⁶⁵ The project is expected to generate significant positive economic and fiscal impacts to Harrison 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 IMPLAN model used for the economic impact analysis focused on both Harrison County and the state of Kentucky as a whole.⁶⁶ The project will be conducted in two phases: a construction phase and an operation phase.⁶⁷ During the project construction phase, Blue Moon Energy estimates that approximately 143 construction

⁶³ SAR, paragraph 33.

⁶⁴ Application, Exhibit E at 18.

⁶⁵ Application, Exhibit E at 18. The balance of the total construction cost (approximately \$63.8 million) is to be spent on capital equipment and associated costs from vendors outside Harrison County and Kentucky.

⁶⁶ Application, Exhibit E at 18.

⁶⁷ Application, Exhibit E at 2.

jobs will be created in Harrison County supporting a direct payroll of approximately \$8.8 million and an economic output of \$20.8 million.⁶⁸ The indirect and induced economic impacts are estimated to contribute another 40 jobs supporting an additional \$1.6 million in payroll and \$5.6 million in economic output.⁶⁹ In addition, the construction phase economic activity is estimated to generate \$1.3 million in state and local tax revenue.⁷⁰

For the state of Kentucky as a whole, the direct construction phase economic impact is the creation of approximately 190 construction jobs supporting a payroll of \$12.1 million and an economic output of \$28.1 million.⁷¹ The indirect and induced economic impacts are estimated to contribute another 100 jobs supporting an additional \$4.6 million in payroll and \$15.5 million in economic output.⁷² The total construction phase economic impact is estimated to be 291 total jobs supporting a new payroll of \$16.6 million and economic output of \$43.5 million.⁷³ In addition, the economic activity is estimated to generate \$2.0 million in state and local tax revenues.⁷⁴

The ongoing economic impact from the project's operational phase is estimated to be small relative to the one-time impacts from the construction phase. For Harrison County, the ongoing operational phase of the project is expected to directly support one

⁶⁸ Application, Exhibit E at 2.

⁶⁹ Application, Exhibit E at 19 and Table 1 at 19.

⁷⁰ Application, Exhibit E at 18.

⁷¹ Application, Exhibit E at 19.

⁷² Application, Exhibit E at 19, Table 2.

⁷³ Application, Exhibit E at 19.

⁷⁴ Application, Exhibit E at 19, Table 2. See *also* Response to Staff's First Request, Item 14. Sales and income tax revenues from construction are estimated to be \$1.4 million.

job with a payroll of \$52,565 and an economic impact of \$141,682.⁷⁵ The indirect and induced economic activity from the operational phase is expected to support two jobs, with a total payroll of \$65,606 and an economic output of \$223,792.⁷⁶ The total economic activity from the operational phase is expected to support three jobs, with a combined payroll of \$118,171 and an economic output of \$365,475.⁷⁷

For the state of Kentucky as a whole, the ongoing operational phase of the project is expected to directly support one job with a payroll of \$52,565 and an economic impact of \$141,682.⁷⁸ The indirect and induced economic activity from the operational phase is expected to support two jobs, with a total payroll of \$83,926 and an economic output of \$284,142.⁷⁹ The total economic activity from the operational phase is expected to support three jobs in total, with a combined payroll of \$118,171 and an economic output of \$365,475.⁸⁰

Blue Moon Energy and Harrison County have negotiated an Industrial Revenue Bond (IRB) and a Payment in Lieu of Taxes (PILOT) Agreement.⁸¹ Under the PILOT Agreement, Harrison County will receive \$814,311 in total cumulative payments over the 40-year life of the project.⁸² This amount is equivalent to what the local school district

⁷⁵ Application, Exhibit E at 20.

⁷⁶ Application, Exhibit E at 20 and Table 3.

⁷⁷ Application, Exhibit E at 20.

⁷⁸ Application, Exhibit E at 20.

⁷⁹ Application, Exhibit E at 21 and Table 4.

⁸⁰ Application, Exhibit E at 21.

⁸¹ Response to Staff's First Request, Item 12.

⁸² Application, Exhibit E at 27-28 and Table 8, and Response to Staff's First Request, Item 13b. See also Response to Staff's Post-Hearing Request, Item 7, Exhibit C, Section 6. Under the PILOT Agreement, Blue Moon shall pay six percent of each PILOT payment to the school district and the balance of each PILOT payment to the county.

would have received in personal property tax revenue if the IRB had not been in place and the project had been instead privately financed.⁸³ With the IRB, the revenue from real estate taxes for the county is approximately \$15,429 per year for 40 years leading to cumulative total of approximately \$600,000. The total can be broken down as \$204,766 in county tax revenue, \$44,160 in fire district tax revenue and \$368,236 in school district tax revenue.⁸⁴

The state of Kentucky is expected to receive \$2,172 per year for 40 years for a cumulative total of \$86,895 in state real estate tax revenue.⁸⁵ The state of Kentucky is expected to receive a total of \$649,161 over the 40-year life of the project in machinery property tax revenue.⁸⁶ Additionally, the state of Kentucky is expected to receive a total of \$216,387 over the 40-year life of the project in personal property tax revenue.⁸⁷

Additionally, there will be supplemental tax revenue for Harrison County and the state of Kentucky from sales taxes. Based on the \$28.1 million projected to be spent during the construction phase, the project is expected to generate approximately \$0.9 million in sales tax revenue.⁸⁸ Of this total, \$0.78 million is expected to go to the state of Kentucky.⁸⁹

Wells conducted a review of Blue Moon Energy's Economic Impact Study. Based upon its analysis and review, Wells concluded that the project would provide significant

⁸³ Response to Staff's First Request, Item 13.

⁸⁴ Application, Exhibit E at 22.

⁸⁵ Application, Exhibit E at 23.

⁸⁶ Application, Exhibit E at 23-25 and Table 6.

⁸⁷ Application, Exhibit E at 23-25 and Table 7.

⁸⁸ Response to Staff's First Request, Item 40.

⁸⁹ Blue Moon Energy's Response to Staff's Second Request for Information, Item 2.

positive economic impacts to the region and the Commonwealth during the construction phase. The operations phase will have smaller, but still positive economic effects to the region and Commonwealth.⁹⁰

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

Existence of Other Generating Facilities

Blue Moon Energy stated that the key factors in selecting a site for a solar project are favorable geography, willing landowner participants, and access to transmission lines. None of these factors were present on any site near any existing electric generation facility.⁹¹ Blue Moon Energy will be able to connect the nonregulated transmission line with an existing transmission line owned by EKPC.

Local Planning and Zoning Requirements

Article 23 of the Harrison County Planning Commission Ordinance addresses solar facilities. The ordinance includes the setback requirements from nonparticipating properties and roadways. A 100-foot setback is required from the front of the property and 50 feet from the side and rear of the property when located in an agricultural zoning district.⁹² The Harrison County Planning Commission approved of the site plan on May 24, 2021.⁹³ The Siting Board finds that the Project appears to comply with the Harrison County Planning Commission Ordinance.

Impact on Transmission System

⁹⁰ Wells Report at 39; and Wells Report, Attachment E.

⁹¹ Application, paragraph 22.

⁹² Application, paragraphs 12-13.

⁹³ Application, paragraphs 12-13.

Blue Moon Energy will be located within the PJM Interconnection LLC (PJM). PJM completed a Feasibility Study and an Impact Study for the Project. These studies identified any network upgrades and facilities required to interconnect and provide transmission services to a new generator and a transmission network.⁹⁴ Blue Moon Energy will construct and maintain the non-regulated transmission line to interconnect with an EKPC transmission line on the site. Blue Moon Energy will be responsible for meeting any PJM requirements.

Based upon the case record, the Siting Board finds that Blue Moon 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 Blue Moon Energy solar 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 Blue Moon Energy's commitment to the interconnection process and protocols consistent with the requirements of KRS 278.212.

The Siting Board also finds that Blue Moon Energy'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

The Project is subject to local setback requirements. Therefore, Blue Moon Energy has not requested a deviation, pursuant to KRS 278.704, from the statutory setback requirements for the Project. Blue Moon Energy has committed to the setback requirements required by the Harrison County Planning Commission.⁹⁵ Nevertheless, the

⁹⁴ See Application, Exhibit D.

⁹⁵ Application, paragraphs 13 and 14.

Siting Board finds that Blue Moon Energy shall not place solar panels or string inverters if used, closer than 150 feet from a residence, church, or school, 25 feet from nonparticipating adjoining parcels, and 50 feet from adjacent roadways. Blue Moon Energy shall not place a central inverter, and if used, energy storage systems, closer than 450 feet from a residence, church, or school. Exceptions to these setback requirements for participating landowners are include in Appendix A.

History of Environmental Compliance

No information appears in the record of any environmental violations. Blue Moon Energy states 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 \$5,000.⁹⁶ Further Blue Moon Energy is not the subject of any pending judicial or administrative actions.⁹⁷

The Siting Board shall require approval of a transfer ownership of the project to another developer. The approval of the construction certificate is conditioned upon full compliance with all mitigation measures contained in this Order, some of which continue into the operation of the project. If the Siting Board did not require approval of a potential transfer of ownership, the construction certificate could be transferred to a company without the requisite expertise to comply with the mitigation measures. This would create a situation where a merchant solar generating facility is being constructed and operated outside of the statutory requirements of the Siting Board. This will be set forth more fully in Appendix A to this Order in mitigation measure 26.

⁹⁶ Application, paragraph 27.

⁹⁷ Application, paragraph 27.

Decommissioning

Blue Moon Energy has not finalized a decommissioning plan.⁹⁸ The applicable property leases contain covenants to the property owners regarding decommissioning.⁹⁹ Blue Moon Energy indicated it is the typical practice of the company to only decommission a project to a depth of three feet.¹⁰⁰

The Siting Board finds that Blue Moon Energy must return the land to its original use at the end of the Project's life to the extent possible. This will require 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 the damage to the land. The Siting Board will also require additional mitigation measures related to decommissioning, which are outlined in Appendix A to this Order, and in particular, mitigation measures 27 through 31.

CONCLUSION

After carefully considering the criteria outlined in KRS Chapter 278, the Siting Board finds that Blue Moon Energy has presented sufficient evidence to support the issuance of a Construction Certificate to construct the proposed merchant solar facility and the 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 nonregulated electric transmission line is attached hereto as Appendix B.

⁹⁸ Post-Hearing Brief at 3.

⁹⁹ Post-Hearing Brief at 3 and Response to Staff's First Request, Item 7.

¹⁰⁰ Post-Hearing Brief at 3.

IT IS THEREFORE ORDERED that:

1. Blue Moon Energy's application for a Construction Certificate to construct an approximately 70 MW merchant solar electric generating facility and a nonregulated electric transmission line in Harrison County, Kentucky is conditionally granted subject to full compliance with the mitigation measures and conditions prescribed in Appendix A.
2. Blue Moon Energy shall fully comply with the mitigation measures and conditions prescribed 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 Siting Board's docket.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

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

By
KAC w/
permission

Secretary, Cabinet for Economic Development,
or his designee

Greg Coulson, 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 STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING IN CASE NO. 2021-00414 DATED AUG 03 2022

MITIGATION MEASURES AND CONDITIONS IMPOSED

The following mitigation measures and conditions are hereby imposed on Blue Moon Energy LLC (Blue Moon 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. Prior to construction, Blue Moon Energy shall provide a finalized Emergency Response Plan to the local fire district, first responders, and any County Emergency Management Agency. Blue Moon Energy will provide site specific training for local emergency responders at their request. Access for fire and emergency units must be set up after consultation with local authorities.

5. Blue Moon 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.

6. Blue Moon Energy's access control strategy shall also include appropriate signage to warn potential trespassers. Blue Moon Energy 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. Blue Moon Energy will not remove any existing vegetation except to the extent it must remove such vegetation for the construction and operation of Project components.

9. Blue Moon 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 Blue Moon 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 Blue Moon 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.

10. Blue Moon Energy shall cultivate at least two acres of native, pollinator-friendly species onsite.

11. Blue Moon 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, Blue Moon Energy shall replace it as appropriate.

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

13. Blue Moon Energy shall limit construction activities to the hours between 7:00 a.m. to 9:00 p.m. Monday through Saturday. Construction shall not be conducted on Sundays unless it is necessary to make up for delays or to meet deadlines. Non-noise causing and non-construction activities can take place on the site prior to 7:00 a.m.

14. If the pile driving activity occurs within 1,500 feet of a noise-sensitive receptor, Blue Moon 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). Blue Moon 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.

15. Blue Moon 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 32 of this Appendix, at least one month prior to the start of construction.

16. Blue Moon 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 Blue Moon Energy's proposed setback from residences of 150 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, Blue Moon 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. Blue Moon 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.

17. Blue Moon 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.

18. Blue Moon Energy shall comply with all laws and regulations regarding the use of roadways.

19. Blue Moon 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.

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

21. Blue Moon Energy shall consult with the Harrison County Road Department (HCRD) regarding truck and other construction traffic and obtain any necessary permits from the HCRD.

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

23. Blue Moon Energy 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. Blue Moon 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.

25. Blue Moon 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 Blue Moon Energy's compliance with 401 KAR 63:010.

26. 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, Blue Moon Energy or its successors or assigns shall request explicit approval from the Siting Board with notice of the request provided to the Harrison County Fiscal Court. In any application requesting such abandonment, sale, or change of control, Blue Moon Energy shall certify its compliance with KRS 278.710(1)(i).

27. As applicable to individual lease agreements, Blue Moon 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.

28. Blue Moon Energy shall file a complete and explicit decommissioning plan with the Siting Board. This plan shall commit Blue Moon 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.

29. Blue Moon Energy shall file a bond with the Harrison County Fiscal Court, equal to the amount necessary to effectuate the explicit or formal decommissioning plan naming Harrison 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 Harrison County will have the authority to draw upon the bond to effectuate the decommissioning plan. For land with no bonding requirement otherwise, Harrison County shall be the primary beneficiary of the decommissioning bond for that portion of the Project. The bond shall be filed with the Harrison 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 Harrison County Fiscal Court, through the Harrison

County Treasurer, can be evidenced by a letter from the Harrison County Judge-Executive, the Harrison County Fiscal Court, or the Harrison 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 Blue Moon 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 Harrison 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.

30. Blue Moon 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. Blue Moon Energy shall commit to removing the debris and replaced facility components from the Project site and from Harrison County upon replacement. If the replaced components are properly disposed of at a permitted facility, they do not have to be physically removed from Harrison County. However, if the replaced facility components remain in the County, Blue Moon Energy must inform the Siting Board of the location where the components are being disposed.

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

32. Blue Moon 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. Blue Moon Energy shall also submit annually a status report associated with its Complaint Resolution Program, providing, among other things, the

individual complaints, how Blue Moon Energy addressed those complaints, and the ultimate resolution of those complaints identifying whether the resolution was to the complainant's satisfaction

33. Blue Moon Energy shall provide the Harrison County Fiscal Court 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. Blue Moon Energy shall update this contact information yearly, or within 30 days of any change in contact information.

34. Within 30 days of entry, Blue Moon 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 STATE BOARD ON
ELECTRIC GENERATION AND TRANSMISSION SITING IN
CASE NO. 2021-00414 DATED AUG 03 2022

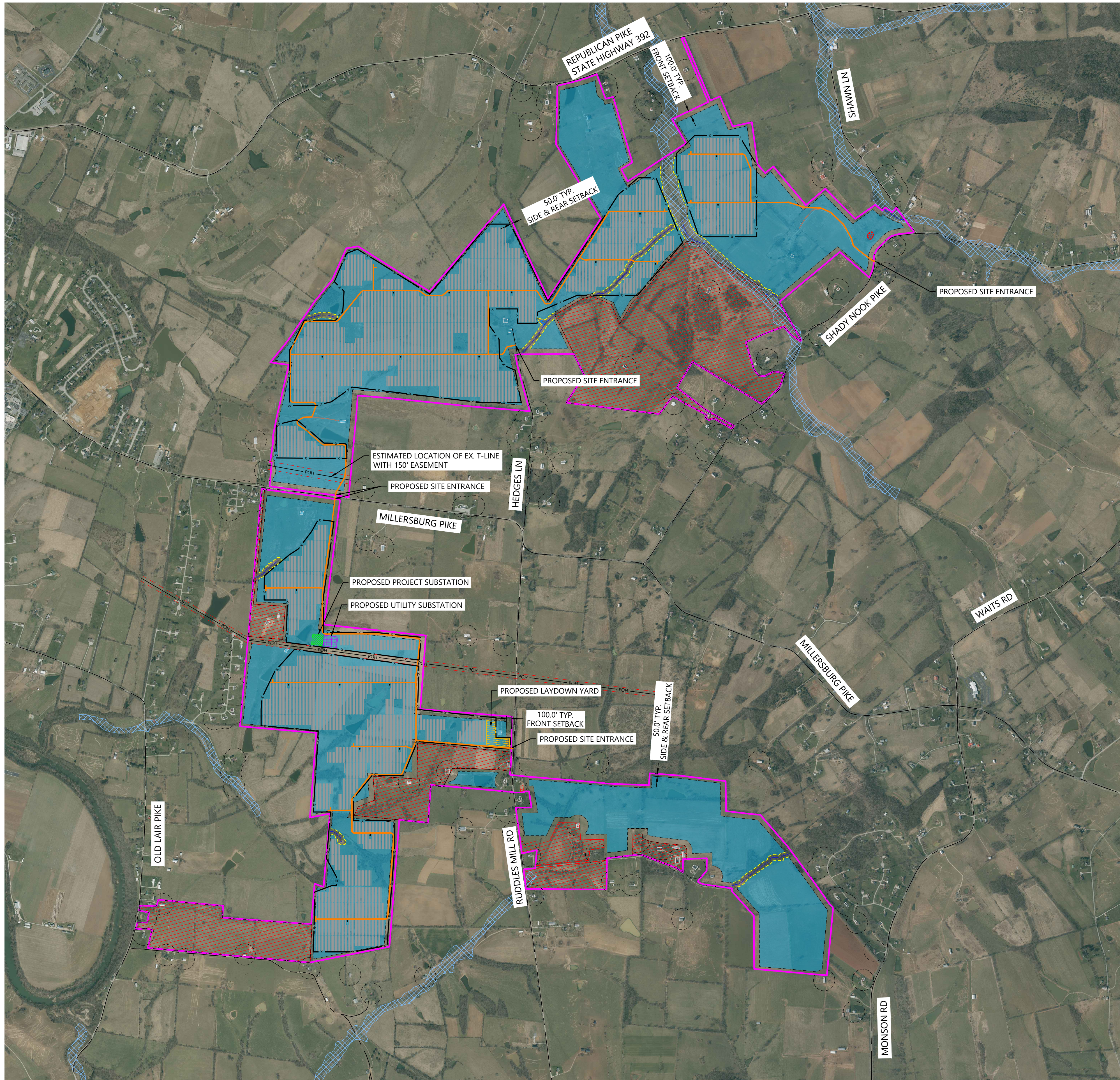
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PREPARED FOR:

RECURRENT ENERGY
 A subsidiary of Canadian Solar

3000 E Cesar Chavez, Ste. 400
 Austin, TX 78702

REVISIONS:
 0 10/06/2021 PRELIMINARY SITE PLAN



LEGEND:

- PROJECT BOUNDARY
- EASEMENT LINES
- EX. PAVED ROADS
- EX. GRAVEL ROADS
- EX. OVERHEAD POWER
- EX. FIELD DELINEATED STREAM CHANNEL
- EX. FIELD DELINEATED WETLAND
- EX. STRUCTURE
- BUILDABLE AREA
- EXCLUSION AREA
- FEMA FLOOD ZONE - 100 YEAR
- PROPOSED SECURITY FENCE
- PROPOSED 25' WETLAND AND 50' STREAM BUFFER
- PROPOSED PROJECT SETBACK
- PROPOSED ACCESS ROAD
- PROPOSED SOLAR ARRAY
- PROPOSED ELECTRICAL EQUIPMENT
- POTENTIAL SINKHOLE
- PROPOSED PROJECT SUBSTATION LOCATION
- PROPOSED UTILITY SUBSTATION LOCATION
- PROPOSED LAYDOWN YARD

PROJECT DATA

PARCEL AREA	1581.33 ACRES
PARCEL AREA WITHOUT EXCLUSION AREAS	1249.22 ACRES
BUILDABLE AREA	1041.24 ACRES
PROJECT FENCED AREA	648.84 ACRES
ARRAY AREA (ACREAGE UNDER PANELS)	122.14 ACRES
FENCE PERIMETER LENGTH (LINEAR FEET)	65,780.5
SYSTEM SIZE - DC	98.11 MW
SYSTEM SIZE - AC (AT INVERTER)	79.80 MW
SYSTEM SIZE - AC (AT POI)	70.08 MW
DC/AC (AT INVERTER)	1.23
DC/AC (AT POI)	1.40
DC SYSTEM VOLTAGE	1500 V
MODULE MODEL	CSI Module
MODULE RATING	490 W
MODULE QUANTITY	200,226
STRINGS (26 MODULES PER STRING)	7,701
INVERTER MODEL	TMEIC
INVERTER RATING (MVA @50C) (kVA)	4.2
INVERTER QUANTITY	19
RACKING SYSTEM	ATI DuraTrack HZ v3 Tracker - assume 2-st ring and 3-string tracker rows.
ROW SPACING	26.48'
GCR	28%

NOTES:

1. PROJECT AREAS ARE SUBJECT TO CHANGE PENDING FUTURE DESIGN CONSTRAINTS

Blue Moon Solar
 Harrison County, Kentucky

Overall Site Plan

NOT FOR CONSTRUCTION

DATE: 10/06/2021

SHEET: C.200

10/06/2021 09:54 CAD: C:\GEO\31612\1001\CAD\DWG\10/06/2021_9:54 PM\HARRY.GIBSON

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Resident Representative
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Cynthiana, KENTUCKY 41031

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Frost Brown Todd, LLC
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Chairman
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