COMMONWEALTH OF KENTUCKY $\begin{tabular}{ll} \end{tabular} BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND \\ TRANSMISSION SITING \end{tabular}$

In the Matter of:

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

Amended Application for Certificate of Construction

Blue Moon Energy LLC ("the Applicant" or "Blue Moon Solar") a wholly-owned subsidiary of Recurrent Energy, LLC, files this amended application seeking from the Kentucky State Board on Electric Generation and Transmission Siting ("the Board") a certificate of construction for an approximately 70-megawatt (MW) merchant electric solar generating facility and nonregulated electric transmission line pursuant to KRS 287.704 and 278.714 (the "Amended Application"). The generating facility and unregulated transmission line for which the certificates are sought will be located in Harrison County, Kentucky.

In support of the Amended Application, the Applicant submits herewith Exhibits A-G. To assist the Board and interested persons in locating information required by various statues and regulations, the Applicant also submits herewith the Table of Contents required by 807 KAR 5:110 Section 3(2)(b) and attaches hereto an Indexes of Regulation Requirements, listing the requirements for a generation application and unregulated transmission line application and the principal place(s) each requirement is addressed in these Amended Application materials. The facts on which the Amended Application is based are contained in the concurrently filed exhibits, reports, and the statements further made by the Applicant as follows:

I. Applicant Information

1. Pursuant to KRS 278.706(2)(a) and 278.714(2)(a), the name, address, and telephone number of the person proposing to construct and own the merchant electric generating facility and unregulated transmission line is as follows: Blue Moon Energy LLC; 123 Mission Street, 18th Floor, San Francisco, CA 94105 (859) 993-0077. Communications should be directed to the attention of Legal Department.

II. Applicant Information

- 2. The proposed Blue Moon Solar Project (the "Project") is a 70 MW solar facility capable of providing enough clean, renewable electricity to power 14,000 Kentucky homes. Photovoltaic (PV) solar modules are used to convert sunlight into direct current (DC) electricity which is then converted to alternating (AC) electricity through inverters. Transformers step up AC electricity to a higher voltage so that it can connect to the regional transmission grid.
- 3. Pursuant to KRS 278.706(2)(b), The Project is located on 1,581 acres near Cynthiana, Kentucky, in Harrison County (Exhibit A). The Project footprint, generally the area within the fence line where the Project infrastructure will be located, includes 648.84 acres within the larger Project site after required setbacks and site constraints. The site consists of 17 parcels secured from 13 landowners pursuant to real estate agreements with each landowner. The project parcels have generally experienced row crop agriculture, pastureland, and residential use. The uses of parcels surrounding the Project are similar and all leased parcels are zoned A-1 Agricultural. Evidence of harvested hay, soybeans, corn, wheat, and cattle were observed within the Project area. Vegetation is sparse aside from forested riparian areas generally associated with the ephemeral and intermittent streams and tributaries that cross through the Project. Topography is gently rolling upland with well-draining, non-hydric soils and primarily comprised of limestone and shale. One potential sinkhole comprised of 0.3 acres was identified within the Project area, current design does not have panels placed in this area.
- 4. Pursuant to KRS 278.714(2)(b) the transmission line will start at approximate coordinates 38°22'17.91"N 84°15'25.92"W and run west to east approximately 100 feet to the existing transmission line at approximate coordinates 38°22'17.89"N 84°15'25.68"W. The proposed voltage of the electric transmission line is 69 kV and maintained within a proposed 50 foot right of way. The proposed right of way will be within a single parcel, APN 117-0000-009-00-000, owned by James C. Wilson and Diane B.

Wilson. The transmission line will be approximately 1,025 feet from the nearest participating residential structure and approximately 1,400 feet from the nearest non-participating residential structure. Seven schools and two public or private parks exist within two (2) miles of the proposed facility as shown in Exhibit A. The proposed transmission line will not exist within 1,000 feet of a residential neighborhood, school, or park.

- 5. Approximately 46,250 linear feet of private access roads will be utilized within the facility and will be constructed of all-weather gravel. The majority of these roads are existing. Roads will not exceed 16 feet (4.9 meters) in width, except for turning radii, which will not exceed 50 feet (15.2 meters) in radius. All entrances and driveways will comply with applicable design requirements for safe access and egress. The Project solar arrays will be secured with approximately 65,785 linear feet of perimeter fence, which will consist of six (6)-foot chain link fence with three strand barbed wire and colored green or black per requirements of Article 23 Section 4(B)(i)(3) of the Planning and Zoning Ordinances for Cynthiana, Harrison County, and Berry ("Ordinance"). Fixed lighting at the perimeter will be limited to gates and the substation area and will be motion-activated to minimize light spillage. The Project will utilize construction methods that minimize large-scale grading and removal of native soil. Clearing and grubbing will occur where necessary. Minimal grading may be required to level rough or undulating areas of the site and to prepare soils for concrete foundations for substation equipment and inverters. Access roads will also be grubbed, graded, and compacted. The site cut and fill will be appropriately balanced, with no anticipation of import/export necessary.
- 6. Project components will include a PV solar field consisting of PV solar panel modules mounted on metal structures and anchored to the ground with pilings. Panels will move to track the sun over the course of the day. Other components of the PV system include: an onsite substation, a direct current ("DC") collection system of underground cabling and combiner boxes, and power conversion stations with inverters, transformers, and emergency backup power to convert DC to alternating current ("AC"). An underground and/or overhead collection system will be used to convey electricity from the solar array field to the substation. The Project will include an onsite transmission line, fiber optic cable for communications underground or on overhead lines, a meteorological station mounted on a concrete

¹ https://www.harrisonplanning.com/ files/ugd/e9d208 c03c75898fe34afeaf3cb654fe6ae21f.pdf.

foundation, interior access ways, and a facility perimeter road. In addition, the Project will include, as necessary: an operation and maintenance ("O&M") building, parking area, and other associated facilities such as above-ground water storage tanks, security gate, signage, and flagpoles. During construction, the Project will include a temporary construction mobilization and laydown area for construction trailers, construction workforce parking, above ground water and fuel tanks, materials receiving and materials storage.

- 7. The PV solar modules will be supported by steel piles driven into the soil. Piles are spaced approximately 10 to 20 feet apart, and the maximum height of the PV modules will be 15 feet. Modules will be oriented in rows running from north to south utilizing a single axis tracking system. The modules will be connected using DC cables that can either be buried in a trench or attached to the racking system. The DC cables gather at the end of racking systems to combiner boxes which are connected to cables routing to an inverter. The racking system will be supported by approximately 34,722 steel posts installed with a combination of pile-driving machines and augers. The center height of the racking structures will be approximately 4 feet (1.2 meters) to 6.8 feet (2.1 meters) above the ground. The spacing between array rows is estimated to be approximately 8 to 15 feet.
- 8. Approximately 19 inverters will be installed throughout the Project to convert the DC power from the 1,500 volt DC collection system to AC power, which will then be transmitted to a Project substation via the 34.5-kilovolt (kV) AC collection system. The AC collection system will include underground and/or overhead segments. Underground segments of the AC collection system will be buried a minimum of 3 feet (0.9 meters) below grade; and overhead portions will not exceed a maximum height of 45 feet (13.7 meters) above grade. The AC collection system will be comprised of medium voltage (MV) cable that will transfer electricity to the Project substation. Approximately 221,000 linear feet of DC collection system cables and 52,000 linear feet of AC collection cables would be installed throughout the Project. Collection cables are congregated into common trenches and run adjacent to one another. All electrical inverters and the transformer will be placed on concrete foundations or steel skids.
- 9. The Project will require one substation that will include one 81-mega volt ampere (MVA) transformer equipment, control building foundation, and oil containment area. Concrete pads will be constructed as foundations for substation equipment, and the remaining area will be graveled. Concrete for foundations

will be brought on-site from an external batching plant. The substation area will serve as the general parking area for permanent employees and contain all necessary equipment to step up incoming MV electricity to the high voltage electricity necessary to interconnect into the existing 69kV Cynthiana transmission line onsite owned and operated by East Kentucky Power Cooperative. The proposed gen-tie line will be no more than 100 feet (30.48 meters) in length, will be located entirely within the project footprint, and will be constructed by the Applicant. East Kentucky Power Cooperative will be responsible for any additional transmission equipment located within the switchyard for the Project. It is anticipated that the gen-tie poles and substation components will not exceed 85 feet (25.9 meters) above grade.

III. Public Notice Evidence

- 10. Pursuant to KRS 278.706(2)(c), prior to filing this Amended application, notice was provided to landowners whose property borders the proposed site. A list of addresses and names of those landowners who were sent notices on February 2, 2022, is contained in Exhibit B-5. The notice was mailed to each landowner via FedEx, except for four landowners who use a P.O. Box and those landowners notice letters were transmitted via certified mail. See Exhibit B-5 for evidence of delivery.
- 11. Additionally, a public notice was published in the <u>Cynthiana Democrat</u> on January 13, 2022. See Exhibit B-5.

IV. Compliance with Local Ordinance and Regulations

12. Pursuant to KRS 278.706(2)(d), Harrison County has promulgated Article 23 of the Ordinance and the Applicant has designed the project to be consistent with the applicable Ordinance requirements. The signed Statement of Compliance is contained in Exhibit C.

V. Setback Requirements

Pursuant to KRS 278.708(3)(a)(7), Buffers and setbacks will be included along the boundaries of the Project and from sensitive resources such as homes, businesses, and wetlands or streams. In compliance with Article 23, Section 4 (Table 2) of the Ordinance, Setbacks will vary depending on the project facing side and type of sensitive feature (i.e. agricultural, residential, commercial, or industrial). The Zoning Ordinance is enclosed as SAR Exhibit F. Proposed setbacks are included on the project layout in SAR Exhibit A. Additionally, the approved Conditional Use Permit (CUP) provides that:

all above-ground equipment will have a minimum front setback of at least one hundred (100) feet to frontage boundary lines and fifty (50) feet to side and rear boundary lines of any non-participating properties and roadways. No setbacks are required between the boundary lines of parcels that are part of a single project. Above-ground equipment shall be located no closer than 150' from any participating residential structures and no closer than 200' feet from any non-participating landowner.

The Conditional Use Approval and Conditions is enclosed as Exhibit G.

- 14. The Project will not include any exhaust stacks or wind turbines as part of the facility; the Project will not be required to follow setback requirements set forth in KRS 278.704(3), from the property boundary of any adjoining property owner to the energy generating facilities.
- 15. Pursuant to KRS 278.704(3), the setbacks designated in the Ordinance and the CUP have primacy over the setback requirements provided in KRS 278.704(2) and (5).
- 16. The Applicant retained Kirkland Appraisals, LLC to assess potential effects of the Project on nearby property values. The matched pair analysis shows no impact on home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land where the solar farm is properly screened and buffered. The adjoining properties have sufficient setbacks from the proposed solar panels and supplemental vegetation is proposed to enhance the areas where the existing trees are insufficient to provide proper screening.

VI. Public Notice Report

- 17. Pursuant to KRS 278.706(2)(f), the Applicant has made a substantial effort to engage the public in numerous ways regarding the Project. The Applicant created a Project website and Facebook page to publish information about the Project and to provide an email and telephone number for feedback. In all communications, Blue Moon Solar has endeavored to be transparent regarding the specifics of the proposed Project.
- 18. On August 11, 2021, a package of information that fulfilled the requirements of 807 KAR 5:110 Section 2 was sent to landowners whose property borders the proposed site. A list of addresses and names of those landowners who were sent notices and the certified mail receipts is contained in Exhibit B-1.
- 19. On August 12 and 19, 2021, the Applicant published a public notice in the <u>Cynthiana Democrat</u> newspaper (Exhibit B-4). A Project website (https://recurrentenergy.com/project/blue-moon/) was also developed so the general community was made aware of the Project and gained access to Project details and contact information.

- 20. A community meeting was hosted at the Harrison County Extension Office on August 25th to discuss the Project with community members; See Exhibit B-2 for presentation materials and attendance sheet. During the public meeting, attendees were shown enlarged satellite images showing the exact location of the proposed solar array and the proposed Project layout. Information boards with technical experts were also available for viewing and discussion on other topics including environmental health and safety of PV, landscape and screening plans, and the impact of solar projects on property values and community economics (Exhibit B-2). Experts who were present at the public meeting and available to answer questions from attendees included:
 - Jayce Walker, Development Manager for Blue Moon Solar, Recurrent Energy
 - Kate Garcia, Permitting Specialist for Blue Moon Solar, Recurrent Energy
 - Derek Moretz, Director of Development for Blue Moon Solar, Recurrent Energy
 - Joshua Harding, Site Acquisition Manager for Blue Moon Solar, Recurrent Energy
 - Robert Moore, Director of Origination & Structuring for Blue Moon Solar, Recurrent Energy
 - Gregory Dutton, Attorney at Law, Frost Brown Todd LLC
 - Chad Martin, Environmental Specialist, Cardno Inc.
 - Sam Waltman, Environmental Specialist, Cardno Inc.
 - Brett Vanderwiel, Civil Project Engineer, Westwood
 - Adam Edelen, Founder of Edelen Strategic Ventures, LLC

Members of the general public that attended the meeting are included in Exhibit B-2.

- 21. Based on the feedback received before, during, and after the community meeting, Recurrent made changes to the site plan. These included moving proposed solar panels away from neighbors on the western border of the site, north and south of Millersburg Pike, to locations elsewhere within the Project further from neighbors. Additionally vegetative screening was incorporated into the plan to further protect viewsheds.
- 22. Project information packages were reissued following the community meeting updating neighboring landowners to adjustments made based on their feedback. Evidence of delivery is provided in Exhibit B-3.
- 23. Recurrent published this updated site plan and reissued mail packages updating neighboring landowners to adjustments made based on their feedback (Exhibit B-3).
- 24. Table 1 below provides a brief description of other public involvement activities, in addition to the public meeting and various outreach activities/meetings with local stakeholders, undertaken prior to the submission of this Amended Application. Blue Moon Solar will continue these efforts and will participate in any public notice, comment, and hearings which may be initiated as part of ongoing permitting activities.

Table 1. Public Involvement Activities

NAME	QUESTIONS/COMMENTS RECEIVED	FOLLOW UP
NAME	QUESTIONS/COMMENTS RECEIVED	RESPONDED VIA EMAIL 8/16 DIRECTING TO
FRANK MCKEE	EMAIL RECEIVED 8/14 REGARDING LOCATION OF PROJECT	PROJECT WEBSITE FOR PROJECT LOCATION AND ENCOURAGING ATTENDANCE AT PUBLIC MEETING
STEVE CRAYCRAFT	VM RECEIVED 8/23 & 8/24	CALL RETURNED 8/24. MR. CRAYCRAFT CALLED TO CONFIRM CEMETARY LOCATIONS AND LET US KNOW ABOUT THE OVERHEAD TRANSMISSION LINE THAT GOES THROUGH A PROJECT PARCEL. DISCUSSED VEGETATIVE BUFFER QUESTIONS AT BOARD OF ADJUSTMENTS HEARING.
LEE KENDALL	VM AND EMAIL RECEIVED 8/30/21	CYNTHIANA DEMOCRAT FOLLOWING UP POST COMMUNITY MEETING - JAYCE RESPONDED
ROBIN & GARY ANDERSON	MET @ 8/25 COMMUNITY MEETING - EXPRESSED CONCERNS ABOUT THE PROJECT BEING CLOSE TO THEIR PROPERTY	ADDRESSED QUESTIONS AT THE MEETING; RECURRENT TO ADJUST PANEL LOCATION IN DESIGN
JUDY MCCOWN	MET @ 8/25 COMMUNITY MEETING - EXPRESSED CONCERNS ABOUT THE PROJECT BEING CLOSE TO HER PROPERTY	ADDRESSED QUESTIONS AT THE MEETING; RECURRENT TO ADJUST PANEL LOCATION IN DESIGN
KATIE HEMLOCK	VM RECEIVED 8/26: QUESTIONS ABOUT BUILDABLE AREA	CALL RETURNED 8/26. ADDITIONAL EMAILS EXCHANGED 8/27, 8/28, 8/29, 8/31 AND 10/4 AFTER THE REVISED MAILER WAS RECEIVED
PEGGY MCCLOSKEY	EMAIL RECEIVED 10/5 - QUESTIONS REGARDING BUILDABLE AREA, DECOMMISSIONING, GENERATION AND LANDSCAPING	RESPONDED 10/5 VIA EMAIL
JIM THOMAS	EMAIL RECEIVED 10/5 - QUESTIONS REGARDING BUILDABLE AREA, VISUAL IMPACTS, USE OF LOCAL ROADS, ECONOMIC BENEFITS AND NEXT PUBLIC MEETING	RESPONDED 10/6 VIA EMAIL
DR. MARVIN T. BATTE	EMAILED 10/8 - QUESTIONS REGARDING EXCLUSION AREAS	JAYCE EMAILED 10/8; ALSO DISCUSSED IN- PERSON AT 10/25 BOARD OF ADJUSTMENTS HEARING
TEDDY MARTIN	CALLED WANTING TO KNOW PROJECT DETAILS AND ASK ABOUT INCLUDING HIS LAND	CALLED BACK 10/22 AND LEFT A MESSAGE FOR MR. MARTIN TO CALL TO DISCUSS
JUDGE ALEX BARNETT	MET ON 5/7/2021 TO DISCUSS BLUE MOON ENERGY SOLAR PROJECT	N/A
GARNETT FURNISH	MET ON 5/7/2021 TO DISCUSS BLUE MOON ENERGY SOLAR PROJECT	COORDINATED VIA TELEPHONE ON MULTIPLE OCCASIONS TO DISCUSS PROJECT AND IDENTIFY OPPORTUNITIES FOR BLUE MOON ENERGY TO SUPPORT COMMUNITY. MADE \$2,500 DONATION TO NOVEMBER 6 'HARVESTING THE HOLIDAYS' EVENT HOSTED BY CYNTHIANA COMMUNITY EVENTS.

MET INITIALLY ON 5/7 TO DISCUSS HARRISON COUNTY PERMITTING PROCESS FOR SOLAR PROJECTS

MET AGAIN ON 8/24 AND 10/20 AND COORDINATED ON TELEPHONE AND EMAIL TO DISCUSS CONDITIONAL USE PERMIT APPLICATION AND BOARD OF ADJUSTMENTS PROCESS. ALSO DISCUSSED PLANNING COMMISSION, DEVELOPMENT PLAN, DECOMMISSIONING BOND, AND BUILDING PERMIT.

VII. Efforts to Locate Near Existing Electric Generation

25. No existing electric generating facilities are (or have been) located on the proposed site for the solar generating facility. Consistent with KRS 278.706(2)(g), Blue Moon Solar took into account whether the proposed solar project could be located on, adjoining, or in proximity to the location of existing electric generating facilities. For solar projects like Blue Moon Solar, key factors for site selection are favorable geography, willing landowner participation, and access to transmission lines. The land needed to site Blue Moon Solar was not available on or adjoining to an existing electric generation facility. However, Blue Moon Solar selected a location in proximity to an existing transmission line. Blue Moon Solar's point of interconnection at the proposed Substation, located within the project boundary, allows the Project to interconnect at the preferred voltage of 69kV and utilize an existing transmission line. The Project will interconnect to an on-site, proposed substation and existing 69kV transmission lines owned by East Kentucky Power Company. Information on Eastern Kentucky Power Company's studies of the interconnection cost and infrastructure are included in the Feasibility Study and System Impact Study (Exhibit D).

VIII. Proof of Service to County and Municipality Officials

26. Pursuant to KRS 278.706(2)(h), a copy of the this Amended Application for Blue Moon Energy LLC was transmitted to the Judge-Executive of Harrison County, Alex Barnett, and the Chairman of the Cynthiana-Harrison County-Berry Joint Planning Commission Chairman, Daryl Northcutt, on the date of electronic filing of this Amended Application (February 7, 2022).

IX. Effect on Kentucky Electricity Generation System

27. Pursuant to KRS 278.706(2)(i), An analysis of the proposed solar generating facility's projected effect on the electricity transmission system is provided in Exhibit D.

X. Effect on Local and Regional Economies

- 28. Pursuant to KRS 278.706(2)(j), an Economic Impact Study was completed for the Project by Mangum Economics, LLC included in Exhibit E. As the report demonstrates, utility-scale solar energy projects have numerous economic benefits. Solar installations create job opportunities in the local area during both the short-term construction phase and the long-term operational phase. In addition to the workers directly involved in the construction and maintenance of the solar energy project, numerous other jobs are supported through indirect supply chain purchases and the higher spending that is induced by these workers. Solar projects strengthen the local tax base and help improve county services, and local infrastructure, such as public roads.
- 29. The projected revenue from the Project to Harrison County is estimated at \$1,431,472 of economic output over the next forty (40) years. The proposed Project would generate approximately \$1.4 million in cumulative tax revenues for county entities as compared to \$112,200 for the current agricultural use, over the next 40 years and would also generate an additional \$952,443 in state tax revenue over the 40-year period. Construction is Harrison County's 5th largest major industry sector, and the Project would directly support this sector with the addition of approximately 184 jobs and \$10.4 million in labor income. During the construction period, the Project is estimated to employ up to 291 construction workers and support positions generating \$16.6 million in labor income with a total economic output of \$43.5 million dollars. The employment of local labor is estimated to reach up to 184 jobs during this construction period. Operational support will require three fulltime jobs with an associated labor income of \$118,171 and a total economic output of \$365,475 annually.

XI. Record of Environmental Violations

30. Pursuant to KRS 278.706(2)(k), neither the Applicant, nor any entity with ownership interest in the Project, has violated any state or federal environmental laws or regulations. There are no pending actions, judicial or administrative, against the Applicant nor any entity with ownership interest in the Project.

XII. Site Assessment Report

31. Pursuant to KRS 278.706(2)(1), the site assessment report is being contemporaneously filed herewith; please see the separate document titled "Blue Moon Energy LLC, Kentucky State Board on Electric Generation and Transmission Application, Site Assessment Report, Case No. 2021-00414", labeled as

Exhibit F to this Amended Application.

Dated this 7th day of February 2022.

Respectfully submitted,

FROST BROWN TODD LLC

/s/ Gregory T. Dutton____

Gregory T. Dutton
FROST BROWN TODD LLC 400 W.
Market Street, 32nd Floor Louisville, KY
40202
(502) 589-5400
(502) 581-1087 (fax)
gdutton@fbtlaw.com
Counsel for Blue Moon Energy LLC

Statutory/Regulation Requirements General ESB Certificate

KRS 278.	Description	Filing
278.706(2)(a)	The name, address, and telephone number of the person proposing to construct and own the merchant generating facility	Application ¶ 1
(2)(b)	A full description of the proposed site, including a map showing the distance of the proposed site from residential neighborhoods, the nearest residential structures, schools, and public and private parks that are located within a two (2) mile radius of the proposed facility	Application ¶ 2-9; Exh. A
(<u>2)(c)</u>	Evidence of public notice that shall include the location of the proposed site and a general description of the project, state that the proposed line is subject to approval by the board, and provide the telephone number and address of the Public Service Commission. Public notice shall be given within thirty (30) days immediately preceding the application filing to: 1. Landowners whose property borders the proposed site; and 2. The general public in a newspaper of general circulation in the county or municipality in which the facility is proposed to be located	Application ¶ 10; Exh. B
(2)(d)	A statement certifying that the proposed plant will be in compliance with all local ordinances and regulations concerning noise control and with any local planning and zoning ordinances. The statement shall also disclose set back requirements established by the planning and zoning Commission as provided under KRS 278.704(3)	
(2)(e) [1st]	If the facility is not proposed to be located on a site in an area where a planning and zoning commission has established a setback requirement pursuant to KRS 278.704(3), a statement that all proposed structures or facilities used for generation of electricity are two thousand (2,000) feet from any residential neighborhood, school, hospital, or nursing home facility	N/A
(2)(e) [2nd]	If the facility is proposed to be located on a site of a former coal processing plant and the facility will use on-site waste coal as a fuel source, a statement that the proposed site is compatible with the setback requirements provided under KRS 278.704(5)	N/A

(2)(e) [3rd]	Application ¶¶ 13-15	
(2)(f)(1)	A complete report of the applicant's public involvement program activities undertaken prior to the filing of the application, including: The scheduling and conducting of a public meeting in the county or counties in which the proposed facility will be constructed at least ninety (90) days prior to the filing of an application, for the purpose of informing the public of the project being considered and receiving comment on it	Application ¶¶ 17-24; Table 1; Exh. B
(2)	Evidence that notice of the time, subject, and location of the meeting was published in the newspaper of general circulation in the county, and that individual notice was mailed to all owners of property adjoining the proposed project at least two (2) weeks prior to the meeting	Application ¶ 19; Exh. B-1
(3)	Any use of media coverage, direct mailing, fliers, newsletters, additional public meetings, establishment of a community advisory group, and any other efforts to obtain local involvement in the siting process	Application ¶¶ 17-24, Exh. B
(2)(g)	A summary of the efforts made by the applicant to locate the proposed facility on a site where existing electric generating facilities are located	Application ¶ 25
<u>(h)</u>	Proof of service of a copy of the application upon the chief executive officer of each county and municipal corporation in which the proposed line is to be located, and upon the chief officer of each public agency charged with the duty of planning land use in the general area in which the line is proposed to be located.	Application ¶ 26
<u>(i)</u>	An analysis of the proposed facility's projected effect on the electricity transmission system in Kentucky	Application ¶ 27, Exh. D
(2)(j)	An analysis of the proposed facility's economic impact on the affected region and the state	Application ¶¶ 28-29, Exh. E

(k) (l)	A detailed listing of all violations by it, or any person with an ownership interest, of federal or state environmental laws, rules, or administrative regulations, whether judicial or administrative, where violations have resulted in criminal convictions or civil or administrative fines exceeding five thousand dollars (\$5,000). The status of any pending action, whether judicial or administrative, shall also be submitted. A site assessment report as specified in KRS 278.708.	Application ¶ 30 Application ¶ 31, Exh. F
278.704(2)	Except as provided [by locally-established setback requirements or through a deviation granted pursuant to KRS 278.704(4)] all proposed structures or facilities used for generation of electricity are two thousand (2,000) feet from any residential neighborhood, school, hospital, or nursing home facility.	Application ¶ 12
.704(3)	If the merchant electric generating facility is proposed to be located in a county or a municipality with planning and zoning, then setback requirements from a property boundary, residential neighborhood, school, hospital, or nursing home facility may be established by the planning and zoning commission.	Application ¶¶ 12-15, Exh. G and SAR Exh. G
<u>278.708</u> (1)	A site assessment report as required under KRS 278.706(2)(1)	Exh. F
(2)	A site assessment report prepared by the applicant or its designee.	Exh. F
.708(3)(a)	A description of the proposed facility that shall include a proposed site development plan that describes: 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; 6. Existing or proposed utilities to service the facility;	Application ¶¶ 3-9; Exh. A; Exh. F, Exh. D, Exh E;

	7. Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), (4), or (5); and 8. Evaluation of the noise levels expected to be produced by the facility	
(3)(b)	An evaluation of the compatibility of the facility with scenic surroundings;	Exh. F, Exh. B
<u>(c)</u>	The 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 facility	Exh. F, Section 3; Exh. F, Exh. B
<u>(d)</u>	Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; and	Exh. F, Section 4; Exh. F, Exh. D
<u>(e)</u>	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	Exh. F, Section 5; Exh. F, Exh. E
<u>(4)</u>	The site assessment report shall also suggest any mitigating measures to be implemented by the applicant to minimize or avoid adverse effects identified in the site assessment report	Exh. F, Section 6

EXHIBIT A





RECURRENT

3000 E Cesar Chavez, Ste. 400

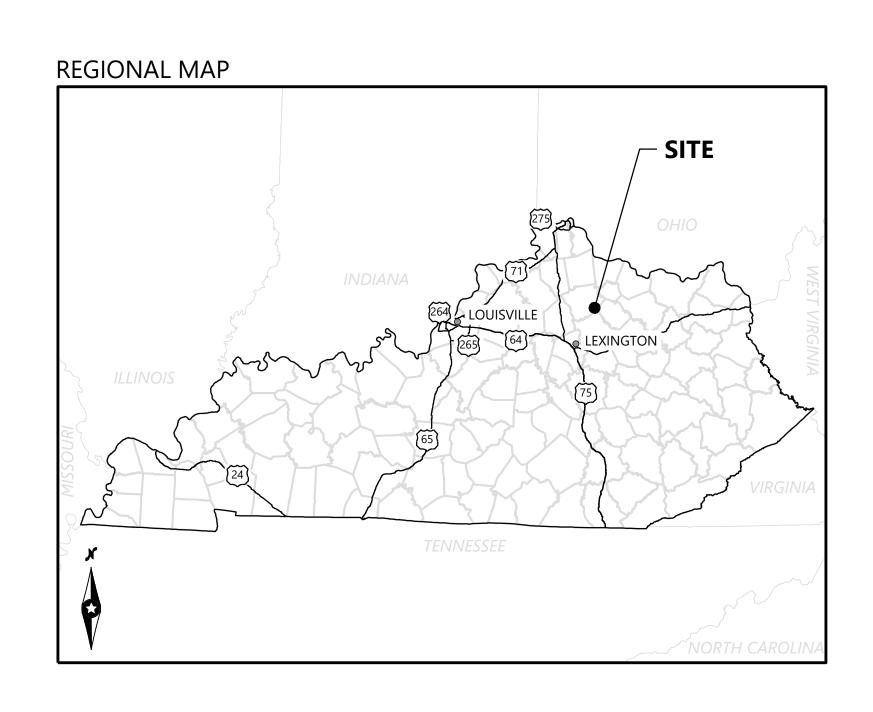
Austin, TX 78702

0	10/06/2021	PRELIMINARY SITE PLAN	
	. 0, 00, 202 .		

Blue Moon Solar Project

Harrison County, Kentucky

Preliminary Site Plan



VICINITY MAP				
HARRISON COUNTY				
	36) la (27)	SITE	
356	CYNTHIANA •	392	AIC PAIC	OR COUNTY
	(27) (27)	1940 Junta		32
(62)		BOURBON COUNTY (893)		68

	CONTACT IN	NFORMATI(ON	
TITLE	COMPANY	NAME	ADDRESS	PHONE
PERMITTING MANAGER	RECURRENT ENERGY	KATE GARCIA	3000 OAK ROAD, SUITE 300 WALNUT CREEK, CA 94597	415-501-9494
ENVIRONMENTAL/PERMITTING PROJECT MANAGER	CARDNO	CHAD MARTIN	76 SAN MARCOS STREET, AUSTIN, TX 78702	713-203-9161
ENGINEERING PROJECT MANAGER	WESTWOOD PROFESSIONAL SERVICES	AUGUST CHRISTENSEN	12701 WHITEWATER DRIVE, SUITE 300 MINNETONKA, MN 55343	952-500-0270
PROJECT ENGINEER	WESTWOOD PROFESSIONAL SERVICES	BRETT VANDERWIEL	12701 WHITEWATER DRIVE, SUITE 300 MINNETONKA, MN 55343	952-906-7431

Sheet List Table		
SHEET NUMBER	SHEET TITLE	
C.100	Cover	
C.200	Overall Site Plan	
C.201	Parcel Map	
C.202	Landscaping Plan	

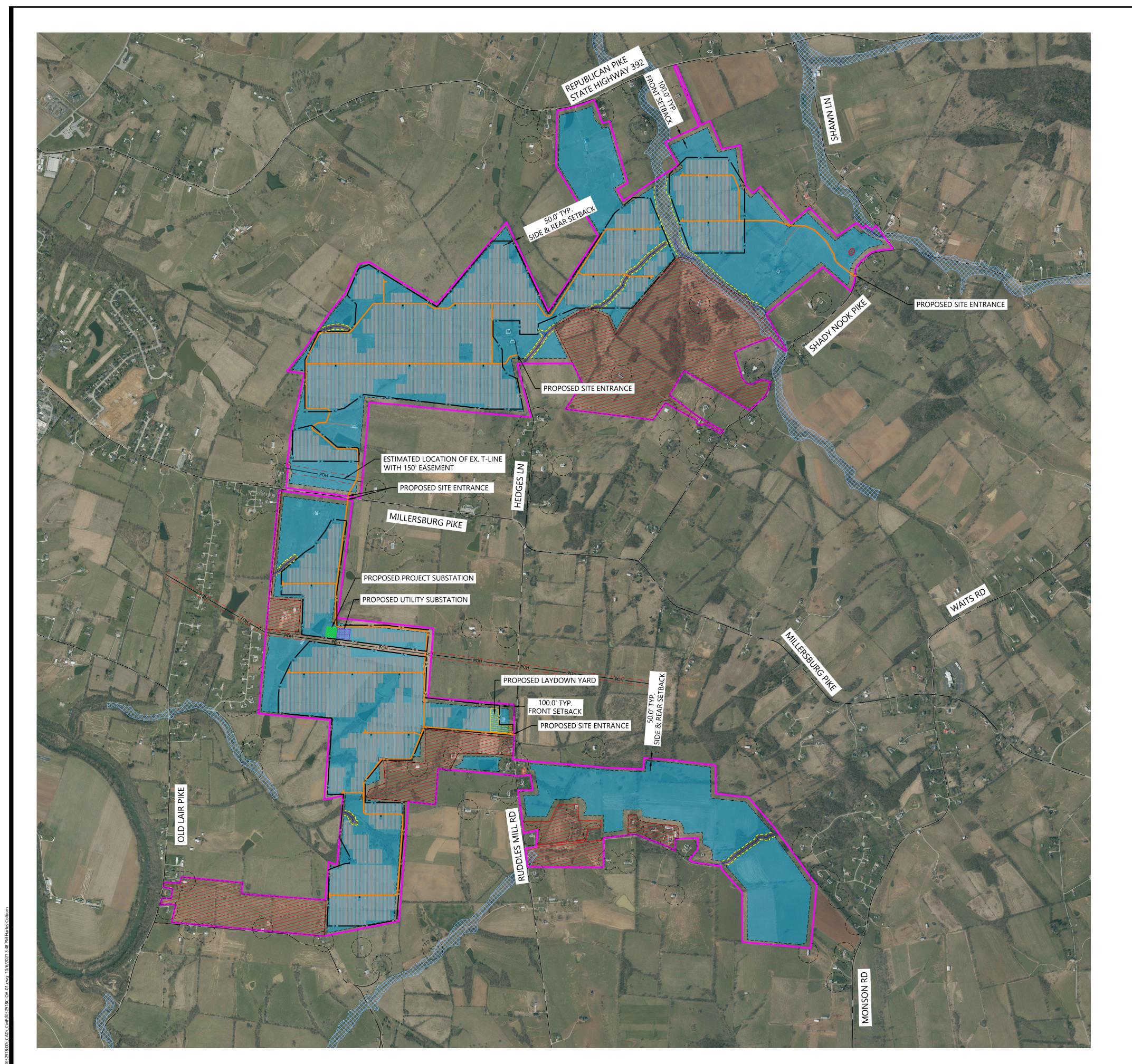
Blue Moon Solar

Harrison County, Kentucky

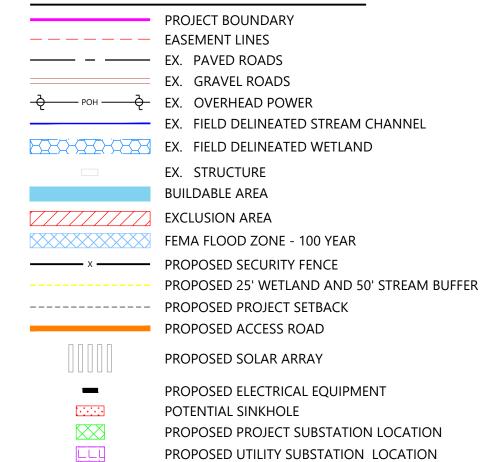
Cover

NOT FOR CONSTRUCTION

10/06/2021



LEGEND:



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

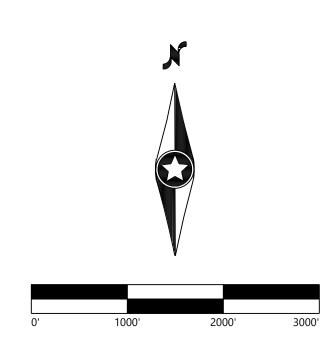


Westwood Professional Services, Inc.

RECURRENT ENERGY A subsidiary of Canadian Solar

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

0	10/06/2021	PRELIMINARY SITE PLAN	
<u>. </u>			
-			
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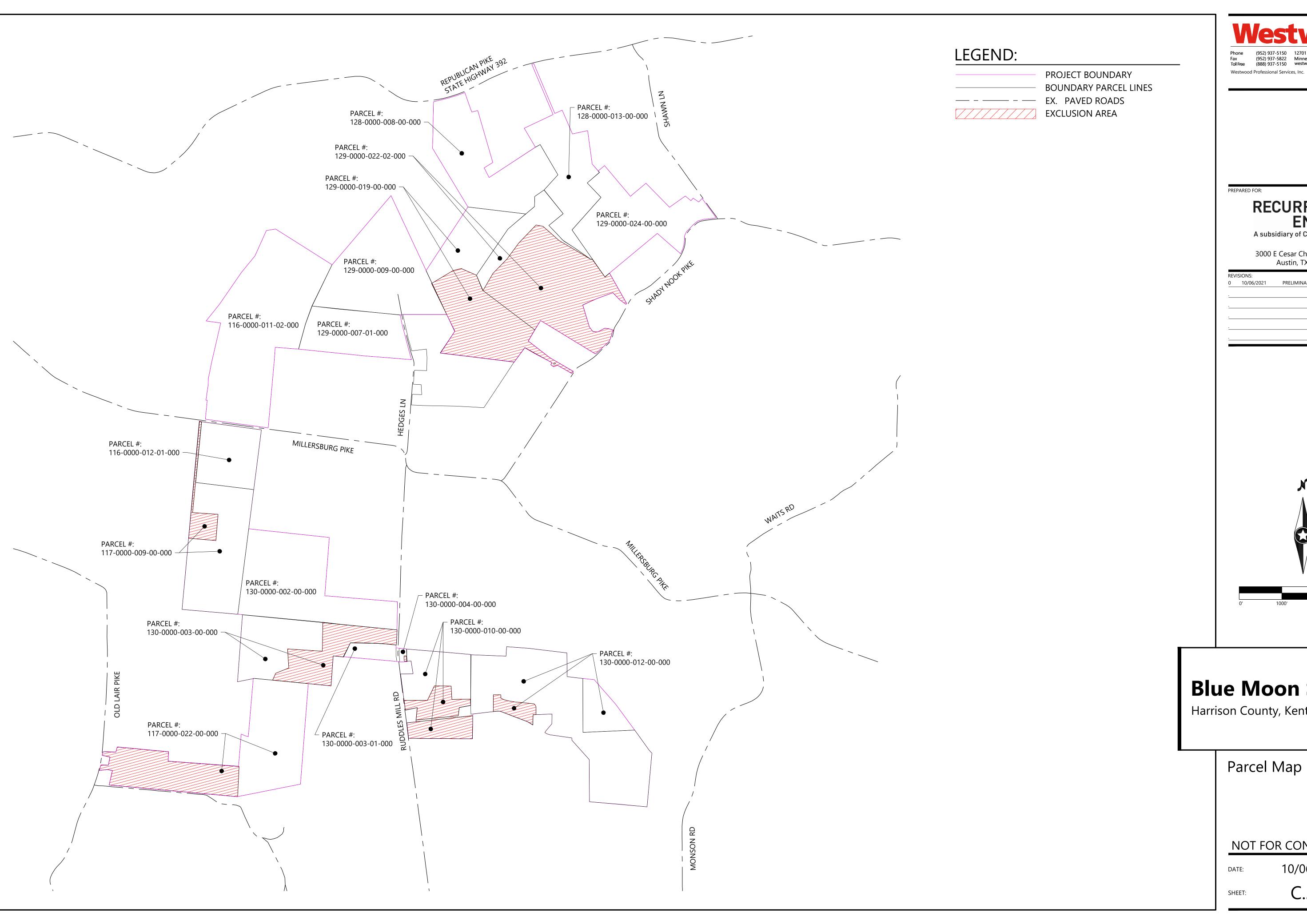
Blue Moon Solar

Harrison County, Kentucky

Overall Site Plan

NOT FOR CONSTRUCTION

10/06/2021





 (952) 937-5150
 12701 Whitewater Drive, Suite #300

 (952) 937-5822
 Minnetonka, MN 55343

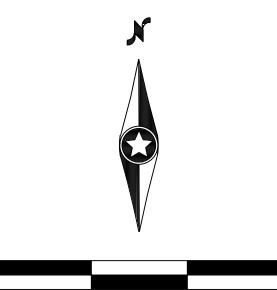
 (888) 937-5150
 westwoodps.com

RECURRENT ENERGY

A subsidiary of Canadian Solar

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

PRELIMINARY SITE PLAN



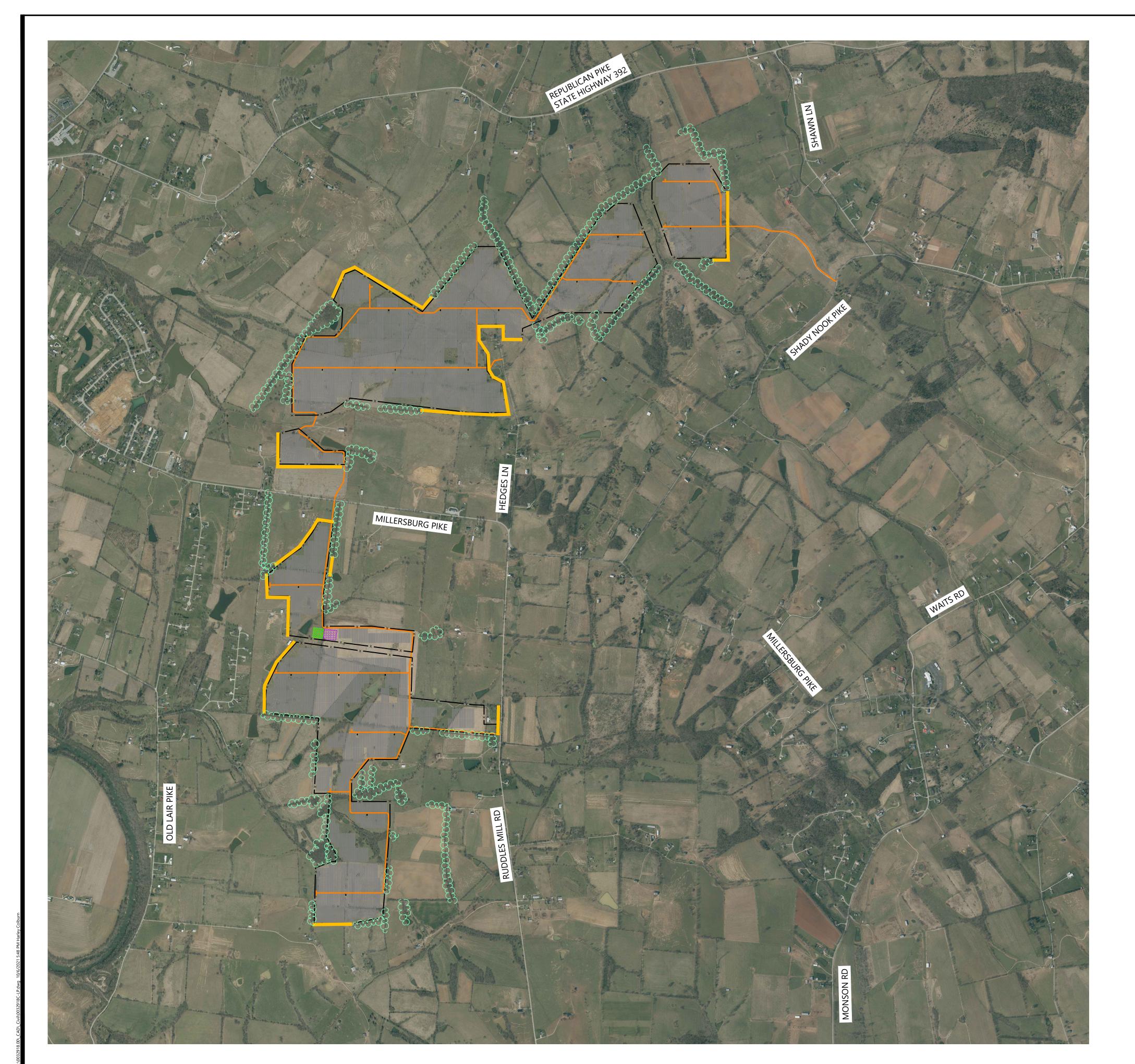
Blue Moon Solar

Harrison County, Kentucky

Parcel Map

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10/06/2021



LEGEND:

----- EXISTING VEGETATION

15' EVERGREEN SPACING (DOUBLE ROW)

PROPOSED SECURITY FENCE PROPOSED ACCESS ROAD

PROPOSED SOLAR ARRAY

PROPOSED ELECTRICAL EQUIPMENT PROPOSED PROJECT SUBSTATION LOCATION

PROPOSED UTILITY SUBSTATION LOCATION

NOTES:

- 1. PROJECT AREAS ARE SUBJECT TO CHANGE
 PENDING FUTURE DESIGN CONSTRAINTS
 2. LANDSCAPING INFORMATION PROVIDED BY CARDNO

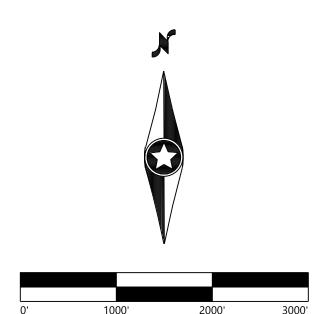


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3000 E Cesar Chavez, Ste. 400 Austin, TX 78702

REV	ISIONS:		
0	10/06/2021	PRELIMINARY SITE PLAN	
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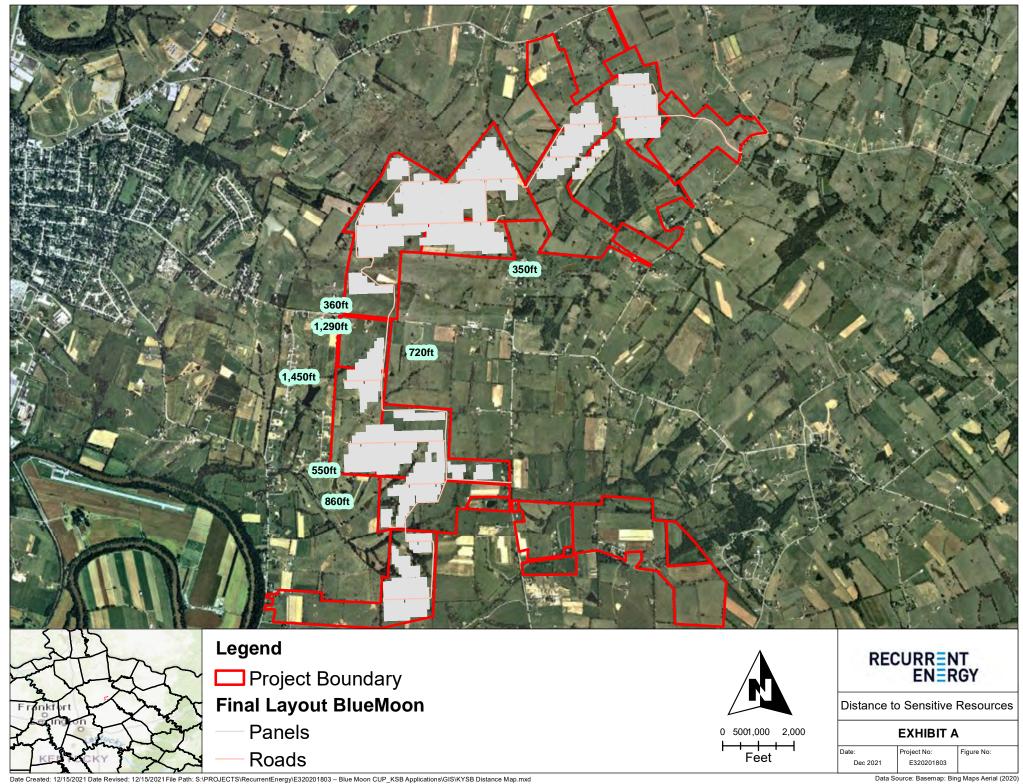
Blue Moon Solar

Harrison County, Kentucky

Landscaping Plan

NOT FOR CONSTRUCTION

10/06/2021



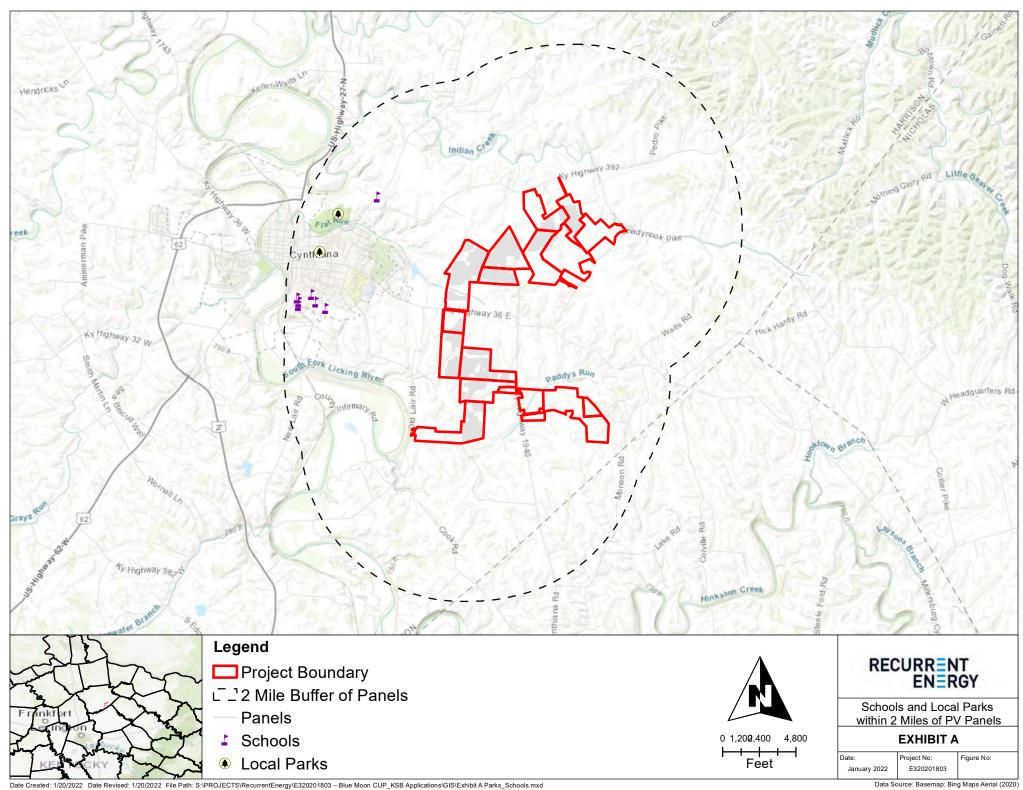


EXHIBIT B-1 First Mailer







August 5, 2021

RE: Blue Moon Solar Project Community Outreach

Dear Neighbor,

Recurrent Energy is proposing to develop and construct a 70 megawatt utility-scale solar facility in Harrison County, Kentucky. The project is being proposed in the vicinity of KY Highway 36 East and Ruddles Mill Road, as shown on the attached documents. As a neighbor to the solar project, we want to invite you an informational session on August 25, 2021 from 6:00 p.m. to 8:00 p.m.at the Harrison County Cooperative Extension Office located at 668 New Lair Rd, Cynthiana, KY 41031 in the Big Meeting Room. Enclosed is the project information packet which has been provided to neighbors adjacent to the project. A newspaper notice in the Cynthiana Democrat is also running with the project website information for the community.

At this informational session, you can expect to learn about utility-scale solar projects, Blue Moon Solar Facility specifics, and what to expect during construction and project operations. We would also like to take this opportunity to get to know our neighbors and introduce Recurrent Energy and the development team. In the meantime, please feel free to contact the project team at the contact information provided below. Your questions or concerns are welcome at any time.

Recurrent Energy recognizes our projects have a long-term presence in the communities where they are sited, and we value your input during this process.

Best regards,

Jayce Walker

Manager, Development

Phone: (859) 993-0077

Email: BlueMoon@RecurrentEnergy.com

layer blacken

Company Website: www.recurrentenergy.com Project Website: recurrentenergy.com/bluemoon



Recurrent Energy is a leading utility-scale solar and storage project developer. Based in the U.S., we are a wholly owned subsidiary of Canadian Solar Inc. and function as Canadian Solar's U.S. project development arm. Visit **recurrentenergy.com/project-portfolio/** for project examples.



7 GW project portfolio



4.3 GW executed power contracts



2.4 GW operating projects



>\$9B capital secured



In the Community

Recurrent Energy recognizes that our projects have a long-term presence in the regions where they are sited. Learn how we work with local communities:

recurrentenergy.com/about/

Contact Us

859.993.0077
BlueMoon@recurrentenergy.com

BLUE MOON PROJECT DETAILS





		Project Timeline	•	
2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Desktop Siting and Diligence	Site Control	State and Local Permitting	Construction	Commercial Operation

110,66	
Maximum Capacity	70 megawatts
Homes Powered	~14,000
Acreage	~1,784 acres**
Peak Construction Jobs	~290

Contact Us

859.993.0077

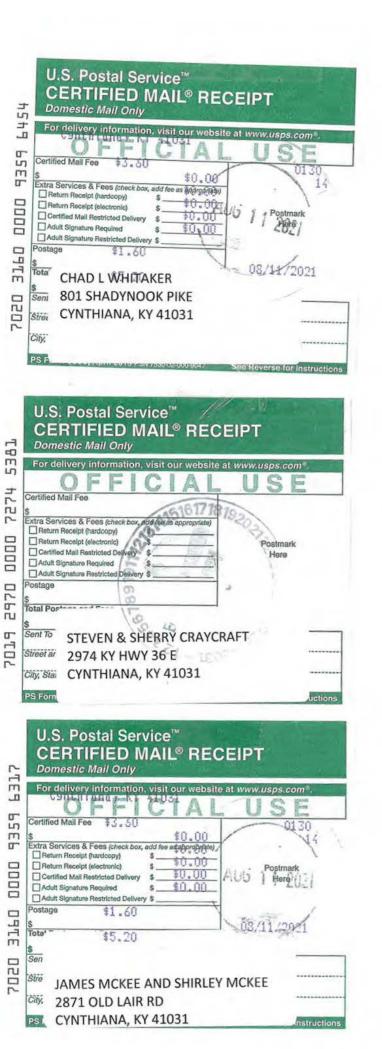
 ${\bf Blue Moon@recurrentenergy.com}$

^{*}Project schedule subject to change based on market conditions; **Project acreage subject to change based on landowner partnerships

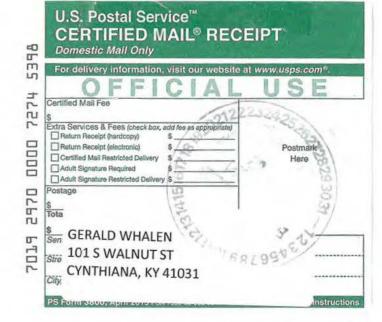


Exhibit B-1 - Adjacent landowner and public meeting distribution list.

	Address1	USPS Certified Mail #		City State			PIDN		MAP PARCEL		ar Account		Deed
ANDERSON GARY R & ROBIN J LEE-ANDER		7020 3160 0000 9359 1374	2136 KY HWY 36 E	CYNTHIANA KY	41031	116-0000-010-01-000 KY HWY 36 E 2136	116-00-00-010.01	116-0000-010-01-000 001	116 10.01	1.56364723405 116-0000-010-01-000	021 1:	13 HSE & LOT	229-181
ARNOLD MARTHA LYNN		7020 3160 0000 9359 7949	1470 SHADYNOOK PIKE	CYNTHIANA KY	41031-9236	141-0000-003-00-000 SHADYNOOK PK 1470	141-00-00-003.00	141-0000-003-00-000 001 1	141 3	1.78812580670 141-0000-003-00-000	021 1	76 H & L	249/478
ASHER ILILIE & DAVID B		7020 3160 0000 9359 6751	597 STEEFE LANE	CYNTHIANA KY		130-0000-012-02-000 STEFFE IN 597	130-00-00-012-02		130 12.02	3 38753724476 130-0000-012-02-000		HSF & LOT	289-423
BATTE MARVIN T & VICTORIA S		7020 3160 0000 9359 6652		CYNTHIANA KY		129-0000-012-02-000 SHADYNOOK PK 429	129-00-00-016.00					IS FARM 14.71 ACRES	
			429 SHADYNOOK PK						129 16				349-688
BENNETT JEFFREY D & JANET M		7020 3160 0000 9359 1305	2528 KY HWY 36 E	CYNTHIANA KY		116-0000-011-04-000 KY HWY 36 E	116-00-00-011.04	116-0000-011-04-000_001	116 11.04	38.51768824570 116-0000-011-04-000	021 203	SS FARM 39.142 ACRES	257-213
BERRY ALLEN W & ANITA		7020 3160 0000 9359 6423	1800 SHADYNOOK PIKE	CYNTHIANA KY	41031-9238	141-0000-004-00-000 SHADYNOOK PK 1800	141-00-00-004.00	141-0000-004-00-000 001 1	141 4	106.39100886900 141-0000-004-00-000 2	021 4	7 FARM 110 ACRES	120-618
BOONE ONE LLC	% CAROLYN FERN KING GALLAGHER	7020 3160 0000 9359 6553	289 GRIMES BATTERTON RD	PARIS KY	40361	117-0000-008-02-000 OLD LAIR RD	117-00-00-008.02	117-0000-008-02-000 001 1	117 8.02	103.14754591300 117-0000-008-02-000 2	021 201	13 FARM 104.781 ACRES	355-358
BRADFORD KEITH		7020 3160 0000 9359 6492	3012 KY HWY 392	CYNTHIANA KY		128-0000-016-00-000 KY HWY 392 3012	128-00-00-016.00	128-0000-016-00-000 001 1		89.84463457050 128-0000-016-00-000 2		6 FARM 92 ACRES	191-356
BRADFORD KENT S & MARY BETH		7020 3160 0000 9339 6492	858 KY HWY 1940	CYNTHIANA KY								88 FARM 10 ACRES	
BRADFORD KENT S & MARY BETH			858 KY HWY 1940	CYNTHIANA KY	41031	130-0000-003-01-000 KY HWY 1940 858	130-00-00-003.01	130-0000-003-01-000_001	130 3.01	9.77632456561 130-0000-003-01-000	021 6	SS FARM 10 ACRES	230-244
		7020 3160 0000 9359 7789											
BRADFORD KEVIN		7020 3160 0000 9359 6515	1654 KY HIGHWAY 392	CYNTHIANA KY	41031	128-0000-008-00-000 KY HWY 392	128-00-00-008.00	128-0000-008-00-000_001	128 8	95.53860091190 128-0000-008-00-000	021 6	FARM 93 ACRES	195-491
BRADFORD SUE & KEVIN DELL BRADFORD		7020 3160 0000 9359 1312	1912 KY HWY 392	CYNTHIANA KY	41031	128-0000-003-00-000 KY HWY 392 1912	128-00-00-003.00	128-0000-003-00-000 001 1	128 3	68.19167995650 128-0000-003-00-000	021 6	2 FARM 66.591 ACRES	
BREWER TAMMY & TROY JR		7020 3160 0000 9359 7956	1342 SHADYNOOK PK	CYNTHIANA KY	41031	141-0000-002-00-000 SHADYNOOK PK 1342	141-00-00-002.00	141-0000-002-00-000 001 1	141 2			4 HSE & LOT	358-471
				CYNTHIANA KY					100 4004	9.02501683567 129-0000-019-01-000		12 H & L	200-593
CARREL MARK L & MELANIE S		7020 3160 0000 9359 7697	535 SHADYNOOK PK			129-0000-019-01-000 SHADYNOOK PK 535	129-00-00-019.01	129-0000-019-01-000_001 1					
CARTER GARY WAYNE & CAROLYN SUE		7020 3160 0000 9359 6621	923 KY HWY 1940	CYNTHIANA KY		130-0000-010-01-000 KY HWY 1940 923	130-00-00-010.01	130-0000-010-01-000_001		1.81330961862 130-0000-010-01-000		HSE & LOT	171/280
CLYDE ELIZABETH M & JAMES S		7020 3160 0000 9359 6607	283 COOK PK	CYNTHIANA KY	41031-	130-0000-013-00-000 STEFFE LN 488	130-00-00-013.00	130-0000-013-00-000_001	130 13	164.05885315800 130-0000-013-00-000	021 154	2 FARM 166.20 ACRES	318-163
COLSON JOYCE		7020 3160 0000 9359 1367	750 KY HWY 392	CYNTHIANA KY	41031-	116-0000-001-00-000 KY HWY 392 750	116-00-00-001.00	116-0000-001-00-000 001 1	116 1	115.66359883000 116-0000-001-00-000	021 86	32 FARM 175.588 ACRES	263-373
		7020 3160 0000 9359 7901					1						
COOK WILLIAM R & THERESA S		7020 3160 0000 9359 6713	430 HEDGES LN	CYNTHIANA KY	41031	129-0000-008-00-000 HEDGES LN 430	129-00-00-008.00	129-0000-008-00-000 001	120 0	3.37784967561 129-0000-008-00-000	021 13	80 H & L	160-298
COOK WILLIAM K & THERESA 3			430 REDGES LIV	CINITHANA KI	41031	125-0000-008-00-000 HEDGES EN 430	129-00-00-008.00	129-0000-008-00-000_001	127 0	3.37764907301 129*0000*008*00*000	JZ1 13	Unat	100-298
		7020 3160 0000 9359 7901											
COOK WILLIAM R & THERESA S		7020 3160 0000 9359 6713	430 HEDGES LN	CYNTHIANA KY	41031-	129-0000-007-01-000 HEDGES LN	129-00-00-007.01	129-0000-007-01-000_001	129 7.01	71.02061110330 129-0000-007-01-000	021 1850	2 FARM 131.606 ACRES	343-472
CORBIN RICHARD A & BETTY SIX		7020 3160 0000 9359 6263	725 SHAW LANE	CYNTHIANA KY	41031-7418	140-0000-009-03-000 SHAW LN 725	140-00-00-009.03	140-0000-009-03-000 001 1	140 9.03	5.19523517919 140-0000-009-03-000 2	021 14	66 HSE & LOT	198-290
CRAYCRAFT STEVEN A & SHERRY S		7020 3160 0000 9359 7703	2974 KY HWY 36 E	CYNTHIANA KY		129-0000-002-00-000 KY HWY 36 E 3041	129-00-00-002.00	129-0000-002-00-000 001 1		33.37416269810 129-0000-002-00-000 2		3 FARM 40.812 ACRES	340-162
CRAYCRAFT STEVEN A & SHERRY S &	STEVEN A II CRAYCRAFT	7019 2970 0000 7274 5381	2974 KY HWY 36 E	CYNTHIANA KY	41031-	116-0000-011-03-000 KY HWY 36 E	116-00-00-011.03		116 11.03	51.59702939770 116-0000-011-03-000		00 FARM 51.523 ACRES	323-442
	STEVEN A II CRATCRAFT					116-0000-011-03-000 KY HWY 36 E	116-00-00-011.03			51.59/029397/0 116-0000-011-03-000			323-442
CURTIS JOSHUA A & RACHEL R BARNES		7020 3160 0000 9359 7895	1402 KY HWY 1940	CYNTHIANA KY		130-0000-008-00-000 KY HWY 1940 1402	130-00-00-008.00		130 8			FARM 100.27 ACRES	348-002
DAMPIER IRVIN L & MARTHA L	I	7020 3160 0000 9359 6577	690 SHADYNOOK PIKE	CYNTHIANA KY		129-0000-021-00-000 SHADYNOOK PK 690	129-00-00-021.00	129-0000-021-00-000_001		0.99604812433 129-0000-021-00-000		P8 HSE & LOT	140-692
DAVIS CHARLES M & JUDITH B		7020 3160 0000 9359 6683	173 INDIAN WOODS TRAIL	CYNTHIANA KY	41031	130-0000-032-00-000 INDIAN WOODS TRAIL 173	130-00-00-032.00	130-0000-032-00-000_001 1	130 32	2.06178765139 130-0000-032-00-000 2	021 17	16 HSE & LOT	199-38
FLORENCE DONALD R		7020 3160 0000 9359 6379	2044 KY HWY 392	CYNTHIANA KY		128-0000-007-00-000 KY HWY 392 2130	128-00-00-007.00		128 7	96.84173144630 128-0000-007-00-000 2		6 FARM 99.09 ACRES	183-700
GASSER DONALD JR		7020 3160 0000 9359 7994	100 DELTA CT	CYNTHIANA KY	41031-5407	117-0000-041-00-000 JILL LN 242	117-00-00-041.00		117 41			9 LOT	364-499
		7020 2450 0000 2337 7374		CYNTHIANA KY								17 GARAGE & LOT	
GRAYSON BRIAN L		7020 3160 0000 9359 7871	P O BOX 81			130-0000-007-02-000 STEFFE LN 312	130-00-00-007.02		130 7.02	4.71969290069 130-0000-007-02-000			236-670
GRINSTEAD FRANCES JANE & MALCOLM B		7020 3160 0000 9359 6300	136 MCKEE LN	CYNTHIANA KY	41031	117-0000-024-02-000 MCKEE LN 136	117-00-00-024.02	117-0000-024-02-000_001 1	117 24.02	11.25571364260 117-0000-024-02-000 2	021 29	4 FARM 12.522 ACRES	232-224
HALEY SARAH JANE		7020 3160 0000 9359 6614	855 KY HWY 1940	CYNTHIANA KY	41031	130-0000-004-00-000 KY HWY 1940 855	130-00-00-004.00	130-0000-004-00-000 001 1	130 4	1.25254256478 130-0000-004-00-000	021 30:	LS HSE & LOT	188-133
HEMLOCK DANIEL D & KATIE A		7020 3160 0000 9359 6638	4400 KY HWY 36 F	CYNTHIANA KY	41031	130-0000-020-05-000 KY HWY 36 E 4400	130-00-00-020.05	130-0000-020-05-000 001 1	130 20.05	76.44415878600 130-0000-020-05-000	021 33	IN FARM 70 25 ACRES	244-318
HOSTETLER MOSE L & ANNA M		7020 3160 0000 9359 6720	815 SHAW LN	CYNTHIANA KY		141-0000-005-01-000 SHAW LN 815	141-00-00-005.01		141 5.01			6 FARM 80.00 ACRES	
					41031								
INGRAM SHEILA D		7020 3160 0000 9359 6409	317 INDIAN WOODS TRAIL	CYNTHIANA KY		130-0000-026-00-000 INDIAN WOODS TRAIL 317	130-00-00-026.00		130 26	4.98100392149 130-0000-026-00-000		88 HSE & LOT	190-89
ISHMAEL MARTY W		7020 3160 0000 9359 6546	122 JILL LN	CYNTHIANA KY	41031-	117-0000-045-00-000 JILL LANE 122	117-00-00-045.00	117-0000-045-00-000_001 1	117 45	1.29887619244 117-0000-045-00-000		73 H & L	284-172
KINSEY BRIAN S & JAMIE M		7020 3160 0000 9359 1398	390 JILL LANE	CYNTHIANA KY	41031	117-0000-038-00-000 JILL LN 390	117-00-00-038.00	117-0000-038-00-000 001 1	117 38	1.36763466632 117-0000-038-00-000	021 43	3 H & L	243/604
LANDRUM TIMMY		7020 3160 0000 9359 7970	324 III I IN	CYNTHIANA KY	41031-	117-0000-039-00-000 IIII IN 324	117-00-00-039 00	117-0000-039-00-000 001 1	117 29	1 20565230944 117-0000-039-00-000	021 152	77 HSE & LOT	318-626
LEMONS STEPHEN JASON &	HEATHER LYNN NEACE LEMONS	7020 3160 0000 9359 6324	2783 OLD LAIR RD	CYNTHIANA KY	41031	117-0000-037-00-000 OLD LAIR RD 2783	117-00-00-021.00	117-0000-033-00-000_001 1		1.87449786434 117-0000-021-00-000 2		19 HSE & LOT	367-692
	HEATHER LYNN NEACE LEMONS												
LEVI TERRY A & DONNA		7020 3160 0000 9359 1299	2109 RUTHLAND RD	CYNTHIANA KY		116-0000-011-00-000 KY HWY 36 E 2157	116-00-00-011.00		116 11	79.54118272280 116-0000-011-00-000		3 HSE & LOT	323-457
LUCKY MONA SUE		7020 3160 000 9359 7758	2718 OLD LAIR RD	CYNTHIANA KY		117-0000-020-00-000 OLD LAIR RD 2718	117-00-00-020.00	117-0000-020-00-000_001	117 20	8.00233879084 117-0000-020-00-000 2		4 FARM 11.7706 ACRES	132-447
LUSBY L C & DONNA		7020 3160 0000 9359 6737	1050 US HWY 27 S STE 3	CYNTHIANA KY	41031	117-0000-008-00-000 WIGLESWORTH LN 180	117-00-00-008.00	117-0000-008-00-000 001 1	117 8	91.51566919890 117-0000-008-00-000	021 47	FARM 91.927 ACRES	212-284
MAGEE EDWARD JR EST		7020 3160 0000 9359 7765	380 KY HWY 1940	CYNTHIANA KY		130-0000-001-00-000 KY HWY 1940 380 & KY HWY 36 E 3616	130-00-00-001.00		130 1			6 FARM 311.11 ACRES	117-535
MAGEE EDWARD IR EST		7020 3160 0000 9359 7765	380 KY HWY 1940	CYNTHIANA KY			130-00-00-001.00		130 1			66 FARM 311 11 ACRES	117-535
MAGEE EDWARD JR & JUDITH & JANET		7020 3160 0000 9359 7765	380 KY HWY 1940	CYNTHIANA KY		116-0000-012-00-000 KY HWY 36 E 2528	116-00-00-012.00	116-0000-012-00-000_001 1		97.88241603290 116-0000-012-00-000 2		FARM 100 ACRES	191-53
MARTIN TEDDY T & SHEILA		7020 3160 0000 9359 8014	100 COLONY DR	CYNTHIANA KY	41031	116-0000-009-09-000 COLONY DR 100; 128; 139; & 176	116-00-00-009.09	116-0000-009-09-000_001	116 9.09	23.66347021710 116-0000-009-09-000 2	021 215	S FARM 29.2611 ACRES	365-605
MCCLOSKEY MARGARET		7020 3160 0000 9359 6447	P O BOX 384	CYNTHIANA KY	41031-0384	130-0000-017-00-000 KY HWY 36 E 3920	130-00-00-017.00	130-0000-017-00-000 001 1	130 17	35.11623000310 130-0000-017-00-000 2	021 125	96 FARM 36.807 ACRES	297-199
MCKEE FRANK T & DOROTHY J		7020 3160 0000 9359 7963	2829 MILLWOOD DRIVE	DALLAS TX		117-0000-025-00-000 MCKEE LANE 967	117-00-00-025.00	117-0000-025-00-000 001 1	117 25	83.86060592850 117-0000-025-00-000	021 51	IS FARM 84 ACRES	246/700
MCKEE JAMES O & SHIRLEY			2871 OLD LAIR ROAD	CYNTHIANA KY		117-0000-023-00-000 OLD LAIR RD 2871	117-00-00-023.00					IS HSE & LOT	146-256
		7020 3160 0000 9359 7826							117 23				
MCKEE JOHN IRREVOCABLE	SPECIAL NEEDS TRUST	7020 3160 0000 9359 1336	484 EALS LN	CYNTHIANA KY		117-0000-024-04-000 MCKEE LN 649 & 673	117-00-00-024.04	117-0000-024-04-000_001		1.50064699573 117-0000-024-04-000		11 HSE & LOT	358-392
MIDDEN RICHARD & MARIBETH		7020 3160 0000 9359 1282	579 SHADYNOOK PK	CYNTHIANA KY	41031-	129-0000-019-02-000 SHADYNOOK PK 579	129-00-00-019.02	129-0000-019-02-000_001	129 19.02	19.38844879700 129-0000-019-02-000 2	021 143	12 FARM 19.359 ACRES	308-734
MOORE CHARLES KENNETH & MARY WAITS		7020 3160 0000 9359 6461	564 SHADYNOOK PIKE	CYNTHIANA KY	41031-9224	129-0000-020-00-000 SHADYNOOK PK 564	129-00-00-020.00	129-0000-020-00-000 001 1	129 20	48.34708679940 129-0000-020-00-000 2	021 53	9 FARM 50 ACRES	162-538
MOORE CYNTHIA R & KEITH LANE		7020 3160 0000 9359 6294	2951 OLD LAIR RD	CYNTHIANA KY	41031-	117-0000-022-02-000 OLD LAIR RD 2951	117-00-00-022 02	117-0000-022-02-000 001 1	117 22.02	2.54997853078 117-0000-022-02-000 2	001	IS HSE & LOT	268-179
MOORE DAVID F & JUDITH CAROL MAGEE		7020 3160 0000 9359 7680	1205 SHADYNOOK PK	CYNTHIANA KY		129-0000-023-02-000 SHADYNOOK PK 1205	129-00-00-023.02		129 23.02	28.54521582810 129-0000-023-02-000 2		9 FARM 29.32 ACRES	357-418
MSJ CONSTRUCTION COMPANY INC		7020 3160 0000 9359 7480		CYNTHIANA KY		115-0000-023-02-000 SHADINOOK PK 1203 115-0000-038-00-000 BALDNAG LN 174 & 143 & 293	115-00-00-038.00					66 FARM 196.389 ACRES	312-758
			P.O. BOX 457					115-0000-038-00-000_001					
NEACE ISAAC & ELIZABETH		7020 3160 0000 9359 6348	2821 OLD LAIR ROAD	CYNTHIANA KY		117-0000-022-01-000 OLD LAIR RD 2821	117-00-00-022.01		117 22.01	0.94706642412 117-0000-022-01-000 2		14 HSE & LOT	214-472
OBRYAN RICK & ANITA		7020 3160 0000 9359 6508	490 SHAW LN	CYNTHIANA KY	41031-	128-0000-025-00-000 SHAW LN 490	128-00-00-025.00	128-0000-025-00-000_001	128 25	68.51189758350 128-0000-025-00-000 2		I8 FARM 70.65 ACRES	331-146
OWSLEY GINA		7020 3160 0000 9359 6560	29 STEFFE LN	CYNTHIANA KY	41031-	130-0000-010-02-000 STEFFE LN 29	130-00-00-010.02	130-0000-010-02-000 001 1	130 10.02	1.46874432989 130-0000-010-02-000 2	021 97	9 HSE & LOT	275-363
PERRALIT LARRY T SR	i	7020 3160 0000 9359 7727	1116 KY HWY 1771	CYNTHIANA KY	41031	130-0000-022-00-000 KY HWY 1771 1116	130-00-00-022.00	130-0000-022-00-000 001 1	130 22			IS FARM 90 965 ACRES	181-310
RENO JOHN R & MARTHA		7020 3160 0000 9359 6768	865 SHADYNOOK PK	CYNTHIANA KY		129-0000-022-00-000 SHADYNOOK PK 865	129-00-00-022.00		129 22.00	13.77598248060 129-0000-022-00-000		58 FARM 13.75 ACRES	101-310
				CYNTHIANA KY									203-214
ROSE EDWARD & TRUDI		7020 3160 0000 9359 7888	1287 KY HWY 1940		41031	130-0000-007-05-000 KY HWY 1940 1287	130-00-00-007.05		130 7.05			57 HSE & LOT	
ROYALTY BRIAN & HEATHER G		7020 3160 0000 9359 6522	146 JILL LN	CYNTHIANA KY	41031-	117-0000-044-00-000 JILL LN 146	117-00-00-044.00	117-0000-044-00-000_001 1	117 44			13 HSE & LOT	309-130
SANDERS MELANIE L & BOBBY L		7020 3160 0000 9359 6676	215 INDIAN WOODS TRAIL	CYNTHIANA KY	41031-	130-0000-032-01-000 INDIAN WOODS TRAIL 215	130-00-00-032.01	130-0000-032-01-000_001	130 32.01	1.98717285444 130-0000-032-01-000	021 119	SS HSE & L	284-096
		7020 3160 0000 9359 7758											\neg
SAURER REBECCA L	I	7020 3160 0000 9359 7741	P O BOX 33	FISHERVILLE KY	40023	117-0000-024-03-000 OLD LAIR RD	117-00-00-024.03	117-0000-024-03-000 001	117 24.03	27.24171088700 117-0000-024-03-000	021 67	2 FARM 27.778 ACRES	232-234
SIMPSON DREW & CARRIE		7020 3160 0000 9359 6478	182 III I IN	CYNTHIANA KY		117-0000-043-00-000 JILL LN 182	117-00-00-043.00	117-0000-043-00-000 001 1		1 15949813448 117-0000-043-00-000		2 H & I	298-823
SING CURTIS J		7020 3160 0000 9359 6478	107 BATTLE GROVE AVE	CYNTHIANA KY		130-0000-043-00-000 JILL LN 182 130-0000-032-02-000 INDIAN WOODS TRAIL 261	130-00-00-043.00		130 32.02	1.98395860649 130-0000-032-02-000		IZ H & L PS GARAGE & LOT	298-823
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SPARKS WHITNEY BROOKE		7020 3160 0000 9359 1350	801 WAITS RD	CYNTHIANA KY		129-0000-023-04-000 SHADYNOOK PK				4.88610841518 129-0000-023-04-000		12 LOT (4.886 ACRES)	371-440
STINSON TERESA & TERRY &	JO ANNE & RICK WILHOITE	7020 3160 0000 9359 1329	484 EALS LN	CYNTHIANA KY	41031	117-0000-024-01-000 MCKEE LN 673 & 649	117-00-00-024.01	117-0000-024-01-000_001	117 24.01	1.96887337696 117-0000-024-01-000	021 205	12 FARM 40.643 ACRES	358-399
STUBBS LINDA B		7020 3160 0000 9359 8007	198 JILL LN	CYNTHIANA KY	41031	117-0000-042-00-000 JILL LN 198	117-00-00-042.00	117-0000-042-00-000 001 1	117 42	1.41585065798 117-0000-042-00-000	021 73	O HSE & LOT	256-132
THOMAS BOBBY E & MARY LOU		7020 3160 0000 9359 6539	162 WINTERWOOD LN	CYNTHIANA KY	41031-8776	128-0000-010-00-000 WINTERWOOD LN 162 & 163	128-00-00-010.00	128-0000-010-00-000_001	128 10	38.69273618280 128-0000-010-00-000	021 75	77 FARM 40 ACRES	134-727
TRIBBLE TERYL ELISABETH	1	7020 3160 0000 9359 7918	197 STEFFE LN	CYNTHIANA KY	41031	130-0000-010-00-000 STEFFE LN 197 & 185	130-00-00-010.00		130 10		021 77	IS FARM 74.461 ACRES	
TRIBBLE TERTL ELISABETH			197 STEFFE LN	CTN I HIANA KY	41031	130-0000-010-00-000 STEFFE LN 197 & 185	130-00-00-010.00	130-0000-010-00-000_001	130 10	15.05974424270 130-0000-010-00-000 2	JZ1 //.	IS FARM /4.461 ACRES	
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VALLANDINGHAM WILLIAM T & JUNIE L		7020 3160 0000 9339 7884	292 JILL LANE	CYNTHIANA KY		117-0000-040-00-000 JILL IN 292	117-00-00-040.00		117 40			17 HSE & LOT	271-645
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VELA ROBERT D & DAWN T	% AMOS J ROSE & JACOB A ROSE	7020 3160 0000 9359 6744	116 CATHERINE ST	CARLISLE KY		130-0000-007-00-000 KY HWY 1940 1401 & 1365	130-00-00-007.00	130-0000-007-00-000_001		23.53607799310 130-0000-007-00-000 2		06 FARM 25.509 ACRES	347-324
WADE RACHEL P & TONY		7020 3160 0000 9359 1381	37 CHERRY LN	CYNTHIANA KY	41031-	116-0000-010-00-000 KY HWY 36 E	116-00-00-010.00	116-0000-010-00-000_001	116 10	22.62623416220 116-0000-010-00-000 2	021 186	4 FARM 23.484 ACRES	344-420
		7020 3160 0000 9359 7819											
WHALEN BRADFORD M	I	7020 3160 0000 9359 1343	1375 SHADYNOOK PK	CYNTHIANA KY	41031	128-0000-013-01-000 KY HWY 392 2608	128-00-00-013.01	128-0000-013-01-000 001	128 13.01	25.57107083150 128-0000-013-01-000	021 207	0 FARM 25.497 ACRES	360-352
WHITAKER CHAD LEVI		7019 2970 0000 7274 5374	801 WAITS RD	CYNTHIANA KY		129-0000-013-01-000 KT HWT 392 2008	129-00-00-013.01	129-0000-023-03-000 001 1		18 14110950950 129-0000-013-01-000		88 FARM 23 976 ACRES	319-321
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WHITAKER HELEN & KENNETH LEVI		7020 3160 0000 9359 6393	960 KY HWY 1940	CYNTHIANA KY		130-0000-006-00-000 RUDDLES MILL RD	130-00-00-006.00	130-0000-006-00-000_001 1	130 6	86.22842355910 130-0000-006-00-000 2		S8 FARM 89 ACRES	303-247
WHITAKER KENNETH L & HELEN F		7020 3160 0000 9359 6393	960 KY HWY 1940	CYNTHIANA KY	41031-9184	130-0000-005-00-000 KY HWY 1940 960	130-00-00-005.00	130-0000-005-00-000_001	130 5	40.45446584330 130-0000-005-00-000 2	021 81	1 FARM 40 ACRES	142/411
WHITAKER KENNETH LEVI & HELEN F		7020 3160 0000 9359 6393	960 KY HWY 1940	CYNTHIANA KY		141-0000-001-00-000 OFF SHADYNOOK RD	141-00-00-001.00	141-0000-001-00-000 001	141 1	126.51508816200 141-0000-001-00-000		70 FARM 126.90 ACRES	303-257
WIGLESWORTH BRADLEY E	i	7020 3160 0000 9359 6485	P O BOX 262	CYNTHIANA KY		128-0000-026-00-000 SHAW LN 764	128-00-00-026.00		128 26			IO LOT	327-658
ZIMMERMAN KEN	l .	7020 3160 0000 9359 7710	413 HEDGES LN	CYNTHIANA KY	41031	129-0000-002-06-000 HEDGES LN 413	129-00-00-002.06	129-0000-002-06-000_001	2.06	1.90731419290 129-0000-002-06-000	UZI 2174	7 HSE & LOT	367-682



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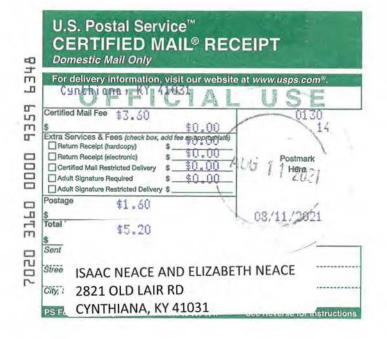








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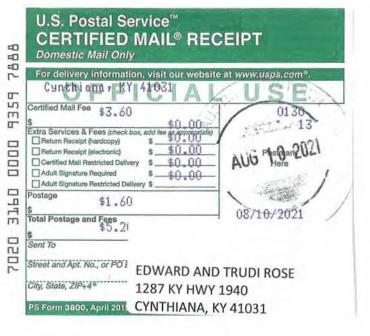
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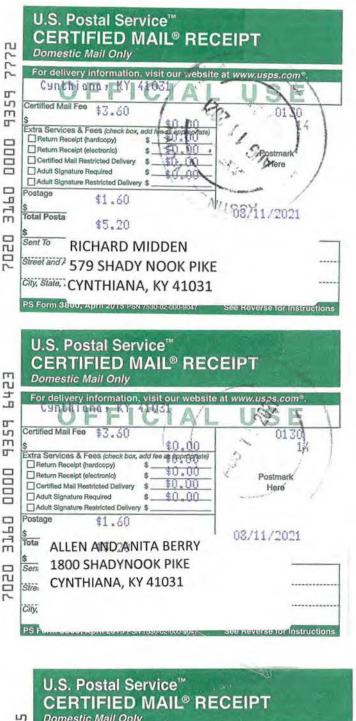


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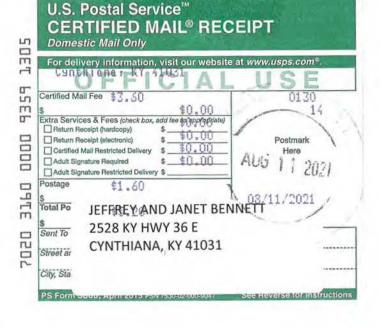














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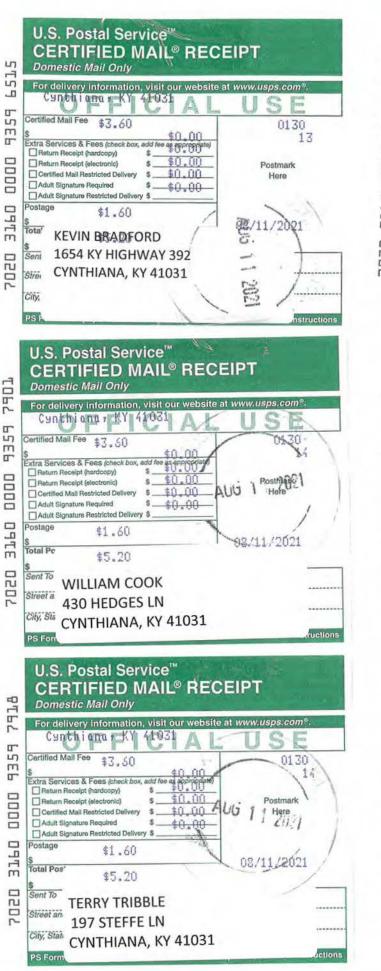












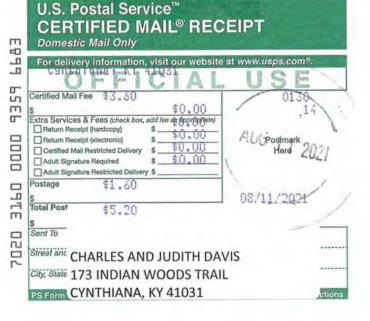










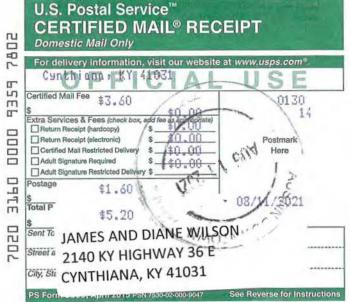




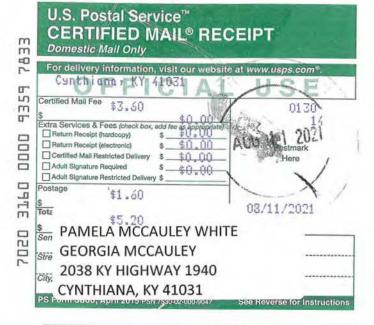


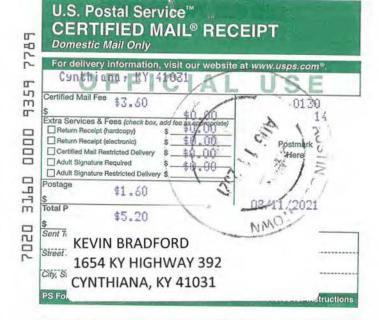


















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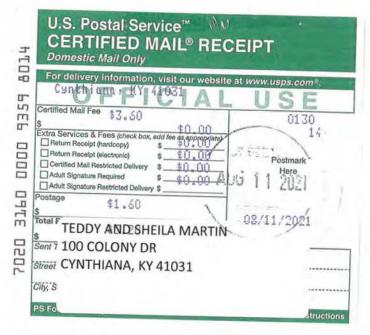
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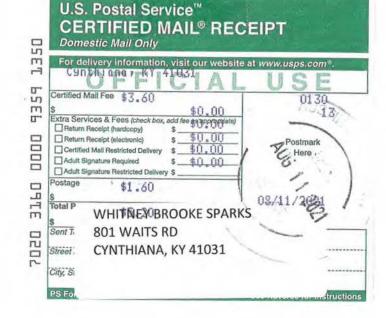


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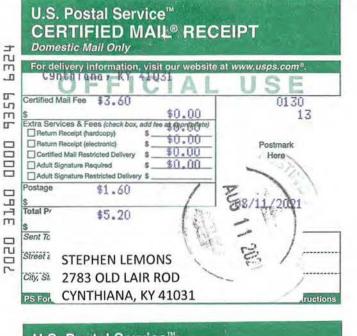














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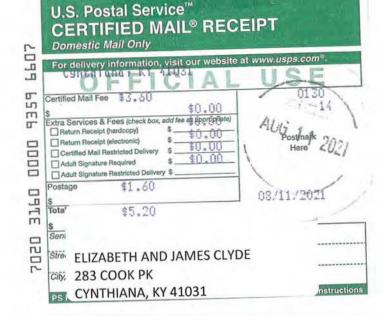
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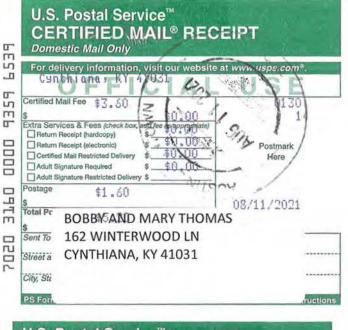














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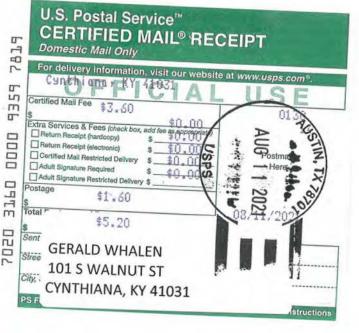
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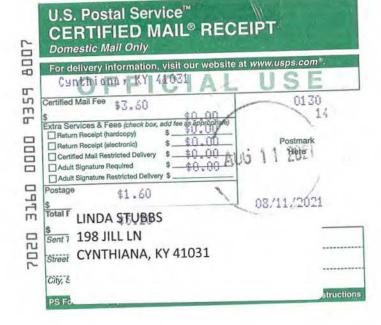


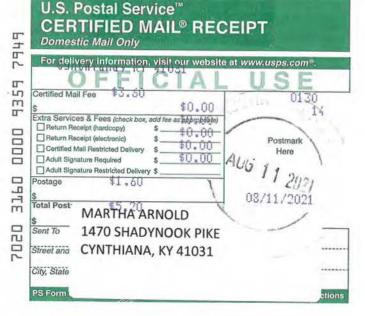






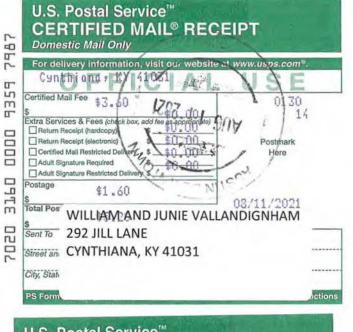
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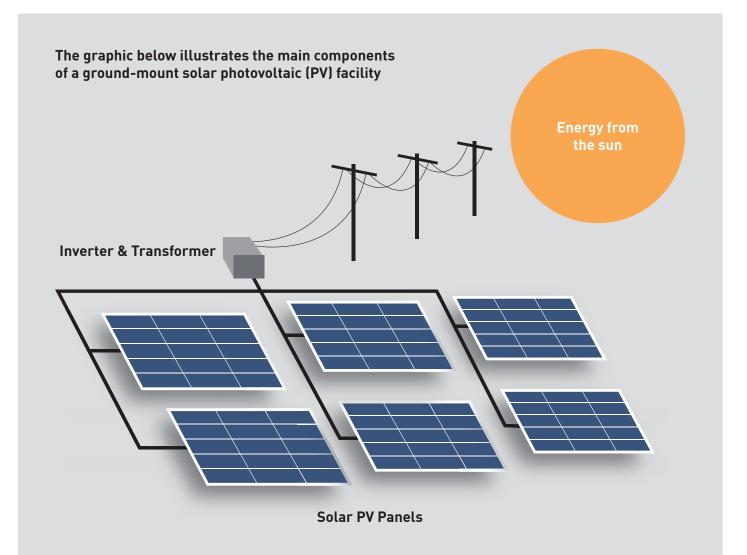




EXHIBIT B-2 Community Meeting Attendance



ABOUT SOLAR TECHNOLOGY



Solar power is energy from the sun that is converted into electrical energy. Solar energy is a clean and abundant renewable energy source. Recurrent Energy builds its solar projects using solar photovoltaic (PV) panels, which convert sunlight directly to electricity via a semiconductor called a photovoltaic cell. Solar PV technology is proven, cost-competitive, and has been around for decades.

A solar PV panel consists of several layers. The top layer of glass provides weather protection for the PV cell. A special coating is applied to the glass to reduced reflected light from the panel, thereby reducing glare. Within the PV cell is an aluminum wire grid that conducts electricity. Electricity is generated when sunlight passes through openings in the grid and reaches the bottom layers of the panel, made of silicon.



Recurrent Energy is a leading utility-scale solar and storage project developer. Based in the U.S., we are a wholly owned subsidiary of Canadian Solar Inc. and function as Canadian Solar's U.S. project development arm. Visit **recurrentenergy.com/project-portfolio/** for project examples.





4.3 GW executed power contracts



In the Community

Recurrent Energy recognizes that our projects have a long-term presence in the regions where they are sited. Learn how we work with local communities:

recurrentenergy.com/about/

Contact Us

859.993.0077
BlueMoon@RecurrentEnergy.com

BLUE MOON PROJECT DETAILS



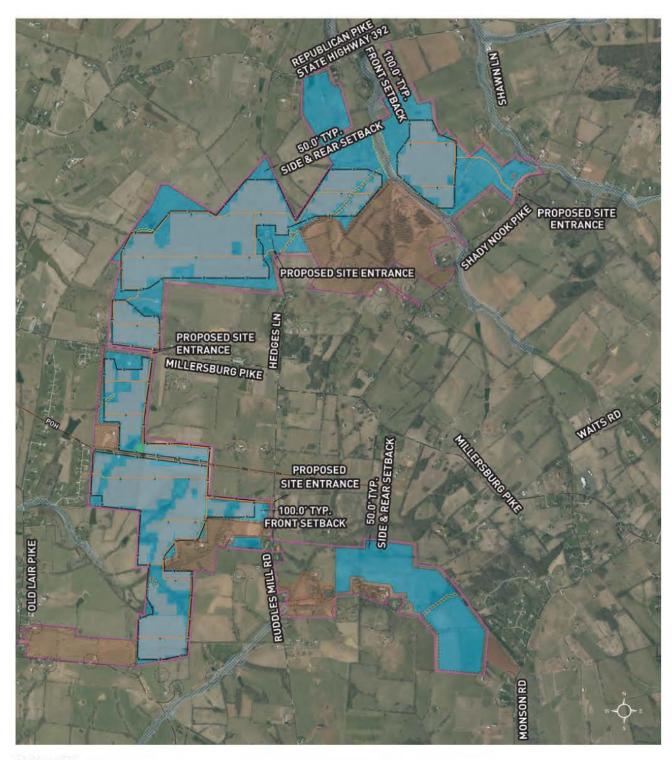


2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Desktop Siting and Diligence	Site Control	State and Local Permitting	Construction	Commercial Operation

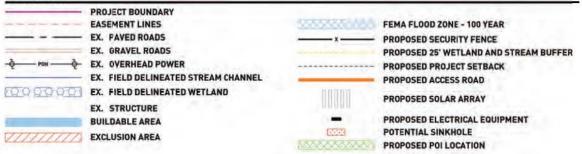
Project Details							
© Capacity / Acreage	70 megawatts / ~1,784 acres**						
Homes Powered	~14,000						
Peak Construction Jobs	~290						
\$ Estimated Taxes	\$2.6MM Total						

BLUE MOON SITE LAYOUT





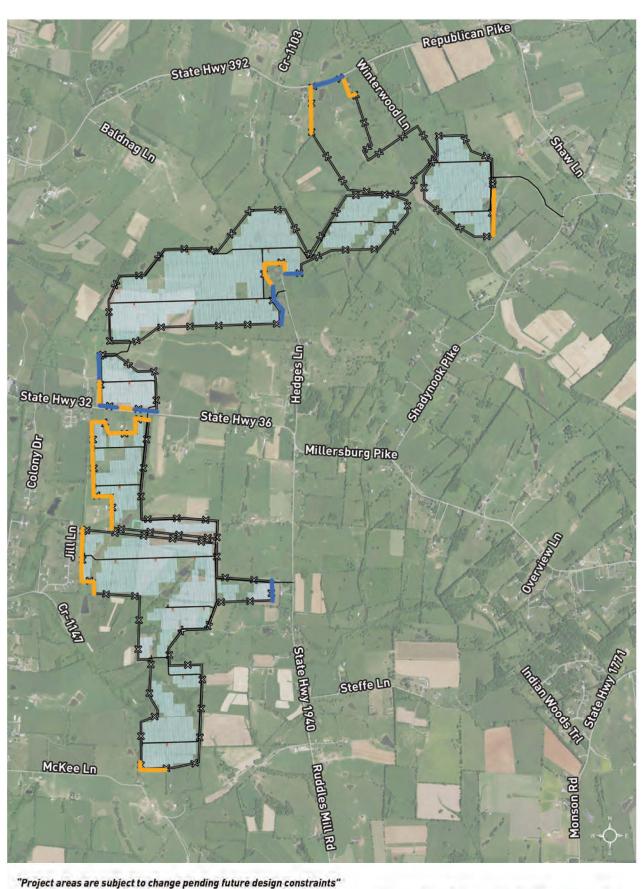
LEGEND:



Project acreage subject to change based on landowner partnerships.

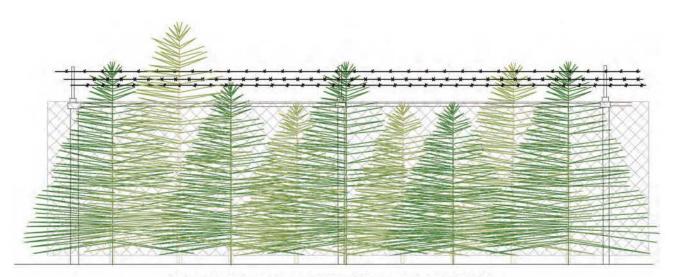
VEGETATION BUFFER MAP



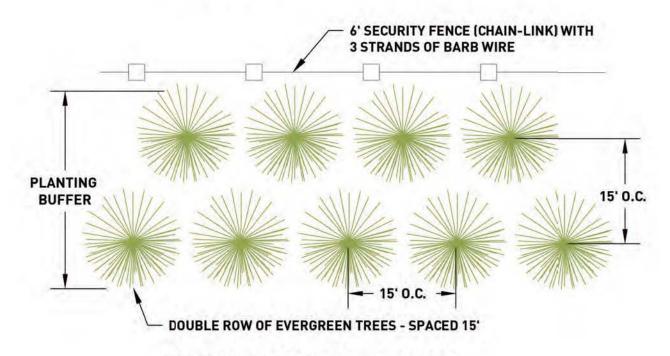


VEGETATION RENDERING





SCREENING PLANTING (ELEVATION VIEW)
NOT TO SCALE



SCREENING PLANTING (PLAN VIEW)
NOT TO SCALE

WHAT TO EXPECT DURING PROJECT OPERATIONS



The Blue Moon Solar Project

The Blue Moon solar project will begin operations after the completion of construction.

Overall, operating solar projects are low maintenance. A small team of full-time operations and maintenance professionals will keep the project running at its best.

Full-Time Staff

The Blue Moon solar project will have site stewards who perform maintenance on site. Day to day activities include visual inspections, preventative care, ground maintenance, and coordinating repairs as needed. You may periodically see staff on site.

Vegetation Management

Once the project begins operations, the site will be reseeded with vegetation to provide soil stabilization. Mowing will take place regularly on the project along with other general maintenance activities like controlling weeds and pests.

Panel Washing

Solar panels require periodic washing to perform at their best. Because of local rain patterns, regular washing of panels is not anticipated but will occur as needed.

A water source other than the local groundwater will be used. No solvents or cleaning agents are used in the washing process.

Project Operations Contact

Please contact **Jayce Walker** at **859.993.0077** or **BlueMoon@RecurrentEnergy.com** with any questions or comments on project operations.

WHAT HAPPENS WHEN THE PROJECT IS DONE OPERATING?



The Blue Moon Solar Project

Large scale solar projects like Blue Moon have an expected lifespan of approximately 40 years. At the end of a project's lifespan, the project can be repowered or decommissioned.

To repower a project, the project owner would need to work with Harrison County to complete studies and obtain permits to continue operation.

If a project is decommissioned, this would occur pursuant to an established decommissioning plan. By ordinance, large scale solar projects like Blue Moon are required to have a pre-approved decommissioning plan.

Decommissioning would typically occur at the end of the project's useful life, but it could occur earlier if the project is prematurely discontinued or if Harrison County determines the project to be unsafe.

Decommissioning would include:

- Removal and disposal of all project equipment as required by the Harrison County Zoning Code
- Removal of all graveled areas, access roads, and fencing (unless otherwise requested by landowner to remain in place)
- Grading and reseeding of disturbed earth (unless landowner requests that areas not be revegetated)

Physical removal of the project is required to be completed within 12 months unless extended by the Harrison County Planning Director.

The project owner is required to provide a cash deposit, irrevocable letter of credit, or surety bond to ensure that appropriate funds are set aside to complete decommissioning work. Tax payer dollars will not be used towards the decommissioning of the solar project. The funds set aside will be available throughout the life of the project. The decommissioning plan and cost estimate are updated every 5 years and the funds are adjusted accordingly.

THANK YOU FOR JOINING US!





Comment forms are available if you have questions or comments about the Blue Moon solar project that we were not able to address at tonight's open house. We will work to respond to your questions in a timely manner.

Contact Us

Please do not hesitate to contact **Jayce Walker**, Development Manager for the Blue Moon project, at:

P+1859.993.0077

BlueMoon@recurrentenergy.com

		Blue Moon Solar	Project Open Ho	ouse	
First Name	Last Name	Phone Number	Email Address	Mailing Address	*
STEJEN	CRAYCRAFT	859-983 6526		2974 Kg/Ly 36 E	Cyn M
Sherry	CRATCRAFT	859 983 6528		11/11	116
Banga & &	lasky			<i>V</i>	·
Marvin	BAAR	614-795-7120)		
Temy	e Doma ke	n. 859-234-6:	376		
DIANE	Wilson	859.588.6	0037	2140 Ky Hay 36 E	Cyr
Jim	Wilson	859-234-	5944	11 / / /	
Lewing	Janes	859.701-14	/	4500 Kyllwy36E Cc	12
Bertly	. Kon	859.588	23/2	259 Colony Dr	Cyn
Moush	a Donce	859-588-	1702	12157 US ITWY DO N	Ben
NKK	Farmer	598-589-1970		1046 Suckworth Rd	Cyn, K
PAN McCA	whey WHITE	588-6502		2038 KY. HWY. 1940 Cgr. A	1
Gold	M.OD	859 357 -11	62	579 Shadgaes & Pit	. /
Sexan	Molone	859-707-	1346	2824 Ky Dung	_ /
Day	Malone	859-58	8-0313	11 11 0	

	Sign up to	be notified about hir	ing efforts on the Bl	ue Moon solar project.
First Name	Last Name	Phone Number	Email Address	Mailing Address
Edward	Rose			1287 Ky 1940 Eyn Ky 4103
Jacob	Ron			1401 ky 1940
Path W	Ilson			190 Miller LANE CYN
Paul h	Mison			
Lapi Bud	Kwordh			11
Judy	Milon			2096 Kg Hey 36E Cer
GARY)		Anderson		2136 KY JOUY 36 CAS
Pobie.	Ande	Sw		2136 KY HEWY 36 EAS
Kent & 1	Uan BetaB	radford		858 Ky Hory 1940
BRADWH	ALEN	,		2608 Ky 392 Cynthang, Ky
Chapie	Mastin			469 Steffe Lave Cyn. Ky
1	- Julye As	sher		597 Steffe Lawe. Cyr.
PALE AP	PELMAN			3178 DUTCH RIDGE, AUGUSTA, KY. 411002

EXHIBIT B-3
Reissued
Mailer







September 30, 2021

RE: Blue Moon Solar Project Community Outreach

Dear Neighbor,

Recurrent Energy is proposing to develop and construct a 70-megwatt solar energy facility in Harrison County, Kentucky. The project is being proposed in the vicinity of KY Highway 36 East (Millersburg Pike) and Ruddles Mill Road, as shown on the attached documents. Recurrent Energy hosted a community meeting on August 25, 2021 and received helpful feedback from community members that we have since incorporated into our attached revised site plan.

As a neighbor to the solar project, we want to provide this updated information to you in advance of our upcoming conditional use permit application to the county. The changes to the site plan were to move proposed solar panels away from neighbors on the western border of the site, south of Millersburg Pike, to locations elsewhere within the project boundaries that are further away from neighbors. Additionally, to further protect viewsheds, we changed our proposed vegetative buffers to 15' spacing between evergreens, rather than some that were 20' per zoning code as shown at the public meeting. Please review the enclosed and reach out to us via the phone number or email below with any questions or comments you may have.

Recurrent Energy recognizes our project has a long-term presence in communities where they are sited, and we value your input during this process.

Best regards,

Jayce Walker

Manager, Development

layer blacken

Phone: (859) 993-0077

Email: BlueMoon@RecurrentEnergy.com
Company Website: www.recurrentenergy.com
Project Website: recurrentenergy.com/bluemoon

Facebook: https://www.facebook.com/BlueMoonSolarProject/





Recurrent Energy is a leading utility-scale solar and storage project developer. Based in the U.S., we are a wholly owned subsidiary of Canadian Solar Inc. and function as Canadian Solar's U.S. project development arm. Visit **recurrentenergy.com/project-portfolio/** for project examples.



7 GW project portfolio



4.3 GW executed power contracts



2.4 GW operating projects



>\$9B capital secured



In the Community

Recurrent Energy recognizes that our projects have a long-term presence in the regions where they are sited. Learn how we work with local communities:

recurrentenergy.com/about/

Contact Us

859.993.0077
BlueMoon@recurrentenergy.com

BLUE MOON PROJECT DETAILS





Anticipated Project Timeline*

2019-2020	2020-2021	2021-2022	2023-2024	2024-2025
Desktop Siting and Diligence	Site Control	State and Local Permitting	Construction	Commercial Operation

Project Details

Maximum Capaci	70 megawatts
Homes Powered	~14,000
Acreage	1,581 acres under site control; current design occupying 651 acres**
Peak Constructio	Jobs ~290
\$ Estimated Taxes	\$2.6 MM total, including \$1.6MM for Harrison County

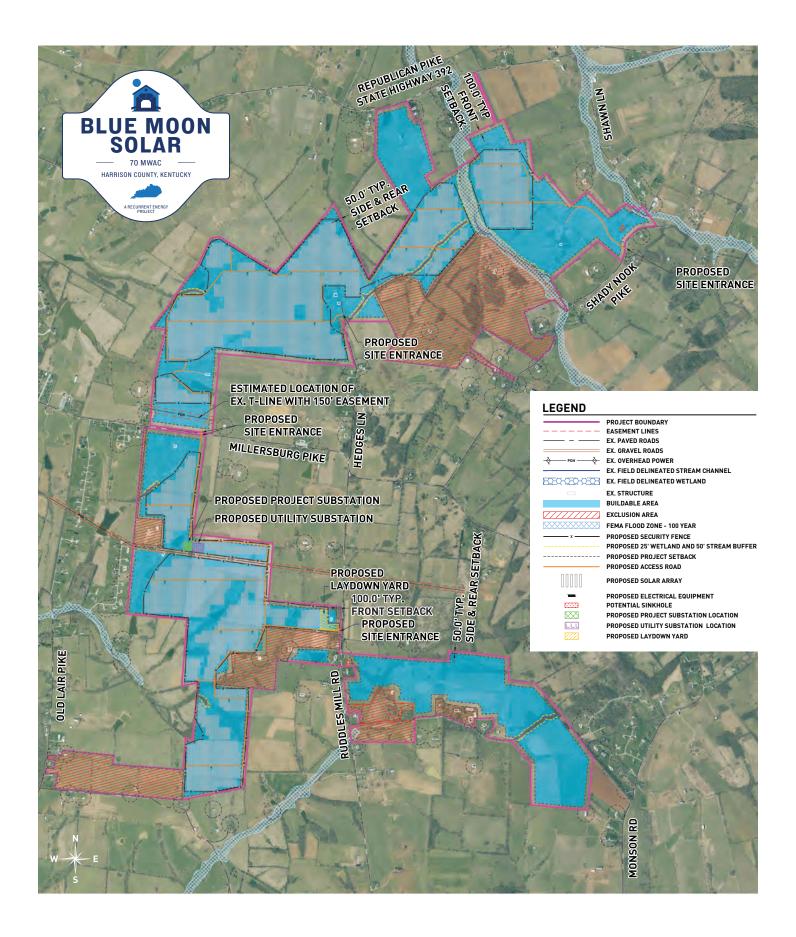
Contact Us

859.993.0077
BlueMoon@recurrentenergy.com

^{*}Project schedule subject to change based on market conditions; **Project acreage subject to change based on landowner partnerships

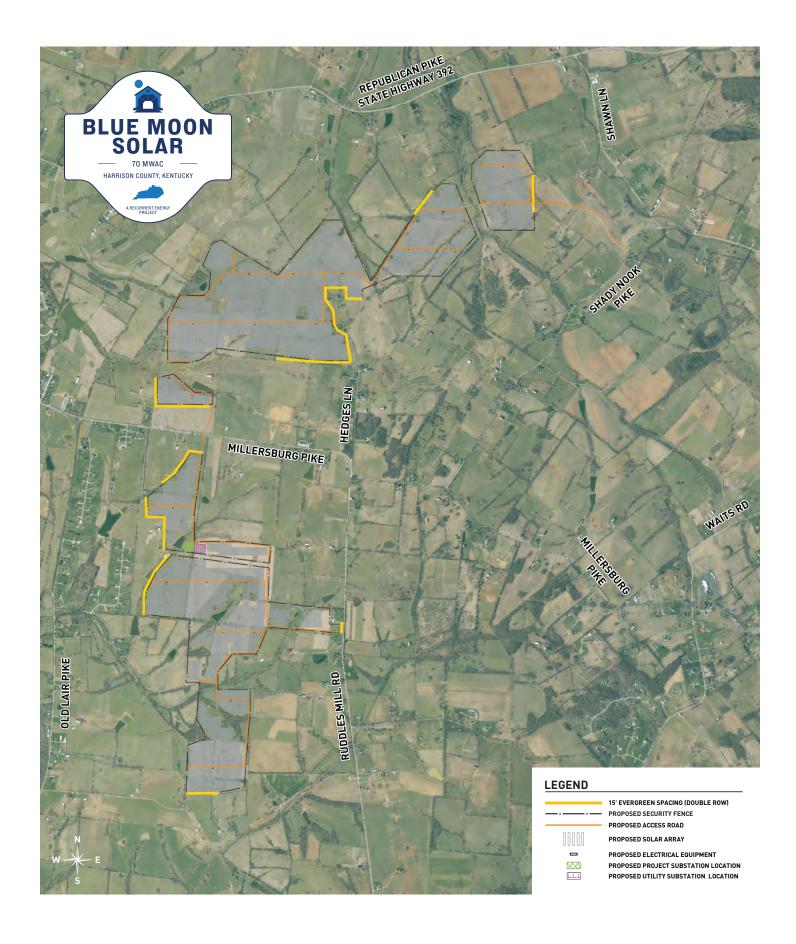
BLUE MOON PROJECT SITE MAP





VEGETATION BUFFER MAP







NAME	Tracking Number	MAILING ADDRESS	City	State	Zip	Delivery Confirmation Info
ANDERSON GARY R & ROBIN J LEE-ANDER	## 9114 9022 0078 9496 3855 24 For Tracking or inquiries go to USPS.com or caul-800222-1811.	2136 KY HWY 36 E	CYNTHIANA	КҮ	41031	10.2.21 – 5:29pm – Cynthiana
ARNOLD MARTHA LYNN	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9014 9645 0996 9945 13 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	1470 SHADYNOOK PIKE	CYNTHIANA	KY	41031-9236	10.2.21 – 1:13pm – Cynthiana
ASHER JULIE & DAVID B	USPS TRACKING # 9114 9022 0078 9496 3866 31 & CUSTOMER	597 STEFFE LANE	CYNTHIANA	KY	41031	10.2.21 – 12:53pm – Cynthiana
BATTE MARVIN T & VICTORIA S	USPS TRACKING # 9114 9014 9645 0996 9945	429 SHADYNOOK PK	CYNTHIANA	KY	41031	10.2.21 — 1:06pm — Cynthiana
BENNETT JEFFREY D & JANET M	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3854 94 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	2528 KY HWY 36 E	CYNTHIANA	KY	41031	10.2.21 – 5:28pm – Cynthiana
BERRY ALLEN W & ANITA	USPS TRACKING # 9114 9022 0078 9496 3855 93 & CUSTOMER RECEIPT	1800 SHADYNOOK PIKE	CYNTHIANA	KY	41031-9238	10.2.21 – 1:19pm – Cynthiana
BOONE ONE LLC	USPS TRACKING <i>it</i> 9114 9022 0078 9496 3854 87 &CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	289 GRIMES BATTERTON RD	PARIS	KY	40361	10.2.21 – 1:47pm – Paris
BRADFORD KEITH	USPS TRACKING # 8. CUSTOMER RECEIPT 9114 9022 0078 9496 3855 79 For Tracking or inquiries go to USPS.com or call 1-80D-222-1811.	3012 KY HWY 392	CYNTHIANA	KY	41031	10.2.21 – 1050am – Cynthiana
BRADFORD KENT S & MARY BETH	USPS TRACKING # 8. CUSTOMER RECEIPT	858 KY HWY 1940	CYNTHIANA	KY	41031	10.2.21 – 1:00pm – Cynthiana
BRADFORD KEVIN	USPS TRACKING # 9114 9022 0078 9496 3855 62 & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	1654 KY HIGHWAY 392	CYNTHIANA	KY	41031	10.2.21 – 10:40am – Cynthiana
BRADFORD SUE & KEVIN DELL BRADFORD	USPS TRACKING # 8 CUSTOMER RECEIPT 9114 9022 0078 9496 3855 17 For Tracking or Inquiries go to US.com or call 1-800-222-1811.	1912 KY HWY 392	CYNTHIANA	KY	41031	10.2.21 – 10:46am – Cynthiana
BREWER TAMMY & TROY JR	USPS TRACKING # 9114 9022 0078 9496 3857 53 & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	1342 SHADYNOOK PK	CYNTHIANA	KY	41031	10.2.21 – 1:12pm – Cynthiana
CARREL MARK L & MELANIE S	USPS TRACKING # 9114 9022 0078 9496 3853 88 & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	535 SHADYNOOK PK	CYNTHIANA	KY	41031	10.2.21 – 1:08pm - Cynthiana

CARTER GARY WAYNE & CAROLYN SUE	USPS TRACKING # 8. CUSTOMER RECEIPT 9114 9022 0078 9496 3857 60 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	923 KY HWY 1940	CYNTHIANA	KY	41031	10.4.21 – 12:16pm – Cynthiana
CLYDE ELIZABETH M & JAMES S	UPS TRACKING # 9114 9022 0078 9496 3655 48	283 COOK PK	CYNTHIANA	KY	41031	10.4.21 — 1:16pm — Cynthiana
COLSON JOYCE	USPS TRACKING # &CUSTOMER RECEIPT 9114 9022 0078 9496 3855 55 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	750 KY HWY 392	CYNTHIANA	KY	41031	10.2.21 – 10:42pm – Cynthiana
COOK WILLIAM R & THERESA S	USPS TRACKING* &CUSTOMER RECEIPT 9114 9022 0078 9496 3855 00 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	430 HEDGES LN	CYNTHIANA	KY	41031	10.2.21 – 5:19pm – Cynthiana
COOK WILLIAM R & THERESA S	#考S表でAGKがも所ER 9114 9022 0078 9496 3858 RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	430 HEDGES LN	CYNTHIANA	KY	41031	10.2.21 – 5:19pm - Cynthiana
CORBIN RICHARD A & BETTY SIX	L ₈ / S _C P _U S _{S r. c} TRACKING _{EF} t 9114 9022 0078 9496 3858 38 RECEIPT For Tracking or inquiries ₉₀ to <u>USPS com</u> or call 1-800-222-1811.	725 SHAW LANE	CYNTHIANA	KY	41031-7418	10.2.21 – 1:14pm – Cynthiana
CRAYCRAFT STEVEN A & SHERRY S	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3854 70 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	2974 KY HWY 36 E	CYNTHIANA	KY	41031	10.2.21 – 5:26pm – Cynthiana
CRAYCRAFT STEVEN A & SHERRY S &	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3854 49 For Tracking or inquines go to USPS.com or call 1-800-222-1811.	2974 KY HWY 36 E	CYNTHIANA	KY	41031	10.4.21 – 5:59pm – Cynthiana
CURTIS JOSHUA A & RACHEL R BARNES	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3854 56 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	1402 KY HWY 1940	CYNTHIANA	KY	41031	10.2.21 — 12:50pm — Cynthiana
DAMPIER IRVIN L & MARTHA L	USPS TRACKING 9114 9022 0078 9496 3853 71 & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	690 SHADYNOOK PIKE	CYNTHIANA	KY	41031-9226	10.2.21 – 1:10pm – Cynthiana
DAVIS CHARLES M & JUDITH B	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 38 ⁵⁴ 32 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	173 INDIAN WOODS TRAIL	CYNTHIANA	KY	41031	10.2.21 – 4:47pm – Cynthiana
FLORENCE DONALD R	USPS TRACKING # 9114 9022 0078 9496 3857 22 & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	2044 KY HWY 392	CYNTHIANA	KY	41031-9407	10.2.21 – 10:47am – Cynthiana
GASSER DONALD JR	USPS TRACKING # 9114 9022 0078 9496 3857 39 & CUSTOMER For Tracking or inquiries go to <u>USPS.com</u> or call 1-800-222-1811.	100 DELTA CT	CYNTHIANA	KY	41031	10.2.21 – 7:36am - Cynthiana
<u> </u>		1			1	1

GRAYSON BRIAN L	USPS TRACKING # 8 CUSTOMER RECEIPT 9114 9022 0078 9496 3859 51 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	P 0 BOX 81	CYNTHIANA	KY	41031	10.2.21 – 8:47am – Cynthiana
GRINSTEAD FRANCES JANE & MALCOLM B	USPSTRACKIGN# 9114 9014 9645 0996 9946 36	136 MCKEE LN	CYNTHIANA	KY	41031	10.4.21 – 12:42pm – Cynthiana
HALEY SARAH JANE	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9014 9645 0996 9946 29 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	855 KY HWY 1940	CYNTHIANA	KY	41031	10.2.21 – 1:00pm – Cynthiana
HEMLOCK DANIEL D & KATIE A	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3858 52 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	4400 KY HWY 36 E	CYNTHIANA	KY	41031	10.2.21 – 5:10pm – Cynthiana
HOSTETLER MOSE L & ANNA M	USPS TRACKING # 9114 9014 9 645 0996 9946 12 8CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	815 SHAW LN	CYNTHIANA	KY	41031	10.2.21 – 1:14pm – Cynthiana
INGRAM SHEILA D	USPSTRACKING# 9114 9014 9645 0996 9945 51 & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	317 INDIAN WOODS TRAIL	CYNTHIANA	KY	41031	10.2.21 – 4:44pm – Cynthiana
ISHMAEL MARTY W	TRACKING _{ER} 9114 9022 0078 9496 3858 83 For Tracking or inquiries go to USPS.com or call 1-800-222-18 ¹¹ .	122 JILL LN	CYNTHIANA	KY	41031	10.4.21 - 12:16pm - Cynthiana
KINSEY BRIAN S & JAMIE M	USPS TRACKING # 9114 9014 9645 0996 9945 20 8. CUST OMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	390 JILL LANE	CYNTHIANA	KY	41031	10.4.21 – 12:20pm – Cynthiana
LANDRUM TIMMY	USPSTRACKING# 8 CUSTOMER RECEIPT 9114 9014 9645 0996 9946 05 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	324 JILL LN	CYNTHIANA	KY	41031	10.4.21 – 12:19am – Cynthiana
LEMONS STEPHEN JASON &	UPSTRACKING# 9114 9022 0078 9496 3854 63	2783 OLD LAIR RD	CYNTHIANA	KY	41031	10.4.21 – 12:39am – Cynthiana
LEVI TERRY A & DONNA	USPSTRACKING# 8 CUSTOMER RECEIPT 9114 9014 9645 0996 9945 99 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	2109 RUTHLAND RD	CYNTHIANA	KY	41031	10.2.21 – 3:11pm - Cynthiana
LUCKY MONA SUE	USPSTRACKING # 8 CUSTOMER RECEIPT 9114 9014 9646 0996 9946 81 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	2718 OLD LAIR RD	CYNTHIANA	KY	41031	10.4.21 – 12:36pm – Cynthiana
LUSBY L C & DONNA	USPSTRACKING# 9114 9014 9645 0996 9946 8 ₂ & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	1050 US HWY 27 S STE 3	CYNTHIANA	KY	41031	10.2.21 – 11:08am – Cynthiana

MAGEE EDWARD JR EST	USPSTracking#omer 9	9114 9022 0078 9496 3857	380 KY HWY 1940	CYNTHIANA	KY	41031-9188	10.2.21 – 1:01pm – Cynthiana
MAGEE EDWARD JR EST	1 ₈) ScPuSs RACKINGp _M 91 RECEIPT	L14 9022 0078 9496 3858 69 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	380 KY HWY 1940	CYNTHIANA	KY	41031-9188	10.2.21 – 1:01pm – Cynthiana
MAGEE EDWARD JR & JUDITH & JANET	USPSTRACKIng 9 ' RECEIPT For	114 9014 9645 0996 9946 74 or Tracking or inquiries go to <u>USPS_com</u> call 1-800-222-1811.	380 KY HWY 1940	CYNTHIANA	KY	41031	10.2.21 – 1:01pm – Cynthiana
MARTIN TEDDY T & SHEILA		114 9022 0078 9496 3856 85 For Tracking or inquiries go to <u>USPS.com</u> or call 1-800-222-1811.	100 COLONY DR	CYNTHIANA	KY	41031	10.2.21 – 10:55am – Cynthiana
MCCLOSKEY MARGARET	&CUSTOMER F	14 9022 0078 9496 3856 16 -or Tracking or inquiries go to <u>USPS.com</u> or call 1-800-222-1811.	P 0 BOX 384	CYNTHIANA	KY	41031-0384	10.2.21 – 8:47am – Cynthiana
MCKEE FRANK T & DOROTHY J	USPSTRACKING# 911 & CUSTOMER FOI RECEIPT or	14 9022 0078 9496 3856 61 or Tracking or inquiries go to <u>USPS.com</u> call 1-800-222-1811.	2829 MILLWOOD DRIVE	DALLAS	TX	75234	10.9.21 – 10:33am – Dallas TX
MCKEE JAMES 0 & SHIRLEY		114 9022 0078 9496 3857 91 or tracking or inclini or call 1-800-222-1q811es go to <u>USPS.com</u>	2871 OLD LAIR ROAD	CYNTHIANA	KY	41031	10.4.21 – 12:41pm – Cynthiana
MCKEE JOHN IRREVOCABLE	&CUSTOMER For	4 9022 0078 9496 3858 90 or Tracking or inquiries go to USPS.com call 1-800-222-1811.	484 EALS LN	CYNTHIANA	KY	41031	10.2.21 – 12:38pm – Cynthiana
MIDDEN RICHARD & MARIBETH	&CUSTOMER For	4 9022 0078 9496 3857 84 or Tracking or inquiries go to <u>USPS.com</u> call 1-800-222-1811.	579 SHADYNOOK PK	CYNTHIANA	KY	41031	10.2.21 – 1:09pm – Cynthiana
MOORE CHARLES KENNETH & MARY WAITS	USPS TRACKING #	4 9022 0078 9496 3856 23 Tracking or inquiries go to U PS call 1-800-222-1811.	564 SHADYNOOK PIKE	CYNTHIANA	KY	41031-9224	10.2.21 – 1:08pm – Cynthiana
MOORE CYNTHIA R & KEITH LANE		4 9022 0078 9496 3857 77 or Tracking or inquiries go to <u>USPS.com</u> call 1-800-222-1811.	2951 OLD LAIR RD	CYNTHIANA	KY	41031	10.4.21 – 12:41pm – Cynthiana
MOORE DAVID F & JUDITH CAROL MAGEE		4 9022 0078 9496 3859 37 or Tracking or inquiries go to <u>USPS.com</u> call 1-800-222-1811.	1205 SHADYNOOK PK	CYNTHIANA	KY	41031	10.2.21 — 1:12pm — Cynthiana
MSJ CONSTRUCTION COMPANY INC	USPS TRACKING IT & 9114 &CUSTOMER FOI RECEIPT Or	4 9022 0078 9496 3857 08 or Tracking or inquiries go to <u>USPS.com</u> call 1-800-222-1811.	P.O. BOX 457	CYNTHIANA	KY	41031	10.4.21 – 9:08am – Cynthiana

NEACE ISAAC & ELIZABETH	USPS TRACKING # 9114 9022 0078 9496 3859 20 & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	2821 OLD LAIR ROAD CYNTH	HIANA KY	41031-4638	10.4.21 – 12:40pm – Cynthiana
OBRYAN RICK & ANITA	USPSTRACKING# 8CUSTOMER RECEIPT 9114 9022 0078 9496 3859 13 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	490 SHAW LN CYNTH	HIANA KY	41031	10.2.21 – 1:18pm – Cynthiana
OWSLEY GINA	USPSTRACKING# 8CUSTOMER RECEIPT 9114 9022 0078 9496 3859 44 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	29 STEPPE LN CYNTH	HIANA KY	41031	10.2.21 – 12:57pm – Cynthiana
PERRAUT LARRY T SR	USPS TRACKING # 9114 9022 0078 9496 3857 15 & CUSTOMER RECEIPT For Tracking or inquiries go to USPS.com or call 1-800-222-18 ¹¹ .	1116 KY HWY 1771 CYNTH	HIANA KY	41031	10.4.21 – 5:20pm – Cynthiana
RENO JOHN R & MARTHA	USPSTRACKING# 9114 9014 9645 0996 9946 43 & CUSTOMER FOR Tracking or inquiries go to USPS.com or call 1-800-222-1811.	865 SHADYNOOK PK CYNTH	HIANA KY	41031	10.2.pm — 1:10pm — Cynthiana
ROSE EDWARD & TRUDI	USPS TRACKING # 8 CUSTOMER RECEIPT 9114 9022 0078 9496 3859 82 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	1287 KY HWY 1940 CYNTH	HIANA KY	41031	10.2.21 – 12:50pm – Cynthiana
ROYALTY BRIAN & HEATHER G	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3853 64 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	146 JILL LN CYNTH	HIANA KY	41031	10.4.21 – 12:16pm – Cynthiana
SANDERS MELANIE L & BOBBY L	USPS TRACKING #	215 INDIAN WOODS TRAIL CYNTH	HIANA KY	41031	10.2.21 - 4:45pm - Cynthiana
SAURER REBECCA L	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3859 99 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	P 0 BOX 33 FISHER	RVILLE KY	40023	10.2.21 – 11:16am – Fisherville
SIMPSON DREW & CARRIE	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3856 92 For Tfacking or inquiries go to USPS.com or call 1-800-222-1811.	182 JILL LN CYNTH	HIANA KY	41031	10.4.21 – 12:16pm - Cynthiana
SING CURTIS J	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3860 02 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	107 BATTLE GROVE AVE CYNTH	HIANA KY	41031	Not Delivered
SPARKS WHITNEY BROOKE	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3856 54 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	801 WAITS RD CYNTH	HIANA KY	41031	10.2.21 – 1:55pm – Cynthiana
STINSON TERESA & TERRY &	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3859 68 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	484 EALS LN CYNTH	HIANA KY	41031	10.2.21 – 12:38pm – Cynthiana
<u> </u>	<u> </u>			Į.	

STUBBS LINDA B	USPS TRACKING # 9114 9022 0078 9496 3856 78 & CUSTOMER FOR Tracking or inquiries go to USPS.com or call 1-800-222-1811.	198 JILL LN	CYNTHIANA	KY	41031	10.4.21 – 12:17pm – Cynthiana
THOMAS BOBBY E & MARY LOU	USPS TRACKI 8CUSTOMER 9114 9022 0078 9496 3858 76 RECEIPT or call 1-800-222-1811.	162 WINTERWOOD LN	CYNTHIANA	KY	41031-8776	10.2.21 – 10:48am – Cynthiana
TRIBBLE TERYL ELISABETH	USPS TRACKING <i>it</i> 8CUSTOMER RECEIPT 9114 9022 0078 9496 3856 30 For Tracking or inquiries go to <u>USPS.com</u> or call 1-800-222-1811.	197 STEFFE LN	CYNTHIANA	KY	41031	10.2.21 – 12:51pm – Cynthiana
TRIBBLE TERYL ELISABETH	USPS TRACKING # 8.CUSTOMER RECEIPT 9114 9022 0078 9496 3856 47 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	197 STEFFE LN	CYNTHIANA	KY	41031	10.2.21 – 12:51pm – Cynthiana
TRIBBLE TERYL ELIZABETH	USPS TRACKING # 8. CUSTOMER RECEIPT 9114 9022 0078 9496 3859 06 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	197 STEFFE LN	CYNTHIANA	KY	41031	10.2.21 – 12:51pm - Cynthiana
VALLANDINGHAM WILLIAM T & JUNIE L	USPS TRACKING # 9114 9014 9645 0996 9946 98 & CUSTOMER For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	292 JILL LANE	CYNTHIANA	KY	41031	10.4.21 – 12:18pm – Cynthiana
VELA ROBERT D & DAWN T	USPS TRACKING # 8. CUSTOMER RECEIPT 9114 9014 9646 0996 9945 44 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	116 CATHERINE ST	CARLISLE	KY	40311	10.2.21 – 2:46pm – Carlisle
WADE RACHEL P & TONY	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9022 0078 9496 3858 07 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	37 CHERRY LN	CYNTHIANA	KY	41031	10.2.21 – 11:20am – Cynthiana
WHALEN BRADFORD M	USPS TRACKING # 9114 9022 0078 9496 3858 14 & CUSTOMER	1375 SHADYNOOK PK	CYNTHIANA	KY	41031	10.5.21 – 10:53am – Cynthiana
WHITAKER CHAD LEVI	USPS TRACKING # 8 CUSTOMER RECEIPT 9114 9022 0078 9496 3856 09 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	801 WAITS RD	CYNTHIANA	KY	41031	10.2.21 – 1:55pm - Cynthiana
WHITAKER HELEN & KENNETH LEVI	USPS TRACKING # 9114 9022 0078 9496 3858 21 8. CUSTOMER For Trackling or inquiries go to USPS.corn or call 1-800-222-1811.	960 KY HWY 1940	CYNTHIANA	KY	41031	10.2.21 – 12:58pm – Cynthiana
WHITAKER KENNETH L & HELEN F	USPS TRACKING # 9114 9014 9646 0996 9 ⁹⁴⁶ 75 & CUSTOMER For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	960 KY HWY 1940	CYNTHIANA	KY	41031-9184	10.2.21 – 12:58pm – Cynthiana
WHITAKER KENNETH LEVI & HELEN F	USPS TRACKING # 8CUSTOMER RECEIPT 9114 9014 9645 0996 9946 67 For Tracking or inquiries go to USPS.com or call 1-800-222-1811.	960 KY HWY 1940	CYNTHIANA	KY	41031	10.2.21 – 12:58pm – Cynthiana

WIGLESWORTH BRADLEY E	UPS TRACKING 9114 9014 9645 0996 9945 68	PO BOX 262	CYNTHIANA	KY	41031	10.2.21 – 8:47am – Cynthiana
ZIMMERMAN KEN	UPS TRACKING 9114 9014 9645 0996 9946 50	413 HEDGES LN	CYNTHIANA	KY	41031	10.2.21 – 5:19pm - Cynthiana

EXHIBIT B-4
Public Notice

-mocrat.com

www.cynthianademocrat.com

PUBLIC NOTICE

BLUE MOON ENERGY LLC is proposing to develop and construct an approximately 70-megawatt solar electric generating facility to be located on KY Highway 36 East in Harrison County, Kentucky. The public is invited to learn more about the Project through the Project website and a public information meeting.

The Project website includes information about the size and location of the proposed Project and the anticipated economic impact. Information on an upcoming virtual meeting is also included.

The website can be accessed at: https://recurrentenergy.com/bluemoon.

Additionally, you may email questions to BlueMoon@recurrentenergy.com.

A public information meeting will be held to provide information about the Project, with Project representatives available to answer questions from the community. The public meeting will be held on August 25, 2021 at 6:00 pm. The public meeting will be held at the Big Meeting Room at the Harrison County Cooperative Extension office (668 New Lair Road Cynthiana, KY 41031).

Cynthiana-Harrison County
Public Library District Board Membership
Designated Meeting Date, Time, & Place:
Charles W. Feix Community Room
3rd Wednesday, 5 pm

their message. This fall a person is coming in from Texas to speak to the women."

Kassie is a real estate broker by trade and is She has a Facebook presence and a worldwide web presence at www.royalranchministries.com.

PUBLIC NOTICE

BLUE MOON ENERGY LLC is proposing to develop and construct an approximately 70-megawatt solar electric generating facility to be located on KY Highway 36 East in Harrison County, Kentucky. The public is invited to learn more about the Project through the Project website and a public information meeting.

The Project website includes information about the size and location of the proposed Project and the anticipated economic impact. Information on an upcoming virtual meeting is also included.

The website can be accessed at: https://recurrentenergy.com/bluemoon.

Additionally, you may email questions to BlueMoon@recurrentenergy.com.

A public information meeting will be held to provide information about the Project, with Project representatives available to answer questions from the community. The public meeting will be held on August 25, 2021 at 6:00 pm. The public meeting will be held at the Big Meeting Room at the Harrison County Cooperative Extension office (668 New Lair Road Cynthiana, KY 41031).



EXHIBIT B-5
Application
Public Notice

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING

_	_			_
I-n	tha	N/I	atter	of:
ш	uic	IVI	11161	UI.

Electronic Application of Blue Moon)	
Energy LLC for Certificates of Construction)	Case No.
for an approximately 70 Megawatt)	2021-00414
Merchant Electric Solar Generating Facility)	2021-00414
and Nonregulated Electric Transmission)	
Line in Harrison County, Kentucky)	

Proof Of Service in Compliance with KRS 278.706(2)(h) and 278.714(2)(f)

Comes the Affiant, Nikki Howlett, and hereby states as follows:

- 1. I am over the age of 18 and a resident of Kentucky.
- 2. On this day, February 7, 2022, I personally delivered electronic versions of the Blue Moon Energy LLC Application for a construction certificate to construct a merchant solar electric generating facility and a nonregulated transmission line to the following individuals/locations:

County Judge-Executive Barnett Attn: Judy Harrison County Fiscal Court 111 S. Main St., Ste 201 Cynthiana, KY 41031 Bonnie Skinner Cynthiana-Harrison-Berry Planning Commission 111 S. Main Street, Suite 202 Cynthiana, KY 41031 (859) 234-7165 Phone

I affirm under the penalties of perjury that the foregoing representations are true.

Date: February <u>7</u>, 2022

Nikki Howlett

STATE OF Kentucky)) SS:
COUNTY OF SCHERSON	

My Commission Expires:

My County of Residence:

Notary Public - Printed

NOTARY SEAL]

EN20968.Public-20968 4824-6708-9!29v I



Senior Gab Hatterick drives between two Mason County defenders Saturday. The Fillies beat the Lady Royals 34-31 to capture the 2A Section 5 tournament championship and a berth in the 2A State Tournament this weekend.

Fillies

From FILLIES page 7

The next time down the floor, Hatterick was fouled and made the first of her two free throw attempts. The second try caromed off the rim but Hines fought her way inside to grab the offensive rebound. She was able to get the ball to Hudgins who was fouled with 16 seconds left. Displaying the confidence of a seasoned veteran, Hudgins nailed both charity tosses to put her team back up by three at 34-31. Mason County had one more chance to tie the score but as the clock was winding down, a threepoint heave by Littleton fell short with Custard getting the rebound to secure the win.

Hatterick led Harrison County in scoring with 10 points. Littleton paced the Lady Royals with 12 points. The Fillies made 11-of-31 shots for 36%

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with Mason County hitting 11-of-34 shots for 32%. Harrison County was 2-for-10 from three-point range while the Lady Royals made 4-of-14 longrange shots. Harrison County improved to 6-7 while Mason County dropped to 8-5.

Hines now has 444 career points moving her into 59th place on the all-time scoring list at Harrison County She passed Brittany Murphy who collected 441 points in her career which spanned 2004-09.

Fillies The Rowan County, the Section 8 champions, in the quarterfinals of the Class 2A State Tournament at 7:30 on Friday night in Owensboro. The Lady Vikings have a record of 12-5 and defeated Lawrence County, 58-53, in the Section 8 Tournament championship game.

Notice is hereby given that Scott and Kristen Northcutt have filed an application with the Energy & Environmental Cabinet to build a new home at their property located at 3055 Poindexter Road, 7 miles outside of Cynthiana, KY. Any comments or objections concerning this application shall be directed in writing to: Kentucky Division of Water, Management Floodplain Section, 300 Sower Blvd 3rd Floor, Frankfort, Kentucky 40601. (502) 564-3410

Fillies fail to tame Broncos

SPORTS WRITER iswinford@KIH.net

On Monday night at the Hilltop Gymnasium, the Harrison County Fillies and the Frederick Douglass Lady Broncos engaged in a close battle in which Frederick Douglass was able to wear down Harrison County and pull away for a 53-40 win.

In a game that featured two ties and six lead changes, neither team was able to establish more than a ninepoint lead until the Lady Broncos used a late rally to break the game open in the last couple of min-

The contest was a study in contrast with a first half in which defense was the name of the game and a second half in which the respective offenses took over. In a low-scoring first two quarters, Frederick Douglass outscored the Fillies 18-16.

Conversely, once the offenses heated up in the final two periods, the Lady Broncos held a 35-24 edge. Despite a definitive size difference, Frederick Douglass was unable to dominate the game inside early on thanks to an effective defense employed by Harrison County. However, as the game went along, the Fillies' starters, who stayed on the floor for nearly the entire game, began to show the effects of contending with the bigger and more aggressive Lady Bronco squad.

Even though Harrison County lost the game, Coach Kim Marshall remained optimistic, saying, "This is such a special group. They try so hard every day in games and in practice that I wish more people would come and watch them play. The girls on the bench provide a lot of energy." Marshall continued, "I thought we got tired and started taking shots that were flat and didn't have much arch. We need to develop our bench so that our starters can get a rest from time to time."

substation

564-3940.

one would have thought that Frederick Douglass would have pounded the ball inside. However, the Lady Broncos spent most of the first half rotating the ball outside the paint.

Freshman Niah Rhodes was their primary weapon, connecting on three treys in the first nine minutes. The last of these long-range bombs gave Frederick Douglass a 12-3 lead with 7:26 left in the second quarter.

Fillie senior Gab Hatterick buried two three-pointers to pull Harrison County back to within five at 14-9 with 5:31 remaining in the period. At the 4:26 mark, Rhodes drove in for a layup that gave her team a 16-9 advantage midway through the stanza.

Over the next three minutes, the Fillies reeled off seven unanswered points to tie the score at 16-16 when Hatterick stole a pass and scored on a layup on the other end of the floor with 1:49 left in the quarter.

Rhodes dropped in a runner with 1:16 on the clock to close out the scoring in the first half with Frederick Douglass taking an 18-16 advantage into the locker room.

Hatterick opened up the third quarter with a shot from beyond the arc that put Harrison County on top for the first time at 19-18

Lady Bronco sopho-Ayanna-Sarai more Darrington responded with a putback basket with 6:34 remaining in the period. Hatterick struck back with another shot from beyond the perimeter to tie the score at 22 apiece with 6:14 left in the stanza.

Frederick After Douglass senior Allison Wallace gave her team a 25-22 lead with a threepointer of her own with 5:54 remaining in the third quarter, the Fillies caught fire offensively, scoring nine consecutive points starting with a steal and ensuing layup by Hatterick and ending with a shot from outside the arc by junior Caroline Vanhook that

NOTICE OF APPLICATION BLUE MOON ENERGY PROJECT

Blue Moon Energy LLC is proposing to develop and construct an approximately 70-megawatt solar electric generating facility to be located in Harrison County, Kentucky. The project will include a transmission line located entirely

within the project's footprint. The proposed solar project will be situated racking systems, inverters, collection system, transmission line and project

Blue Moon Energy LLC is required to file an application with the Kentucky

and operation of the proposed electric generating facility and transmission

line. This filing will occur in the coming weeks. This proposed construction

is subject to approval by the Board, which can be reached at P.O. Box 615,

211 Sower Boulevard, Frankfort, Kentucky 40602-0615, or via phone at (502)

A person who wishes to become a party to a proceeding before the board may,

by written motion filed no later than thirty (30) days after the application has

been submitted, request leave to intervene. A party may, upon written motion

filed no later than thirty (30) days after an application has been filed, request

Service Commission, 211 Sower Boulevard, Frankfort Kentucky. A request

for a local public hearing or local public information meeting shall be made

by at least three (3) interested persons who reside in the county or municipal

corporation in which the pipeline, plant, or transmission line is proposed to be

located. The request shall be made in writing and shall be filed within thirty

the board to schedule an evidentiary hearing at the offices of the Public

Electric Generation and Transmission Siting Board ("Board") for construction

gave Harrison County its largest advantage of the night at 31-25 with 2:40 left in the period.

The Lady Broncos responded with a 7-0 run that concluded when Wallace buried a trev that allowed Frederick Douglass to recapture the lead at 32-31 with 45 seconds remaining in the third stanza. Fillies senior Kara

Hines opened up the scoring in the fourth quarter with a jumper in the first possession that put her team back in the lead at 33-32. A floater in the lane by Hatterick followed by a free throw by Hines increased Harrison County's advantage to 36-32 with 5:46 left in the game. After Rhodes dropped in a couple of charity tosses, Lady Bronco 8th-grader Mikalee Bennett delivered a dagger in the form of a long-range trey that found the bottom of the net and gave Frederick Douglass the lead for good at 37-36.

It was Bennett's first career three-pointer and only her second attempt from beyond the arc this season

Darrington capped an 8-0 run with an oldfashioned three-point play with 3:12 remaining that increased the Lady Broncos' advantage to 40-36. Hatterick drew the Fillies back to within two points at 42-40 when she hit a pull up basket in the lane with just 2:01 left. Unfortunately, with fatigue having already set in for Harrison County, the Fillies were unable to score again.

Douglass Frederick took advantage of the situation by continually feeding Darrington and Rhodes inside for easy baskets and finished the contest with 11 straight

points to set the final score at 53-40.

The Lady Broncos connected on 19-of-55 shots for 35%, including 6-of-13 from beyond the arc. Harrison County made 16-of-53 shot attempts for 30% and were 5-of-20 from long range. Frederick Douglass dominated the backboards, outrebounding the Fillies, 40-23. Hatterick led Harrison County in scoring with 25 points, including four three-pointers. Darrington and Rhodes paced the Lady Broncos with 20 points each. Darrington also grabbed 22 rebounds.

With the loss, the Fillies are now 6-8. Frederick Douglass improved its record to 10-5.

Due to Harrison County's participation in the Class 2A State Tournament this weekend, the Fillies' game at Nicholas County which was supposed to have been played in Carlisle on Saturday night has been postponed until Feb. 9.

Harrison County will play Rowan County in the quarterfinals of the Class 2A State Tournament on Friday night at 7:30 at the Owensboro Sportscenter. The Lady Vikings defeated Lawrence County 58-53 in the Section 8 championship game. Rowan County has a record of 12-5 and is riding the wings of a five-game winning streak.

The Lady Vikings feature one of the state's top players in junior Haven Ford who is averaging 21 points, nine rebounds, five assists and five steals. Ford is a first team All-State selection and has scholarship offers from Eastern Kentucky, Marshall, Morehead St., Murray St., Northern Kentucky and Toledo.



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February 2, 2022

RE: Blue Moon Solar Project Community Outreach

Dear Neighbor,

Recurrent Energy is proposing to develop and construct a 70 megawatt utility-scale solar facility in Harrison County, Kentucky. The project is being proposed in the vicinity of KY Highway 36 East and Ruddles Mill Road, as shown on the attached documents. As a neighbor to the solar project, we want to invite you an informational session on August 25, 2021 from 6:00 p.m. to 8:00 p.m.at the Harrison County Cooperative Extension Office located at 668 New Lair Rd, Cynthiana, KY 41031 in the Big Meeting Room. Enclosed is the project information packet which has been provided to neighbors adjacent to the project. A newspaper notice in the Cynthiana Democrat is also running with the project website information for the community.

At this informational session, you can expect to learn about utility-scale solar projects, Blue Moon Solar Facility specifics, and what to expect during construction and project operations. We would also like to take this opportunity to get to know our neighbors and introduce Recurrent Energy and the development team. In the meantime, please feel free to contact the project team at the contact information provided below. Your questions or concerns are welcome at any time.

Recurrent Energy recognizes our projects have a long-term presence in the communities where they are sited, and we value your input during this process.

Best regards,

Jayce Walker

Manager, Development

Phone: (859) 993-0077

Email: BlueMoon@RecurrentEnergy.com

fage hower

Company Website: www.recurrentenergy.com Project Website: recurrentenergy.com/bluemoon

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ARNOLD MARTHA LYNN		775926103026	1470 SHADYNOOK PIKE	CYNTHIANA	KY	41031-9236
ASHER JULIE & DAVID B		775926140649	597 STEFFE LANE	CYNTHIANA	KY	41031-
BATTE MARVIN T & VICTORIA S		775926188551	429 SHADYNOOK PK	CYNTHIANA	KY	41031
BENNETT JEFFREY D & JANET M		775926220054	2528 KY HWY 36 E	CYNTHIANA	KY	41031
BERRY ALLEN W & ANITA		775927490144	1800 SHADYNOOK PIKE	CYNTHIANA	KY	41031-9238
BOONE ONE LLC	% CAROLYN FERN	775927525223	289 GRIMES BATTERTON RD	PARIS	KY	40361
BRADFORD KEITH		775927552499	3012 KY HWY 392	CYNTHIANA	KY	41031
BRADFORD KENT S & MARY BETH		775927600428	858 KY HWY 1940	CYNTHIANA	KY	41031
BRADFORD KEVIN		775927628270	1654 KY HIGHWAY 392	CYNTHIANA	KY	41031
BRADFORD SUE & KEVIN DELL BRADFORD		775924657450	1912 KY HWY 392	CYNTHIANA	KY	41031
BREWER TAMMY & TROY JR		775927682553	1342 SHADYNOOK PK	CYNTHIANA	KY	41031
CARREL MARK L & MELANIE S		775927707447	535 SHADYNOOK PK	CYNTHIANA	KY	41031
CARTER GARY WAYNE & CAROLYN SUE		775927740630	923 KY HWY 1940	CYNTHIANA	KY	41031
CLYDE ELIZABETH M & JAMES S		775927770060	283 COOK PK	CYNTHIANA	KY	41031-
COLSON JOYCE		775927794891	750 KY HWY 392	CYNTHIANA	KY	41031-
COOK WILLIAM R & THERESA S		775927822597	430 HEDGES LN	CYNTHIANA	KY	41031
COOK WILLIAM R & THERESA S			430 HEDGES LN	CYNTHIANA	KY	41031-
CORBIN RICHARD A & BETTY SIX		775927847476	725 SHAW LANE	CYNTHIANA	KY	41031-7418
CRAYCRAFT STEVEN A & SHERRY S		775927931263	2974 KY HWY 36 E	CYNTHIANA	KY	41031-
CRAYCRAFT STEVEN A & SHERRY S &	STEVEN A II CRAYO	CRAFT	2974 KY HWY 36 E	CYNTHIANA	KY	41031-
CURTIS JOSHUA A & RACHEL R BARNES		775927968363	1402 KY HWY 1940	CYNTHIANA	KY	41031-
DAMPIER IRVIN L & MARTHA L		775927996617	690 SHADYNOOK PIKE	CYNTHIANA	KY	41031-9226
DAVIS CHARLES M & JUDITH B		775928034437	173 INDIAN WOODS TRAIL	CYNTHIANA	KY	41031
FLORENCE DONALD R		775928061783	2044 KY HWY 392	CYNTHIANA	KY	41031-9407
GASSER DONALD JR		775928087511	100 DELTA CT	CYNTHIANA	KY	41031
GRAYSON BRIAN L		775928113567	P O BOX 81	CYNTHIANA	KY	41031
GRINSTEAD FRANCES JANE & MALCOLM B		775928148586	136 MCKEE LN	CYNTHIANA	KY	41031
HALEY SARAH JANE		775928174411	855 KY HWY 1940	CYNTHIANA	KY	41031
HEMLOCK DANIEL D & KATIE A		775928203330	4400 KY HWY 36 E	CYNTHIANA	KY	41031
HOSTETLER MOSE L & ANNA M		775928231135	815 SHAW LN	CYNTHIANA	KY	41031
INGRAM SHEILA D		775928259767	317 INDIAN WOODS TRAIL	CYNTHIANA	KY	41031
ISHMAEL MARTY W		775928298786	122 JILL LN	CYNTHIANA	KY	41031-
KINSEY BRIAN S & JAMIE M		775928333141	390 JILL LANE	CYNTHIANA	KY	41031

LANDRUM TIMMY		775928360958	324 JILL LN	CYNTHIANA	KY	41031-
LEMONS STEPHEN JASON &	HEATHER LYNN N	775928644170	2783 OLD LAIR RD	CYNTHIANA	KY	41031
LEVI TERRY A & DONNA		775928672310	2109 RUTHLAND RD	CYNTHIANA	KY	41031-
LUCKY MONA SUE		775928703757	2718 OLD LAIR RD	CYNTHIANA	KY	41031
LUSBY L C & DONNA		775928744621	1050 US HWY 27 S STE 3	CYNTHIANA	KY	41031
MAGEE EDWARD JR EST		775930959056	380 KY HWY 1940	CYNTHIANA	KY	41031-9188
MAGEE EDWARD JR EST			380 KY HWY 1940	CYNTHIANA	KY	41031-9188
MAGEE EDWARD JR & JUDITH & JANET		775928817230, 775	380 KY HWY 1940	CYNTHIANA	KY	41031
MARTIN TEDDY T & SHEILA		775928882956	100 COLONY DR	CYNTHIANA	KY	41031
MCCLOSKEY MARGARET		775928935416	P O BOX 384	CYNTHIANA	KY	41031-0384
MCKEE FRANK T & DOROTHY J		775928997138	2829 MILLWOOD DRIVE	DALLAS	TX	75234
MCKEE JAMES O & SHIRLEY		775929027409	2871 OLD LAIR ROAD	CYNTHIANA	KY	41031
MCKEE JOHN IRREVOCABLE	SPECIAL NEEDS TR	775929059334	484 EALS LN	CYNTHIANA	KY	41031
MIDDEN RICHARD & MARIBETH		775929102864	579 SHADYNOOK PK	CYNTHIANA	KY	41031-
MOORE CHARLES KENNETH & MARY WAITS		775929145098	564 SHADYNOOK PIKE	CYNTHIANA	KY	41031-9224
MOORE CYNTHIA R & KEITH LANE		775929179545	2951 OLD LAIR RD	CYNTHIANA	KY	41031-
MOORE DAVID F & JUDITH CAROL MAGEE		775929284591	1205 SHADYNOOK PK	CYNTHIANA	KY	41031
MSJ CONSTRUCTION COMPANY INC		775929320365	P.O. BOX 457	CYNTHIANA	KY	41031-
NEACE ISAAC & ELIZABETH		775929350953	2821 OLD LAIR ROAD	CYNTHIANA	KY	41031-4638
OBRYAN RICK & ANITA		775929418184	490 SHAW LN	CYNTHIANA	KY	41031-
OWSLEY GINA		775930010392	29 STEFFE LN	CYNTHIANA	KY	41031-
PERRAUT LARRY T SR		775930040568	1116 KY HWY 1771	CYNTHIANA	KY	41031
RENO JOHN R & MARTHA		775930066579	865 SHADYNOOK PK	CYNTHIANA	KY	41031-
ROSE EDWARD & TRUDI		775930092348	1287 KY HWY 1940	CYNTHIANA	KY	41031
ROYALTY BRIAN & HEATHER G		775930115905	146 JILL LN	CYNTHIANA	KY	41031-
SANDERS MELANIE L & BOBBY L		775930141810	215 INDIAN WOODS TRAIL	CYNTHIANA	KY	41031-
SAURER REBECCA L		775930164969	P O BOX 33	FISHERVILLE	KY	40023
SIMPSON DREW & CARRIE		775930188977	182 JILL LN	CYNTHIANA	KY	41031-
SING CURTIS J		775930212405	107 BATTLE GROVE AVE	CYNTHIANA	KY	41031-
SPARKS WHITNEY BROOKE		775930237199	801 WAITS RD	CYNTHIANA	KY	41031
STINSON TERESA & TERRY &	JO ANNE & RICK V	775930266449	484 EALS LN	CYNTHIANA	KY	41031
STUBBS LINDA B		775930333016	198 JILL LN	CYNTHIANA	KY	41031
THOMAS BOBBY E & MARY LOU		775930369278	162 WINTERWOOD LN	CYNTHIANA	KY	41031-8776
TRIBBLE TERYL ELISABETH		775930395860	197 STEFFE LN	CYNTHIANA	KY	41031
TRIBBLE TERYL ELISABETH			197 STEFFE LN	CYNTHIANA	KY	41031

TRIBBLE TERYL ELIZABETH			197 STEFFE LN	CYNTHIANA	KY	41031-
VALLANDINGHAM WILLIAM T & JUNIE L		775930422294	292 JILL LANE	CYNTHIANA	KY	41031-
VELA ROBERT D & DAWN T	% AMOS J ROSE &	775930459913	116 CATHERINE ST	CARLISLE	KY	40311
WADE RACHEL P & TONY		775930488335	37 CHERRY LN	CYNTHIANA	KY	41031-
WHALEN BRADFORD M		775930518000	1375 SHADYNOOK PK	CYNTHIANA	KY	41031
WHITAKER CHAD LEVI		775930756420	801 WAITS RD	CYNTHIANA	KY	41031-
WHITAKER HELEN & KENNETH LEVI		775930781810	960 KY HWY 1940	CYNTHIANA	KY	41031-
WHITAKER KENNETH L & HELEN F			960 KY HWY 1940	CYNTHIANA	KY	41031-9184
WHITAKER KENNETH LEVI & HELEN F			960 KY HWY 1940	CYNTHIANA	KY	41031-
WIGLESWORTH BRADLEY E		775930810648	P O BOX 262	CYNTHIANA	KY	41031-
ZIMMERMAN KEN		775930833833	413 HEDGES LN	CYNTHIANA	KY	41031

EXHIBIT C

COMMONWEALTH OF KENTUCKY BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING

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Electronic Application of Blue Moon)	
Energy LLC for Certificates of Construction)	Case No.
for an approximately 70 Megawatt)	2021-00414
Merchant Electric Solar Generating Facility)	2021-00414
and Nonregulated Electric Transmission)	
Line in Harrison Counties, Kentucky)	

Certification Required by KRS 278.706(2)(d)

Comes the Affiant, Spivey Paup, and hereby states as follows:

- 1. I am over the age of 18 and a resident of Texas.
- 2. I am the Managing Director of Development of Recurrent Energy, LLC, the direct parent company of Blue Moon Energy LLC.
- 3. I have conducted an inquiry into the facts contained in this Statement and have found them to be true to the best of my knowledge and belief.
- 4. I hereby certify that the proposed facility as planned and to be constructed in Harrison County, Kentucky will be in compliance with all local ordinances and regulations concerning noise control, and will be in compliance with any local planning and zoning ordinances.
- 5. Per the Zoning Ordinances for Cynthiana, Harrison County, Table 2 of Article 23. Energy Solar System, the project has been designed to adhere to the setback requirements.

Signed this 25 day of January, 2022.

Blue Moon Energy LLC

By: ____

Title: Vice President

EXHIBIT D

Generation Interconnection Feasibility Study Report

For

PJM Generation Interconnection Request Queue Position AD2-048

Cynthia-Headquarters 69 kV

Preface

The intent of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

In some instances a generator interconnection may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the feasibility study, but the actual allocation will be deferred until the impact study is performed.

The Feasibility Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

General

Blue Moon Solar LLC, the Interconnection Customer (IC), has proposed a solar generating facility located in Harrison County, Kentucky. The installed facilities will have a total capability of 70 MW with 46.7 MW of this output being recognized by PJM as capacity. The proposed inservice date for this project is June 1, 2020. **This study does not imply a EKPC commitment to this in-service date.**

Point of Interconnection

AD2-048 will interconnect with the EKPC transmission system along the Cynthiana - Headquarters 69 kV line.

Cost Summary

The AD2-048 project will be responsible for the following costs:

Description	Total Cost		
Attachment Facilities	\$	250,000	
Direct Connection Network Upgrades	\$	2,700,000	
Non Direct Connection Network Upgrades	\$	100,000	
Total Costs	\$	3,050,000	

In addition, the AD2-048 project may be responsible for a contribution to the following costs:

Description	Total Cost
New System Upgrades	\$ 1,350,000
Previously Identified Upgrades	\$ 32,400,000
Total Costs	\$ 33,750,000

Cost allocations for these upgrades will be provided in the System Impact Study Report.

Attachment Facilities

The total preliminary cost estimate for the Attachment Facilities work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Total Cost		
Install a 69 kV switch structure at the point of demarcation.	\$	250,000	
Estimated Time: 18 months.			
Total Direct Connection Facility Costs	\$	250,000	

Direct Connection Cost Estimate

The total preliminary cost estimate for the Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	T	Cotal Cost
Build 69kv switching station along the Cynthiana -	\$	2,700,000
Headquarters 69 kV line including associated transmission		
line work. Estimated Time: 18 months.		
Total Direct Connection Facility Costs	\$	2,700,000

Non-Direct Connection Cost Estimate

The total preliminary cost estimate for the Non-Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	Total Cost			
Adjust remote, relaying, and metering settings at Cynthiana	\$	50,000		
69kV Sub.				
Adjust remote, relaying, and metering settings at Headquarters 69kV Sub.	\$	50,000		
Total Non-Direct Connection Facility Costs	\$	100,000		

Interconnection Customer Requirements

- 1. An Interconnection Customer entering the New Services Queue on or after October 1, 2012 with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.
- 2. The Interconnection Customer may be required to install and/or pay for metering as necessary to properly track real time output of the facility as well as installing metering which shall be used for billing purposes. See Section 8 of Appendix 2 to the Interconnection Service Agreement as well as Section 4 of PJM Manual 14D for additional information.

Revenue Metering and SCADA Requirements

PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Sections 24.1 and 24.2.

EKPC Requirements

The Interconnection Customer will be required to comply with all EKPC Revenue Metering Requirements for Generation Interconnection Customers. The Revenue Metering Requirements may be found within the "EKPC Facility Connection Requirements" document located at the following link:

http://www.pjm.com/planning/design-engineering/to-tech-standards/ekpc.aspx

Network Impacts

The Queue Project AD2-048 was evaluated as a 70.0 MW (Capacity 46.7 MW) injection at the tap of the Cynthiana - Headquarters 69 kV line in the EKPC area. Project AD2-048 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AD2-048 was studied with a commercial probability of 53%. Potential network impacts were as follows:

Summer Peak Analysis - 2021

Contingency Descriptions

The following contingencies resulted in overloads:

Contingency Name	Description
AEP_P1-2_#1027	CONTINGENCY 'AEP_P1-2_#1027' OPEN BRANCH FROM BUS 248000 TO BUS 324114 CKT 1 / 248000 06CLIFTY 345 324114 7TRIMBLE 345 1 END
AEP_P1-2_#363	CONTINGENCY 'AEP_P1-2_#363' OPEN BRANCH FROM BUS 243208 TO BUS 243209 CKT 1 / 243208 05JEFRSO 765 243209 05ROCKPT 765 1 END

Contingency Name	Description							
	CONTINGENCY 'AEP_P1-3_#8818'							
	OPEN BRANCH FROM BUS 242921 TO BUS 242924 CKT 1 242921 05CORNU 765 242924 05HANG R 765 1							
	OPEN BRANCH FROM BUS 242921 TO BUS 242934 CKT 242921 05CORNU 765 242934 05CORNU 345 1	1	/					
	REMOVE UNIT 1A FROM BUS 247245 05HRKG1A 18.0	/ 247245						
AED D4 2 #0040	REMOVE UNIT 1B FROM BUS 247246 05HRKG1B 18.0	/ 247246						
AEP_P1-3_#8818	REMOVE UNIT 1S FROM BUS 247247 05HRKG1S 18.0	/ 247247						
	REMOVE UNIT 2A FROM BUS 247248 / 2472 05HRKG2A 18.0							
	REMOVE UNIT 2B FROM BUS 247249 05HRKG2B 18.0	/ 247249						
	REMOVE UNIT 2S FROM BUS 247250 05HRKG2S 18.0	/ 247250						
	END							
	CONTINGENCY 'DAY_P4_L34553-1'							
DAY DA LOA550 4	OPEN LINE FROM BUS 253077 TO BUS 342838 CKT 1 09STUART 345 - 20SPURLK 345 /* BUS 342525 -> 342623.	/*						
DAY_P4_L34553-1	OPEN LINE FROM BUS 253077 TO BUS 253076 CKT 1 09STUART 345 - 09STUART 138	/*						
	END							
	CONTINGENCY 'DEO&K P1-* P2-1 RED BANK-SG-ZIMMER	4545'						
	OPEN BRANCH FROM BUS 249573 TO BUS 249577 CKT	1						
DEO&K P1-* P2-1 RED BANK-SG-ZIMMER 4545	OPEN BRANCH FROM BUS 249573 TO BUS 250097 CKT	1						
	OPEN BRANCH FROM BUS 249571 TO BUS 249573 CKT	1						
	END							

Contingency Name	Description
2	CONTINGENCY 'DEO&K P2-3/4 P4-* 1493_RED BANK'
	OPEN BRANCH FROM BUS 249571 TO BUS 249573 CKT 1
DEO&K P2-3/4 P4-*	OPEN BRANCH FROM BUS 249573 TO BUS 250097 CKT 1
1493_RED BANK	OPEN BRANCH FROM BUS 249573 TO BUS 249577 CKT 1
	OPEN BRANCH FROM BUS 249571 TO BUS 250092 CKT 1
	END
	CONTINGENCY 'DEO&K P2-3/4 P4-* 816_SILVERGROVE'
	OPEN BRANCH FROM BUS 249573 TO BUS 250097 CKT 1
	OPEN BRANCH FROM BUS 249988 TO BUS 250097 CKT 1
	OPEN BRANCH FROM BUS 250042 TO BUS 250097 CKT 1
DEO&K P2-3/4 P4-* 816_SILVERGROVE	OPEN BRANCH FROM BUS 250052 TO BUS 250097 CKT 1
	OPEN BRANCH FROM BUS 250053 TO BUS 250097 CKT 1
	OPEN BRANCH FROM BUS 249571 TO BUS 249573 CKT 1
	OPEN BRANCH FROM BUS 249573 TO BUS 249577 CKT 1
	END
	CONTINGENCY 'DEO&K P7-1 CIRCUIT1883&4545REDBANKSILGRVZIMMER'
	OPEN BRANCH FROM BUS 249989 TO BUS 250080 CKT 1
	OPEN BRANCH FROM BUS 250079 TO BUS 250080 CKT Z1
DEO&K P7-1 CIRCUIT1883&4545REDB	OPEN BRANCH FROM BUS 250079 TO BUS 250092 CKT 1
ANKSILGRVZIMMER	OPEN BRANCH FROM BUS 249573 TO BUS 249577 CKT 1
	OPEN BRANCH FROM BUS 249573 TO BUS 250097 CKT 1
	OPEN BRANCH FROM BUS 249571 TO BUS 249573 CKT 1
	END

Contingency Name	Description		
	CONTINGENCY 'EKPC_P1-2_SPUR-STU345' SPURLOCK - STUART	/*	
EKPC_P1-2_SPUR- STU345	OPEN BRANCH FROM BUS 253077 TO BUS 342838 CKT 1 253077 09STUART 345.00 342838 7SPURLOCK 345.00		/*
	END		
	CONTINGENCY 'EKPC_P7-1_SPUR 345 DBL' SPURLOCK - STUART 345 & SPURLOCK - MELDAHL 345	/*	
EKPC_P7-1_SPUR 345	OPEN BRANCH FROM BUS 249581 TO BUS 342838 CKT 1 249581 08MELDAL 345.00 342838 7SPURLOCK 345.00		/*
DDE.	OPEN BRANCH FROM BUS 253077 TO BUS 342838 CKT 1 253077 09STUART 345.00 342838 7SPURLOCK 345.00		/*
	END		

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

	Contingency		Affected		Bus		Power Loading %		ing %	Rating		MW		
#	Type	Name	Area	Facility Description	From	To	Circuit		Initial	Final	Type	MVA	Contribution	Ref
1	N-1	AEP_P1- 2_#1027	EKPC - DAY	7SPURLOCK-09STUART 345 kV line	342838	253077	1	DC	99.67	100.5 6	ER	1374	12.04	

Note: Please see Attachment 3 for projects providing impacts to flowgate violations. The values in the Reference column correspond to the proper table in the Attachment.

Multiple Facility Contingency

(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies for the full energy output)

None

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

	Contingency Affected			Bus				Power Loading %			ting	MW		
#	Type	Name	Area	Facility Description	From	To	Circuit	Flow	Initial	Final	Type	MVA	Contribution	Ref
2	DCTL	EKPC_P7- 1_SPUR 345 DBL	AEP - AEP	05WLDCAT-05HILLSB 138 kV line	246946	243019	1	DC	141.6 5	143.1 3	ER	185	6.09	1
3	LFFB	DAY_P4_L 34553-1	AEP - AEP	05WLDCAT-05HILLSB 138 kV line	246946	243019	1	DC	114.2 1	115.3 4	ER	185	4.63	

	Contingency Affected		Affected		В	us		Power	Load	ing %	Rat	ting	MW	
#	Type	Name	Area	Facility Description	From	To	Circuit	Flow	Initial	Final	Type	MVA	Contribution	Ref
4	N-1	AEP_P1- 2_#363	LGEE - OVEC	7TRIMBLE-06CLIFTY 345 kV line	324114	248000	1	DC	190.5 6	190.8 5	ER	1370	3.93	2
5	Non	Non	LGEE - OVEC	7TRIMBLE-06CLIFTY 345 kV line	324114	248000	1	DC	136.1 7	136.5	NR	1134	3.78	
6	N-1	AEP_P1- 3_#8818	LGEE - OVEC	7TRIMBLE-06CLIFTY 345 kV line	324114	248000	1	DC	114.0 7	114.3 5	ER	1370	3.78	
7	LFFB	DEO&K P2-3/4 P4-* 816_SILVE RGROVE	EKPC - DAY	7SPURLOCK-09STUART 345 kV line	342838	253077	1	DC	107.7 5	108.3 9	ER	1374	18.77	3
8	LFFB	DEO&K P2-3/4 P4-* 1493_RED BANK	EKPC - DAY	7SPURLOCK-09STUART 345 kV line	342838	253077	1	DC	107.6 6	108.2 9	ER	1374	18.72	
9	DCTL	DEO&K P7-1 CIRCUIT18 83&4545R EDBANKSI LGRVZIM MER	EKPC - DAY	7SPURLOCK-09STUART 345 kV line	342838	253077	1	DC	107.6	108.2 4	ER	1374	18.72	

Note: Please see Attachment 3 for projects providing impacts to flowgate violations. The values in the Reference column correspond to the proper table in the Attachment.

Short Circuit

(Summary of impacted circuit breakers)

None

Steady-State Voltage Requirements

(Summary of the VAR requirements based upon the results of the steady-state voltage studies)

Steady State Voltage Studies to be conducted during later study phases

Stability and Reactive Power Requirement for Low Voltage Ride Through

(Summary of the VAR requirements based upon the results of the dynamic studies)

Stability Studies to be conducted during later study phases

Affected System Analysis & Mitigation

LGEE Impacts:

LGEE Impacts to be determined during later study phases (as applicable).

MISO Impacts:

MISO Impacts to be determined during later study phases (as applicable).

Duke, Progress & TVA Impacts:

Duke Carolina, Progress, & TVA Impacts to be determined during later study phases (as applicable).

OVEC Impacts:

OVEC Impacts to be determined during later study phases (as applicable).

Winter Analysis - 2021

Winter Studies to be conducted during later study phases

Light Load Analysis - 2021

Light Load Studies to be conducted during later study phases

Potential Congestion due to Local Energy Deliverability

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request.

Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.

	Contingency		Affected	fected Bus			ed Bus Power Loading		oading % Rating			MW		
#	Type	Name	Area	Facility Description	From	To	Circuit	Flow	Initial	Final	Type	MVA	Contribution	Ref
10	N-1	EKPC_P1- 2_SPUR- STU345	AEP - AEP	05WLDCAT-05HILLSB 138 kV line	246946	243019	1	DC	113.6 2	114.7 5	ER	185	4.64	
11	N-1	AEP_P1- 2_#363	LGEE - OVEC	7TRIMBLE-06CLIFTY 345 kV line	324114	248000	1	DC	180.6 1	180.8	ER	1370	5.9	
12	Non	Non	LGEE - OVEC	7TRIMBLE-06CLIFTY 345 kV line	324114	248000	1	DC	138.1 2	138.3 4	NR	1134	5.67	
13	N-1	DEO&K P1-* P2-1 RED BANK-SG- ZIMMER 4545	EKPC - DAY	7SPURLOCK-09STUART 345 kV line	342838	253077	1	DC	107.5 9	108.2 3	ER	1374	18.72	

Overloads Identified by EKPC on the lower voltage system:

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)

Violation #14

Monitored: Headquarters - Snow Hill 69kV (341602-342280) Contingency: Cynthiana Tie - AD2-048 Tap 69kV (341377-936380)

Thermal Overload: 40.61 MVA (119.43%)

Project: Increase MOT of 3/0 conductor on Headquarters-Snow Hill 69kV line section to 212°F (3.8 miles)

New Ratings: 42/46/48 (N/LTE/LD)

Estimated Cost: \$250,000 Estimated Time: 12 months

Violation #15

Monitored: Snow Hill - Murphysville 69kV (342280-341923) Contingency: Cynthiana Tie - AD2-048 Tap 69kV (341377-936380)

Thermal Overload: 36.62 MVA (107.70%)

Project: Increase MOT of 3/0 conductor on Snow Hill-Murphysville 69kV line section to 212°F (16.1 miles)

New Ratings: 42/46/48 (N/LTE/LD)

Estimated Cost: \$1,100,000 Estimated Time: 12 months

It should be noted that EKPC will complete an evaluation to determine if either of these line sections can be upgraded to an operating temperature of 212°F in the System Impact Study Report. If either line section has constraints that will make the upgrade unfeasible, EKPC would then recommend a rebuild of the line section. The estimated cost for the line rebuild of the Headquarters - Snow Hill 69 kV line section is \$3.2 Million and estimated time of 12 months. The estimated cost for the rebuild of the Snow Hill - Murphysville 69 kV line section is \$13.6 Million and estimated time of 30 months. EKPC would need to complete a LiDAR survey of each line section, and an initial design review to determine if the high temperature upgrade is possible on these line sections- which will be completed in the Impact Study Phase.

New System Reinforcements

(*Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation*)

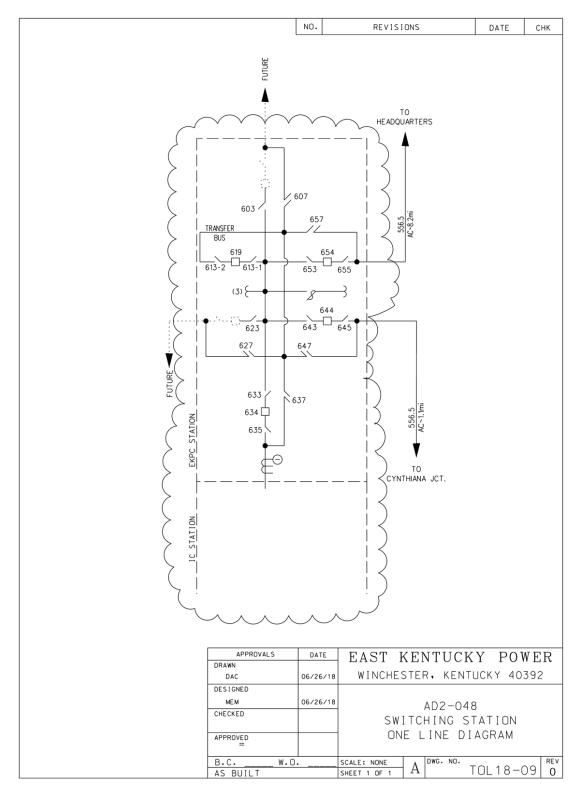
Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Up	grade Cost		
#1,	7SPURLOCK-	In order to mitigate the overloads of facilities above, the following reinforcements are required:		\$	0		
7, 8, 9	09STUART 345 kV line	• EKPC: Reconductor EKPC's portion of the Spurlock-Stuart 345kV line with 954 ACSS (PJM Upgrade Id: b2879.2). New EKPC ratings will be S/N: 1466 MVA, S/E: 1710 MVA. The scheduled in-service date is 12/31/2018.					
		 DAY: Replace wavetrap at the Stuart 345 kV substation – Already proposed as part of generation retirement project (PJM Upgrade Id: b2879.1). This upgrade is in-service as of 06/01/2018. 					
		This reinforcement was identified as a baseline project; Therefore this project does not have cost responsibility for this upgrade, however it may be responsible for acceleration costs.					
14	Headquarters - Snow	In order to mitigate the overloads of facilities above, the following reinforcements are required:		\$	250,000		
	Hill 69kV	 Increase MOT of 3/0 conductor on Headquarters-Snow Hill 69kV line section to 212°F (3.8 miles) 					
		• Estimated Cost: \$250,000					
		Estimated Time: 12 months					
15	Snow Hill -	In order to mitigate the overloads of facilities above, the following reinforcements are required:		\$	1,100,000		
	Murphysville 69kV	Increase MOT of 3/0 conductor on Snow Hill-Murphysville 69kV line section to 212°F (16.1 miles)					
		• Estimated Cost: \$1,100,000					
		Estimated Time: 12 months					
Total New Network Upgrades							

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

Violation #	Overloaded Facility	Upgrade Description	Network Upgrade Number	Upgrade Cost			
#2, 3	05WLDCAT- 05HILLSB 138 kV line	In order to mitigate the overloads of facilities above, the following reinforcements are required: • AEP: Rebuild / Reconductor 10 miles of conductor (Limiting Element: ACSR ~ 477 ~ 26/7 ~ HAWK - Conductor Section 1). Estimated Cost: \$15.0 million The estimated schedule duration is 24 to 36 months		\$ 15,000,000			
#4, 5, 6	7TRIMBLE- 06CLIFTY 345 kV line	In order to mitigate the overloads of facilities above, the following reinforcements are required: • To relieve the Trimble – Clifty 345 kV line overload: LG&E upgrade is to reconductor the line with a high temperature conductor and upgrade any necessary terminal equipment to achieve expected ratings of 2610/2610 MVA SN/SE. Cost estimate is \$17.4M with a time estimate of 18 months. PJM Network Upgrade N5469.	N5469	\$ 17,400,000			
Total New Network Upgrades							

Attachment 1. Single Line Diagram



Attachment 2. Flowgate Details

Appendices

The following appendices contain additional information about each flowgate presented in the body of the report. For each appendix, a description of the flowgate and its contingency was included for convenience. However, the intent of the appendix section is to provide more information on which projects/generators have contributions to the flowgate in question. Although this information is not used "as is" for cost allocation purposes, it can be used to gage other generators impact.

It should be noted the generator contributions presented in the appendices sections are full contributions, whereas in the body of the report, those contributions take into consideration the commercial probability of each project.

Appendix 1

(AEP - AEP) The 05WLDCAT-05HILLSB 138 kV line (from bus 246946 to bus 243019 ckt 1) loads from 141.65% to 143.13% (**DC power flow**) of its emergency rating (185 MVA) for the tower line contingency outage of 'EKPC_P7-1_SPUR 345 DBL'. This project contributes approximately 6.09 MW to the thermal violation.

Bus Number	Bus Name	Full Contribution
932551	AC2-075 C	0.81
932552	AC2-075 E	0.4
936281	AD2-036 C	2.41
936282	AD2-036 E	1.2
936381	AD2-048 C	4.06
936382	AD2-048 E	2.03
LTF	CARR	0.07
LTF	CBM-S1	2.75
LTF	CBM-S2	0.81
LTF	CBM-W1	1.86
LTF	CBM-W2	9.54
LTF	CIN	0.98
LTF	CPLE	0.14
LTF	DEARBORN	0.12

Bus Number	Bus Name	Full Contribution
Number	Bus Name	Contribution
LTF	G-007	0.15
LTF	IPL	0.67
LTF	LGEE	0.87
LTF	MEC	1.62
LTF	O-066	0.95
LTF	RENSSELAER	0.05
LTF	ROSETON	0.38
LTF	WEC	0.15
916272	Z1-080 E	0.58
918802	AA1-099 E	0.38
925981	AC1-074 C	3.37
925982	AC1-074 E	1.44
926101	AC1-089 C	38.36
926102	AC1-089 E	62.59

Appendix 2

(LGEE - OVEC) The 7TRIMBLE-06CLIFTY 345 kV line (from bus 324114 to bus 248000 ckt 1) loads from 190.56% to 190.85% (**DC power flow**) of its emergency rating (1370 MVA) for the single line contingency outage of 'AEP_P1-2_#363'. This project contributes approximately 3.93 MW to the thermal violation.

247287 05AND G3 0.76 243442 05RKG1 37.19 243443 05RKG2 36.63 1COOPER1 342900 G 342903 G 5.78 342918 1JKCT 1G 2.34 342921 1JKCT 2G 2.34 342924 1JKCT 3G 2.34 342927 1JKCT 4G 1.55 342930 1JKCT 5G 1.54 342933 1JKCT 6G 1.55 342936 1JKCT 7G 1.55 342939 1JKCT 10G 1.59 342942 1JKCT 10G 1.59 342945 1LAUREL 1G 1.68 932551 AC2-075 C 1.08 933441 AC2-157 C 8.16 LTF AD1-092 3.63 LTF AD1-093 6.12 LTF AD1-134 8.34 935141 AD1-148 2.47 936281 AD2-048 C 3.93 AD2-072 C 936821	Bus	Due News	Full
243442 05RKG2 36.63 243443 05RKG2 36.63 1COOPER1 342900 G 2.98 1COOPER2 342903 G 5.78 342918 1JKCT 1G 2.34 342921 1JKCT 2G 2.34 342924 1JKCT 3G 2.34 342927 1JKCT 4G 1.55 342930 1JKCT 5G 1.54 342933 1JKCT 6G 1.55 342936 1JKCT 7G 1.55 342939 1JKCT 10G 1.59 342942 1JKCT 10G 1.59 342945 1LAUREL 1G 1.68 932551 AC2-075 C 1.08 933441 AC2-157 C 8.16 LTF AD1-092 3.63 LTF AD1-093 6.12 LTF AD1-094 1.1 935011 AD1-134 8.34 935141 AD1-148 2.47 936281 AD2-048 C 3.93	Number	Bus Name	Contribution
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936821	936571	O1	12.29
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936831			
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936841 O1 1.29 LTF CARR 0.33 LTF CBM-S1 40.52	930031		1.88
LTF CARR 0.33 LTF CBM-S1 40.52	936841		1.29
LTF CBM-S1 40.52			
LTF CBM-S2 6.89	LTF		

Bus		Full
Number	Bus Name	Contribution
LTF	CBM-W1	21.42
LTF	CBM-W2	141.33
LTF	CIN	25.73
LTF	CLIFTY	95.03
LTF	CPLE	1.18
LTF	DEARBORN	0.51
LTF	IPL	15.7
981181	J708	40.82
981521	J759	9.35
981531	J762	29.43
981571	J783	9.25
938311	J795	3.66
938731	J800	15.73
938861	J829	12.54
938921	J842 C	3.98
938931	J843 C	4.32
939021	J856	9.32
274650	KINCAID ;1U	5.91
274651	KINCAID ;2U	5.89
LTF	LGEE	19.02
LTF	MEC	21.85
LTF	RENSSELAER	0.26
LTF	ROSETON	1.87
LTF	WEC	1.74
900404	X3-028 C	161.12
LTF	Z1-043	8.38
930461	AB1-087	59.08
930471	AB1-088	59.08
LTF	AB2-013	5.1
927331	AC1-040 C	9.43
925981	AC1-074 C	4.53

Appendix 3

(EKPC - DAY) The 7SPURLOCK-09STUART 345 kV line (from bus 342838 to bus 253077 ckt 1) loads from 107.75% to 108.39% (**DC power flow**) of its emergency rating (1374 MVA) for the line fault with failed breaker contingency outage of 'DEO&K P2-3/4 P4-* 816_SILVERGROVE'. This project contributes approximately 18.77 MW to the thermal violation.

Bus		Full
Number	Bus Name	Contribution
251970	08MELDL1	2.61
251971	08MELDL2	2.61
251972	08MELDL3	2.62
251968	08ZIMRHP	51.51
342957	1SPURLK1G	26.81
342960	1SPURLK2G	51.09
342963	1SPURLK3G	26.85
342966	1SPURLK4G	26.85
932461	AC2-066 C	-3.77
932551	AC2-075 C	3.72
932552	AC2-075 E	1.83
935011	AD1-134	18.23
936281	AD2-036 C	11.11
936282	AD2-036 E	5.56
936381	AD2-048 C	12.52
936382	AD2-048 E	6.25
	AD2-072 C	
936571	01	10.16
026572	AD2-072 E O1	4.00
936572	AD2-105 C	4.98
936821	O1	4.71
	AD2-105 E	
936822	O1	6.5
	AD2-106 C	
936831	01	2.95
936832	AD2-106 E O1	4.08
	AD2-107 C	
936841	O1	2.31

Bus Number	Bus Name	Full Contribution
936842	AD2-107 E O1	3.18
LTF	CARR	0.54
LTF	CBM-S1	13.05
LTF	CBM-S2	3.14
LTF	CBM-W1	9.01
LTF	CBM-W2	48.66
LTF	CIN	6.29
LTF	CPLE	0.44
LTF	DEARBORN	0.85
LTF	G-007	1.31
LTF	IPL	4.2
LTF	LGEE	4.1
LTF	MEC	8.31
LTF	O-066	8.43
LTF	RENSSELAER	0.42
LTF	ROSETON	3.06
LTF	WEC	0.77
925981	AC1-074 C	15.56
925982	AC1-074 E	6.67
926101	AC1-089 C	5.59
926102	AC1-089 E	9.12
926951	AC1-182	6.6

Generation Interconnection Revised System Impact Study Report

For

PJM Generation Interconnection Request Queue Position AD2-048

Cynthia-Headquarters 69 kV

September 2021

Preface

The intent of the System Impact Study is to determine a plan, with approximate cost and construction time estimates, to connect the subject generation interconnection project to the PJM network at a location specified by the Interconnection Customer. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system. All facilities required for interconnection of a generation interconnection project must be designed to meet the technical specifications (on PJM web site) for the appropriate transmission owner.

In some instances an Interconnection Customer may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection or merchant transmission upgrade, may also contribute to the need for the same network reinforcement. The possibility of sharing the reinforcement costs with other projects may be identified in the Feasibility Study, but the actual allocation will be deferred until the System Impact Study is performed.

The System Impact Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

General

Blue Moon Solar LLC, the Interconnection Customer (IC), has proposed a solar generating facility located in Harrison County, Kentucky. The installed facilities will have a total capability of 70 MW with 46.7 MW of this output being recognized by PJM as capacity. The proposed inservice date for this project is June 1, 2020. **This study does not imply a EKPC commitment to this in-service date.**

Point of Interconnection

AD2-048 will interconnect with the EKPC transmission system along the Cynthiana - Headquarters 69 kV line.

Cost Summary

The AD2-048 project will be responsible for the following costs:

Description		Total Cost
Attachment Facilities	\$	250,000
Direct Connection Network Upgrades	\$	2,800,000
Non Direct Connection Network Upgrades	\$	100,000
Allocation for New System Upgrades	\$	1,350,000
Contribution for Previously Identified Upgrades	\$	0
Total Costs		4,500,000

Attachment Facilities

The total preliminary cost estimate for the Attachment Facilities work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	To	otal Cost
Install a 69 kV switch structure at the point of demarcation.	\$	250,000
Estimated Time: 18 months.		
Total Direct Connection Facility Costs	\$	250,000

Direct Connection Cost Estimate

The total preliminary cost estimate for the Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	T	Cotal Cost
Build 69kv switching station along the Cynthiana -	\$	2,800,000
Headquarters 69 kV line including associated transmission		
line work. Estimated Time: 18 months.		
Total Direct Connection Facility Costs	\$	2,800,000

Non-Direct Connection Cost Estimate

The total preliminary cost estimate for the Non-Direct Connection work is given in the table below. These costs do not include CIAC Tax Gross-up.

Description	To	otal Cost
Adjust remote, relaying, and metering settings at Cynthiana	\$	50,000
69kV Sub.		
Adjust remote, relaying, and metering settings at Headquarters	\$	50,000
69kV Sub.		
Total Non-Direct Connection Facility Costs	\$	100,000

Interconnection Customer Requirements

- 1. An Interconnection Customer entering the New Services Queue on or after October 1, 2012 with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.
- 2. The Interconnection Customer may be required to install and/or pay for metering as necessary to properly track real time output of the facility as well as installing metering which shall be used for billing purposes. See Section 8 of Appendix 2 to the

Interconnection Service Agreement as well as Section 4 of PJM Manual 14D for additional information.

Revenue Metering and SCADA Requirements

PJM Requirements

The Interconnection Customer will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Sections 24.1 and 24.2.

EKPC Requirements

The Interconnection Customer will be required to comply with all EKPC Revenue Metering Requirements for Generation Interconnection Customers. The Revenue Metering Requirements may be found within the "EKPC Facility Connection Requirements" document located at the following link:

http://www.pjm.com/planning/design-engineering/to-tech-standards/ekpc.aspx

Network Impacts

The Queue Project AD2-048 was evaluated as a 70.0 MW (Capacity 46.7 MW) injection into a tap of the Cynthia – Headquarters 69 kV line in the EKPC area. Project AD2-048 was evaluated for compliance with applicable reliability planning criteria (PJM, NERC, NERC Regional Reliability Councils, and Transmission Owners). Project AD2-048 was studied with a commercial probability of 100%. Potential network impacts were as follows:

Summer Peak Analysis - 2021

Generator Deliverability

(Single or N-1 contingencies for the Capacity portion only of the interconnection)

None

Multiple Facility Contingency

(Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies for the full energy output)

None

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

1. (AEP - AEP) The 05WLDCAT-05HILLSB 138 kV line (from bus 246946 to bus 243019 ckt 1) loads from 133.73% to 136.45% (AC power flow) of its emergency rating (185 MVA) for the tower line contingency outage of 'EKPC_P7-1_SPUR 345 DBL'. This project contributes approximately 5.92 MW to the thermal violation.

CONTINGENCY 'EKPC_P7-1_SPUR 345 DBL'	/* SPURLOCK -
STUART 345 & SPURLOCK - MELDAHL 345	
OPEN BRANCH FROM BUS 249581 TO BUS 342838 CKT 1	/* 249581
08MELDAL 345.00 342838 7SPURLOCK 345.00	
OPEN BRANCH FROM BUS 253077 TO BUS 342838 CKT 1	/* 253077
09STUART 345.00 342838 7SPURLOCK 345.00	
END	

Please refer to Appendix 1 for a table containing the generators having contribution to this flowgate.

2. (AEP - AEP) The 05WLDCAT-05HILLSB 138 kV line (from bus 246946 to bus 243019 ckt 1) loads from 110.27% to 112.33% (AC power flow) of its emergency rating (185 MVA) for the line fault with failed breaker contingency outage of 'DAY_P4_L34553-1'. This project contributes approximately 4.48 MW to the thermal violation.

CONTINGENCY 'DAY_P4_L34553-1'

OPEN LINE FROM BUS 253077 TO BUS 342838 CKT 1 /* 09STUART 345 20SPURLK 345 /* BUS 342525 -> 342623.

OPEN LINE FROM BUS 253077 TO BUS 253076 CKT 1 /* 09STUART 345 09STUART 138

END

3. (LGEE - OVEC) The 7TRIMBLE-06CLIFTY 345 kV line (from bus 324114 to bus 248000 ckt 1) loads from 193.16% to 193.49% (AC power flow) of its emergency rating (1370 MVA) for the single line contingency outage of 'AEP_P1-2_#363'. This project contributes approximately 3.96 MW to the thermal violation.

CONTINGENCY 'AEP_P1-2_#363'

OPEN BRANCH FROM BUS 243208 TO BUS 243209 CKT 1 / 243208 05JEFRSO 765 243209 05ROCKPT 765 1

END

Please refer to Appendix 2 for a table containing the generators having contribution to this flowgate.

- 4. (LGEE OVEC) The 7TRIMBLE-06CLIFTY 345 kV line (from bus 324114 to bus 248000 ckt 1) loads from 135.54% to 135.9% (AC power flow) of its normal rating (1134 MVA) for non-contingency condition. This project contributes approximately 3.81 MW to the thermal violation.
- 5. (LGEE OVEC) The 7TRIMBLE-06CLIFTY 345 kV line (from bus 324114 to bus 248000 ckt 1) loads from 117.89% to 118.19% (AC power flow) of its emergency rating (1370 MVA) for the single line contingency outage of 'AEP_P1-2_#4812'. This project contributes approximately 3.81 MW to the thermal violation.

CONTINGENCY 'AEP_P1-2_#4812'

END

TO Local Identified Overloads

1.

Monitored Line: Headquarters - Snow Hill 69kV (341602-342280) Contingency: Cynthiana Tie - AD2-048 Tap 69kV (341377-936380)

Thermal Overload: 40.61 MVA (119.43%)

2.

Monitored Line: Snow Hill - Murphysville 69kV (342280-341923) Contingency: Cynthiana Tie - AD2-048 Tap 69kV (341377-936380)

Thermal Overload: 36.62 MVA (107.70%)

Steady-State Voltage Requirements

(Results of the steady-state voltage studies should be inserted here)

None

Short Circuit

(Summary of impacted circuit breakers)

None

Affected System Analysis & Mitigation

LGEE Impacts:

LG&E has determiend there are no LG&E system impacts.

MISO Impacts:

None.

Duke, Progress & TVA Impacts:

None

OVEC Impacts:

None

Delivery of Energy Portion of Interconnection Request

PJM also studied the delivery of the energy portion of this interconnection request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with network upgrades to eliminate the operational restriction at their discretion by submitting a Merchant Transmission Interconnection request. Only the most severely overloaded conditions are listed. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed, which will study all overload conditions associated with the overloaded element(s) identified.

1. (AEP - AEP) The 05WLDCAT-05HILLSB 138 kV line (from bus 246946 to bus 243019 ckt 1) loads from 114.07% to 116.13% (AC power flow) of its emergency rating (185 MVA) for the single line contingency outage of 'EKPC_P1-2_SPUR-STU345'. This project contributes approximately 4.49 MW to the thermal violation.

2. (LGEE - OVEC) The 7TRIMBLE-06CLIFTY 345 kV line (from bus 324114 to bus 248000 ckt 1) loads from 179.25% to 179.64% (AC power flow) of its emergency rating (1370 MVA) for the single line contingency outage of 'AEP_P1-2_#363'. This project contributes approximately 5.94 MW to the thermal violation.

CONTINGENCY 'AEP_P1-2_#363'

OPEN BRANCH FROM BUS 243208 TO BUS 243209 CKT 1 / 243208 05JEFRSO 765 243209 05ROCKPT 765 1

END

3. (LGEE - OVEC) The 7TRIMBLE-06CLIFTY 345 kV line (from bus 324114 to bus 248000 ckt 1) loads from 137.39% to 137.83% (AC power flow) of its normal rating (1134 MVA) for non-contingency condition. This project contributes approximately 5.71 MW to the thermal violation.

Light Load Analysis

Summer Peak Load Flow Analysis Reinforcements

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. Network Impacts, initially caused by the addition of this project generation)

1. To resolve the Headquarters – Snow Hill 69 kV overload:

Project: Increase MOT of 3/0 conductor on Headquarters-Snow Hill 69kV line section to

212°F (3.8 miles)

New Ratings: 42/46/48 (N/LTE/LD)

Estimated Cost: \$250,000

Estimated Time: 12 months

PJM Network Upgrade N5858

2. To resolve the Snow Hill – Murphysville 69 kV line:

Project: Increase MOT of 3/0 conductor on Snow Hill-Murphysville 69kV line section to

212°F (16.1 miles)

New Ratings: 42/46/48 (N/LTE/LD)

Estimated Cost: \$1,100,000

Estimated Time: 12 months

PJM Network Upgrade N5859

It should be noted that EKPC has not completed any evaluation to determine if either of these line sections can be upgraded to an operating temperature of 212°F. If either line section has constraints that will make the upgrade unfeasible, EKPC would then recommend a rebuild of the line section. The estimated cost for the line rebuild of the Headquarters - Snow Hill 69 kV line section is \$3.2 Million and estimated time of 12 months. The estimated cost for the rebuild of the Snow Hill - Murphysville 69 kV line section is \$13.6 Million and estimated time of 30 months. EKPC would need to complete

a LiDAR survey of each line section, and an initial design review to determine if the high temperature upgrade is possible on these line sections.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the Impact Study)

(Summary form of Cost allocation for transmission lines and transformers will be inserted here if any)

1. To resolve the Wildcat – Hillsboro 138 kV line overloads:

The SE rating is 185 MVA and the upgrade is to perform a sag check for the ACSR \sim 477 \sim 26/7 \sim HAWK - Conductor Section 1 to determine if the line section can be operated above its emergency rating of 185 MVA. The result could prove that no additional upgrades are necessary, that some upgrades on the circuit are necessary, or that the entire 10.0 mile section of line would need to be rebuilt. An approximate time for the sag study is 6 to 12 months after signing an interconnection agreement. Estimated Cost is \$40K. PJM Network Upgrade N5472.

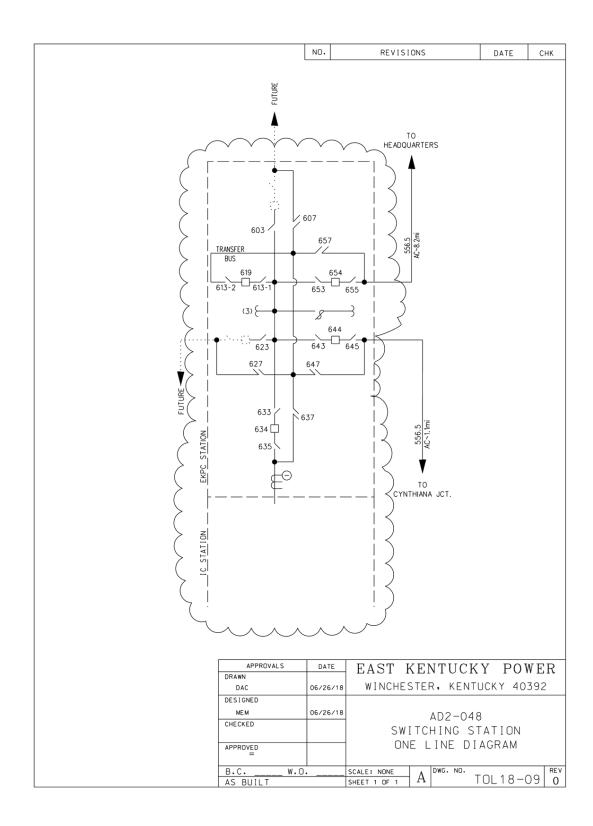
Queue Project AD2-048 presently does not receive cost allocation for this upgrade. Note 1: as changes to the interconnection process occur, such as prior queued projects withdrawing from the queue, reducing in size, etc, Queue Project AD2-048 could receive cost allocation.

Note 2: Although Queue Project AD2-048 may not have cost responsibility for this upgrade, Queue Project AD2-048 may need this upgrade in-service to be deliverable to the PJM system. If Queue Project AD2-048 comes into service prior to completion of the upgrade, Queue Project AD2-048 will need an interim study.

2. To resolve the Trimble – Clifty 345 kv line overloads:

A potential constraint was identified by PJM on the Trimble – Clifty 345 kV line (LG&E/OVEC tie line). LG&E has concluded that there are no LG&E system impacts, including no LG&E upgrade required on the Trimble-Clifty 345 kV line.

Attachment 1. Single Line Diagram



Attachment 2. Flowgate Details

Appendices

The following appendices contain additional information about each flowgate presented in the body of the report. For each appendix, a description of the flowgate and its contingency was included for convenience. However, the intent of the appendix section is to provide more information on which projects/generators have contributions to the flowgate in question. All New Service Queue Requests, through the end of the Queue under study, that are contributors to a flowgate will be listed in the Appendices. Please note that there may be contributors that are subsequently queued after the queue under study that are not listed in the Appendices. Although this information is not used "as is" for cost allocation purposes, it can be used to gage the impact of other projects/generators.

It should be noted the project/generator MW contributions presented in the body of the report and appendices sections are full contributions, whereas the loading percentages reported in the body of the report, take into consideration the commercial probability of each project as well as the ramping impact of "Adder" contributions.

Appendix 1

(AEP - AEP) The 05WLDCAT-05HILLSB 138 kV line (from bus 246946 to bus 243019 ckt 1) loads from 133.73% to 136.45% (AC power flow) of its emergency rating (185 MVA) for the tower line contingency outage of 'EKPC_P7-1_SPUR 345 DBL'. This project contributes approximately 5.92 MW to the thermal violation.

Full Contribution

CONTINGENCY 'EKPC_P7-1_SPUR 345 DBL' /* SPURLOCK - STUART 345 & SPURLOCK - MELDAHL 345

OPEN BRANCH FROM BUS 249581 TO BUS 342838 CKT 1 /* 249581

08MELDAL 345.00 342838 7SPURLOCK 345.00

OPEN BRANCH FROM BUS 253077 TO BUS 342838 CKT 1 /* 253077

09STUART 345.00 342838 7SPURLOCK 345.00

END

Rus Number Rus Name

Bus Number	Bus Name	Full Contribution
932551	AC2-075 C	0.81
932552	AC2-075 E	0.4
936281	AD2-036 C	2.41
936282	AD2-036 E	1.2
936381	AD2-048 C	3.95
936382	AD2-048 E	1.97
LTF	CARR	0.06
LTF	CBM-S1	2.75
LTF	CBM-S2	0.81
LTF	CBM-W1	1.91
LTF	CBM-W2	9.6
LTF	CIN	0.99
LTF	CPLE	0.14
LTF	DEARBORN	0.12
LTF	G-007	0.14
LTF	IPL	0.68
LTF	LGEE	0.87
LTF	MEC	1.64
LTF	O-066	0.93
LTF	RENSSELAER	0.05
LTF	WEC	0.15
916272	Z1-080 E	0.58
918802	AA1-099 E	0.38
925981	AC1-074 C	3.37
925982	AC1-074 E	1.44
926101	AC1-089 C	38.36
926102	AC1-089 E	62.59

Appendix 2

(LGEE - OVEC) The 7TRIMBLE-06CLIFTY 345 kV line (from bus 324114 to bus 248000 ckt 1) loads from 193.16% to 193.49% (AC power flow) of its emergency rating (1370 MVA) for the single line contingency outage of 'AEP_P1-2_#363'. This project contributes approximately 3.96 MW to the thermal violation.

CONTINGENCY 'AEP_P1-2_#363' OPEN BRANCH FROM BUS 243208 TO BUS 243209 CKT 1 / 243208 05JEFRSO 765 243209 05ROCKPT 765 1

END

Bus	Bus Name	Full
Number		Contribution
247287	05AND G3	0.84
243442	05RKG1	40.89
243443	05RKG2	40.27
342900	1COOPER1 G	3.28
342903	1COOPER2 G	6.36
342918	1JKCT 1G	2.57
342921	1JKCT 2G	2.57
342924	1JKCT 3G	2.57
342927	1JKCT 4G	1.71
342930	1JKCT 5G	1.7
342933	1JKCT 6G	1.71
342936	1JKCT 7G	1.71
342939	1JKCT 9G	1.75
342942	1JKCT 10G	1.75
342945	1LAUREL 1G	1.85
932551	AC2-075 C	1.09
933441	AC2-157 C	8.17
935011	AD1-134	8.11
935141	AD1-148	2.48
936281	AD2-036 C	3.24
936381	AD2-048 C	3.96
936571	AD2-072 C O1	11.61
936771	AD2-100 C O1	6.98
936821	AD2-105 C O1	3.75
936831	AD2-106 C O1	2.
936841	AD2-107 C O1	1.29
LTF	CARR	0.32
LTF	CBM-S1	40.53
LTF	CBM-S2	6.92
LTF	CBM-W1	21.77

LTF	CBM-W2		141.51
LTF	CIN		25.76
LTF	CLIFTY		94.95
LTF	CPLE		1.19
LTF	DEARBORN		0.5
LTF	IPL		15.71
981181	J708		40.83
981521	J759		9.26
981531	J762		29.44
981571	J783		9.26
938311	J795		3.67
938731	J800		15.73
938861	J829		12.54
938921	J842 C		3.98
938931	J843 C		4.32
939021	J856		9.33
274650	KINCAID ;1U		6.51
274651	KINCAID ;2U		6.49
LTF	LGEE		19.02
LTF	MEC		21.91
LTF	RENSSELAER		0.25
LTF	ROWAN /* 35% REVI	ERSE	< 0.01
	4479078		
LTF	WEC		1.75
900404	X3-028 C		161.28
LTF	Z1-043		8.41
930461	AB1-087		59.14
930471	AB1-088		59.14
LTF	AB2-013		5.12
925981	AC1-074 C		4.54

Attachment 3. Dynamic Simulation Analysis

Executive Summary

Generator Interconnection Request AD2-048 is for a 70 MW Maximum Facility Output (MFO) solar facility. AD2-048 consists of 32 x 2.211 MW SMA Sunny Central 2500-US Solar Inverters with a Point of Interconnection (POI) tapping the Cynthiana Tie to Headquarters 69 kV line with a new interconnection switching station in Harrison County, Kentucky, in the East Kentucky Power Cooperative (EKPC) transmission system.

The power flow scenario for the analysis was based on the RTEP 2021 summer peak load case, modified to include applicable queue projects. AD2-048 has been dispatched online at maximum facility output, with approximately unity power factor at the high-side of the station transformer.

AD2-048 was tested for compliance with NERC, PJM, Transmission Owner and other applicable criteria. For this study, 40 contingencies were simulated, each with a 20 second simulation time period. Studied faults included:

- Steady-state operation (20 second simulation)
- Three-phase faults with normal clearing time
- Single-phase faults with a stuck breaker
- Single-phase faults placed at 80% of the line with delayed (Zone 2) clearing at remote line end because of primary communications/relaying failure

The 40 fault contingencies tested on the 2021 summer peak load case met the recovery criteria:

- The AD2-048 generators were able to ride through the faults except for faults where protective actions trip one or more generator(s).
- All generators maintained synchronism and any post-contingency oscillations are positively damped with a damping margin of at least 3%.
- All bus voltages recover to 0.7 p.u. within 2.5 seconds and the final voltage is within the range of 0.92 p.u. to 1.05 p.u. for buses other than 500 kV. The final voltages for 500 kV buses should be within 1.02 p.u. to 1.08 p.u.
- No transmission element trips, other than those either directly connected or designated to trip as a consequence of the fault.

The AD2-048 queue project met both the 0.95 leading and 0.95 lagging power factor.

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1. Introduction

Generator Interconnection Request AD2-048 is for a 70 MW Maximum Facility Output (MFO) solar facility. AD2-048 consists of 32 x 2.211 MW SMA Sunny Central 2500-US Solar Inverters with a Point of Interconnection (POI) tapping the Cynthiana Tie to Headquarters 69 kV line with a new interconnection switching station in Harrison County, Kentucky, in the East Kentucky Power Cooperative (EKPC) transmission system.

This analysis is effectively a screening study to determine whether the addition of AD2-048 will meet the dynamic requirements of the NERC, PJM and Transmission Owner reliability standards.

This report describes the following:

- A description of the AD2-048 project and how it is proposed to be connected to the grid
- A description of how the project is modeled in this study
- A description of the fault cases analyzed in this study
- A discussion of the results

2. Description of Project

AD2-048 consists of 32 x 2.211 MW SMA Sunny Central 2500-US Solar Inverters that are connected to 32 x 34.5/0.55 kV inverter based generator step up (GSU) transformers each with a rating of 2.5 MVA. The GSU transformers connect to a 69/34.5/13.8 kV main station transformer through a collector system equivalent, with a rating of 45/60/75 MVA. A 0.05 mile 69 kV generator tie connects the AD2-048 POI to the tap between Cynthiana and Headquarters 69 kV substations. Refer to Figure 1 for a one-line diagram of the generation.

Table 1 lists the parameters given in the impact study data and the corresponding parameters of the AD2-048 power flow model. The dynamic model for the AD2-048 plant is based on user written models for PSS/E with the parameters supplied by the developer.

Additional project details are provided in the following appendices and attachments:

- Appendix A: PSS/E slider diagram for AD2-048
- Appendix B: PSS/E power flow and dynamic model for AD2-048
- Attachment 1: System Impact Study data for AD2-048
- Attachment 2: Transmission one-line diagrams of the EKPC network in the vicinity of AD2-048

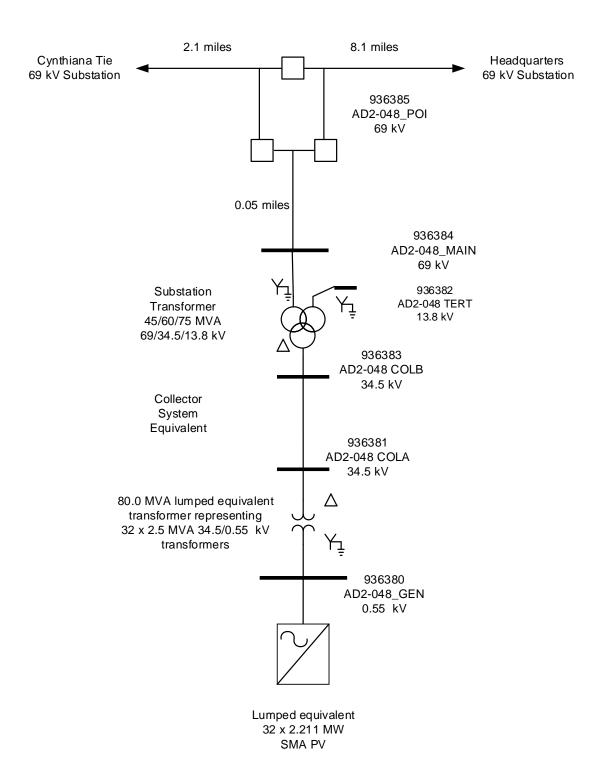


Figure 1: AD2-048 Plant Model.

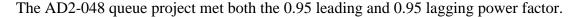
Table 1: AD2-048 Plant Model

	Impact Study Data	Model		
	32 x 2.211 MW SMA Sunny	1 Lumped equivalent representing		
	Central 2500-US 2.5 MVA	32 x 2.211 MW SMA Sunny		
	Solar Inverters	Central 2500-US 2.5 MVA Solar		
		Inverters		
Solar Inverters	MVA base = 2.5 MVA			
Lumped		Pgen = 70.752 MW		
Equivalent	Vt = 0.55 kV	Pmax = 70.752 MW		
(PV)		Pmin = 0 MW		
(F V)	Stator resistance = 0	Qmax = 38.5 Mvar		
		Qmin = - 38.5 Mvar		
	Saturated sub-transient	Mbase = 80.0 MVA		
	reactance = 10000 p.u.	R = 0 p.u.		
		X = 10000 p.u.		
	32 x 34.5/0.55 kV solar inverter	1 x Lumped equivalent		
	step-up transformers	representing 32 x 34.5/0.55 kV		
		solar inverter step-up		
	Rating = 2.5 MVA	transformers		
Inverter Based				
Step-Up	Transformer MVA base $= 2.5$	Rating = 80.0 MVA		
Transformer	MVA			
(T1)		Transformer MVA base = 80.0		
	Impedance = $0.0045 + j0.067$	MVA		
	p.u.			
		Impedance = $0.0045 + j0.067$ p.u.		
	Number of taps = N/A			
	Tap step size = N/A	Number of taps = N/A		
		Tap step size = N/A		

	Impact Study Data	Model
	1 x 69/34.5/13.8 kV	1 x 69/34.5/13.8 kV
	Rating = 45/60/75 MVA	Rating = 45/60/75 MVA
Luciana David	Transformer MVA base = 45 MVA	Transformer MVA base = 45 MVA
Inverter Based Main	Impedance:	Impedance:
Transformer	High to Low = $0.0019 + j 0.09$	High to Low = $0.0019 + j \ 0.09$
(MPT-1)	p.u. High to Tert = 0.0046 + j 0.1278 p.u.	p.u. High to Tert = 0.0046 + j 0.1278 p.u.
	Low to Tert = $0.0032 + j$	Low to Tert = $0.0032 + j \ 0.0252$
	0.0252 p.u.	p.u.
	Number of taps = N/A Tap step size = N/A	Number of taps = N/A Tap step size = N/A
Auxiliary Load	0.04 MW + 0.01 Mvar at low	0.04 MW + 0.01 Myar at low side
(AX)	side of the GSU	of the GSU (switched offline)
Station Load (SS)	0.01 MW + 0.002 Mvar at low side of the GSU	0.01 MW + 0.002 Mvar at low side of the GSU (switched offline)
	34.5 kV line	34.5 kV line
Collector System	Impedance = 0.002640 + j0.002570 p.u.	Impedance = 0.002640 + j0.002570 p.u.
Equivalent (Collector 1)	Charging susceptance = j0.009550 p.u.	Charging susceptance = j0.009550 p.u.
	(Impedance on 100 MVA Base)	(Impedance on 100 MVA Base)
	0.05 mile 69 kV line	0.05 mile 69 kV line
Attachment	Impedance = 0.000490 + j0.003140 p.u.	Impedance = 0.000490 + j0.003140 p.u.
Line	Charging susceptance = j0.000050 p.u.	Charging susceptance = j0.000050 p.u.
	(Impedance on 100 MVA Base)	(Impedance on 100 MVA Base)

2.1 Power Factor Assessment

A power factor assessment was performed for the AD2-048 project evaluating if the plant meets PJM's power factor requirement for a non-synchronous generator. PJM requires a non-synchronous generator to provide 0.95 lagging power factor and 0.95 leading power factor measured at the high side of the station transformer. The reactive capability curve shown in Figures 2 provided by SMA, was used to determine the reactive power for the plant. Table 2 summarizes the results for the power factor assessment for the AD2-048 queue project.



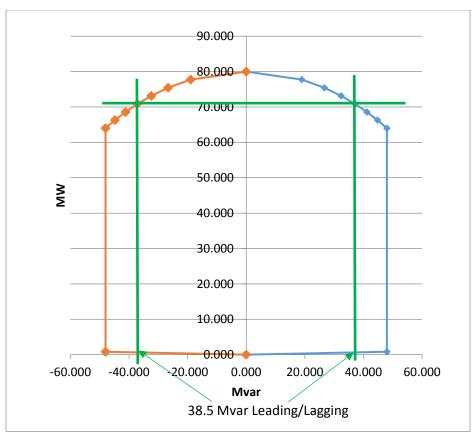


Figure 2: Reactive capability for the AD2-048 queue project with SMA Sunny Central 2500-US solar inverters.

Table 2: Power Factor Assessment for the AD2-048 Queue Project

Generator	MFO	ractor Kar		Maximum	Minimum	
	(MW)	Lagging	Leading	Lagging (Mvar)	Leading (Mvar)	
AD2-048	70.00	0.95	0.95	(141441)		
Total React	ive Power	23.01	-23.01			
Donation Donate Community			Qmax	Qmin		
Reactive Power from Generator			38.50	-38.50		
Customer Planned Compensation				0	0	
Reactive Power Losses				-12.55	-12.55	
Total Available Reactive Power at High Side of Main Transformer			25.95	-51.05		
Deficiency in Reactive Power				Meet	Meet	

3. Power Flow and Dynamics Case Setup

The dynamic simulation analysis was performed using PSS/E Version 33.7.0.

The power flow scenario and fault cases for this study are based on PJM's Regional Transmission Planning Process¹.

The selected power flow scenario is the RTEP 2021 summer peak load case with the following modifications:

- Addition of all applicable queue projects prior to AD2-048
- Addition of the AD2-048 queue project
- Dispatch of units within 5 buses of the POI of the AD2-048 queue project
 - o Generators set to their maximum power output
 - The reactive power output of each unit set near unity power factor at the high side of the station transformer

The AD2-048 initial conditions are listed in Table , indicating maximum power output, with approximately unity power factor at the highside of the station transformer.

Table 3: AD2-048 Machine Initial Conditions

Bus	Name	Unit	PGEN (MW)	QGEN (Mvar)	ETERM (p.u.)	POI Voltage (p.u.)
936380	AD2-048_GEN	1	70.75	7.45	1.0100	1.0233

Generation within the vicinity of AD2-048 (5 bus radius) has been dispatched online at maximum output (PMAX). The dispatch of generation in the vicinity of AD2-048 is given in Appendix C.

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¹ Manual 14B: PJM Region Transmission Planning Process, Rev 33, May 5 2016, Attachment G: PJM Stability, Short Circuit, and Special RTEP Practices and Procedures.

4. Fault Cases

Tables 5 through 8 list the contingencies that were studied, with representative worst case total clearing times provided by PJM. Each contingency was studied over a 20 second simulation time interval.

The studied contingencies include:

- Steady-state operation (20 second simulation)
- Three-phase faults with normal clearing time
- Single-phase faults with a stuck breaker
- Single-phase faults placed at 80% of the line with delayed (Zone 2) clearing at remote line end because of primary communications/relaying failure

Contingencies were created for the following buses:

- AD2-048 Tap 69 kV
- Renaker 69 kV
- AC1-074 Tap 138 kV
- Scott Co. 69 kV
- Bracken County 69 kV

- Murphysville 69 kV
- Dale Station 69 kV
- Headquarters 69 kV
- Renaker 138 kV

Clearing times were modeled based on PJM's "2017 Revised Clearing times for each PJM company" spreadsheet revision 20.

Attachment 2 contains one-line diagrams of the EKPC network in the vicinity of AD2-048, showing where faults were applied.

The positive sequence fault impedances for single-phase faults were modeled using a zero sequence to positive sequence impedance ratios of 0.5 for buses in the EKPC area derived from a separate short-circuit case. The ratio was applied to the posive sequence value in PSS/E and the single-phase fault impedance was calculated.

5. Evaluation Criteria

This study is focused on AD2-048, along with the rest of the PJM system, maintaining synchronism and having all states return to an acceptable new condition following the disturbance. The recovery criteria applicable to this study are as per PJM's Regional Transmission Planning Process and Transmission Owner criteria:

- The AD2-048 generators were able to ride through the faults except for faults where protective actions trip one or more generator(s).
- All generators maintained synchronism and any post-contingency oscillations are positively damped with a damping margin of at least 3%.
- All bus voltages recover to 0.7 p.u. within 2.5 seconds and the final voltage is within the range of 0.92 p.u. to 1.05 p.u. for buses other than 500 kV. The final voltages for 500 kV buses should be within 1.02 p.u. to 1.08 p.u.
- No transmission element trips, other than those either directly connected or designated to trip as a consequence of the fault.

6. Summary of Results

Plots from the dynamic simulations are provided in Attachment 3 with results summarized in Tables 5 through 8.

The 40 fault contingencies tested on the 2021 summer peak load case met the recovery criteria:

- The AD2-048 generators were able to ride through the faults except for faults where protective actions trip one or more generator(s).
- All generators maintained synchronism and any post-contingency oscillations are positively damped with a damping margin of at least 3%.
- All bus voltages recover to 0.7 p.u. within 2.5 seconds and the final voltage is within the range of 0.92 p.u. to 1.05 p.u. for buses other than 500 kV. The final voltages for 500 kV buses should be within 1.02 p.u. to 1.08 p.u.
- No transmission element trips, other than those either directly connected or designated to trip as a consequence of the fault.

The AD2-048 queue project met both the 0.95 leading and 0.95 lagging power factor.

No mitigation or system upgrades were identified to interconnect the AD2-048 generation. No additional costs associated with the addition of the AD2-048 were identified in the System Impact Study.

The reactive power output of the AD2-036, AC2-075, AC1-074 queue project was not settling to a steady state value. The three queue projects share a gen tie line, but the three units controlled different buses using the ICON M in the PVEU1 model. AD2-036, AC2-075 and AC1-074 were updated by changing ICON M in the PVEU1 model to the POI bus number, 925980, allowing the reactive power output to settle.

Changes were also made to Con J+22 in the PVEU1 model for the AD2-036, AC2-075, AC1-074 queue projects reducing the hard reactive current limit identified during the dynamic analysis performed for the AD2-036 queue project. Table 9 shows the updated hard reactive current limits Con J+22 in the PVEU1 Model. Note the Con J+22 values were changed to equal the Con J+7 QMX value.

Table 5: Steady-State Operation

Fault ID	Fault Description	AD2-048
SS.01	Steady State 20 sec (No Fault)	Stable

Table 6: Three-Phase Faults with Normal Clearing Time

Fault ID	Fault Description	Clearing Time (Cycles)	AD2-048
P1.01	Fault at AD2-048 Tap 69 kV on Cynthiana Jct. to Renaker circuit 1.	8	Stable
P1.02	Fault at AD2-048 Tap 69 kV on Headquarters circuit 1 and Headquarters 6.12 Mvar capacitor bank.	8	Stable
P1.03	Fault at Renaker 69 kV on Lees Lick to Penn to Scott Co. circuit 1.	8	Stable
P1.04	Fault at Renaker 69 kV on Colemansville to Four Oaks to Bracken County circuit 1.	8	Stable
P1.05	Fault at Renaker 69 kV on Cynthiana circuit 1.	8	Stable
P1.06	Fault at Renaker 69 kV on Renaker 138/69 kV Transformer #1	8	Stable
P1.07	Fault at Renaker 69 kV on 27 Mvar Capacitor Bank.	8	Stable
P1.08	Fault at Headquarters 69 kV on Snow Hill to Murphysville circuit 1.	8	Stable
P1.09	Fault at Headquarters 69 kV on Millerburg to Crane Ridge to Sideview to Reid Village to Miller Hunt to Hunt to Dale Station circuit 1.	8	Stable
P1.10	Fault at Renaker 138 kV on Spurlock circuit 1.	6	Stable
P1.11	Fault at Renaker 138 kV on Bavarian to Boone circuit 1.	6	Stable
P1.12	Fault at Renaker 138 kV on AC1-074 Tap circuit 1.	6	Stable
P1.13	Fault at AC1-074 Tap 138 kV on Jacksonville to Paris to Avon circuit 1.	6	Stable
P1.14	Fault at Bracken County 69 kV on Sharon toKenton circuit 1.	8	Stable
P1.15	Fault at Bracken County 69 kV on Griffin Jct. to Grants Lick to Stanley Parker circuit 1.	8	Stable
P1.16	Fault at Bracken County 69 kV on Carntown circuit 1.	8	Stable
P1.17	Fault at Murphysville 69 kV on Kenton circuit 1.	8	Stable

Fault ID	Fault Description	Clearing Time (Cycles)	AD2- 048
P1.18	Fault at Murphysville 69 kV on Plumville circuit 1.	8	Stable
P1.19	Fault at Dale Station 69 kV on Dale Station 138/69 kV Transformer #1	8	Stable
P1.20	Fault at Dale Station 69 kV on to Newby to Toddville to Ballard to Hunt Farm circuit 1.	8	Stable
P1.21	Fault at Dale Station 69 kV on Lancaster to Garrard County circuit 1.	8	Stable
P1.22	Fault at Dale Station 69 kV on Hunt to J.K. Smith to Trapp to Hargett to Clay City to Hardwicks Creek to Powell County circuit 1.	8	Stable

Table 7: Single-Phase Faults with Stuck Breakers

Fault ID	Fault Description	Clearing Time Normal/Delayed (Cycles)	AD2-048
P4.01	Fault at AD2-048 Tap 69 kV on Headquarters circuit 1 and Headquarters 6.12 Mvar capacitor bank. Breaker A is stuck. Fault is cleared with loss of AD2-048 Tap to Cynthiana Jct. to Renaker 69 kV circuit 1. (Trips AD2-048 generator)	8/19	Stable
P4.02	Fault at AD2-048 Tap 69 kV on Cynthiana Jct. to Renaker circuit 1. Breaker A is stuck. Fault is cleared with loss of AD2-048 Tap to Headquarters 69 kV circuit 1 and Headquarters 6.12 Mvar capacitor bank. (Trips AD2-048 generator)	8/19	Stable
P4.03	Fault at AD2-048 Tap 69 kV on Cynthiana Jct. to Renaker circuit 1. Breaker B is stuck. Fault is cleared with loss of AD2-048 queue project. (Trips AD2-048 generator)	8/19	Stable
P4.04	Fault at AD2-048 Tap 69 kV on Headquarters circuit 1 and Headquarters 6.12 Mvar capacitor bank. Breaker C is stuck. Fault is cleared with loss of AD2-048 queue project. (Trips AD2-048 generation)	8/19	Stable

Fault ID	Fault Description	Clearing Time Normal/Delayed (Cycles)	AD2-048
P4.05	Fault at Renaker 69 kV on Colemansville to Four Oaks to Bracken County circuit 1. Breaker 624 is stuck. Fault is cleared with loss of Renaker to Lees Lick to Penn to Scott County 69 kV circuit 1, Renaker to AD2-048 Tap 69 kV circuit 1, Renaker 138/69 kV Transformer #1, Renaker 27 Mvar Capacitor Bank, and Renaker to Cynthiana 69 kV circuit 1	8/19	Stable
P4.06	Fault at Renaker 69 kV on Lees Lick to Penn to Scott County circuit 1. Breaker 614 is stuck. Fault is cleared with loss of Renaker to Colemansville to Four Oaks to Bracken County 69 kV circuit 1, Renaker to AD2-048 Tap 69 kV circuit 1, Renaker 138/69 kV Transformer #1, Renaker 27 Mvar Capacitor Bank, and Renaker to Cynthiana 69 kV circuit 1.	8/19	Stable
P4.07	Fault at Renaker 69 kV on Cythiana Jct. to AD2-048 Tap circuit 1. Breaker 604 is stuck. Fault is cleared with loss of Renaker to Colemansville to Four Oaks to Bracken County 69 kV circuit 1, Renaker to Lees Lick to Penn to Scott County 69 kV circuit 1, Renaker 138/69 kV Transformer #1, Renaker 27 Mvar Capacitor Bank, and Renaker to Cynthiana 69 kV circuit 1.	8/19	Stable
P4.08	Fault at Renaker 69 kV on Cythiana circuit 1. Breaker 664 is stuck. Fault is cleared with loss of Renaker to Cythiana Jct. to AD2-048 Tap circuit 1, Renaker to Colemansville to Four Oaks to Bracken County 69 kV circuit 1, Renaker to Lees Lick to Penn to Scott County 69 kV circuit 1, Renaker 138/69 kV Transformer #1, and Renaker 27 Mvar Capacitor Bank.	8/19	Stable

Fault ID	Fault Description	Clearing Time Normal/Delayed (Cycles)	AD2-048
P4.09	Fault at Renaker 69 kV on 138/69 kV Transformer #1. Breaker 664 is stuck. Fault is cleared with loss of Renaker to Cythiana Jct. to AD2-048 Tap circuit 1, Renaker to Colemansville to Four Oaks to Bracken County 69 kV circuit 1, Renaker to Lees Lick to Penn to Scott County 69 kV circuit 1, Renaker to Cythiana circuit 1, and Renaker 27 Mvar Capacitor Bank.	8/19	Stable
P4.10	Fault at Renaker 69 kV on 27 Mvar Capacitor Bank. Breaker 664 is stuck. Fault is cleared with loss of Renaker to Cythiana Jct. to AD2-048 Tap circuit 1, Renaker to Colemansville to Four Oaks to Bracken County 69 kV circuit 1, Renaker to Lees Lick to Penn to Scott County 69 kV circuit 1, Renaker to Cythiana circuit 1, and Renaker 138/69 kV Transformer #1.	8/19	Stable
P4.11	Fault at Headquarters 69 kV on AD2-048 Tap circuit 1 and Headquarter 69 kV 6.16 Mvar capacitor bank. Breaker 614 is stuck. Fault is cleared with loss of Headquarters to Snow Hill to Murphysville 69 kV circuit 1, and Headquarters to Millerburg to Crane Ridge to Sideview to Reid Village to Miller Hunt to Hunt to Dale Station 69 kV circuit 1.	8/19	Stable

Fault ID	Fault Description	Clearing Time Normal/Delayed (Cycles)	AD2-048
P4.12	Fault at Headquarters 69 kV on Snow Hill to Murphysville circuit 1. Breaker 624 is stuck. Fault is cleared with loss of Headquarters to AD2-048 Tap 69 kV circuit 1, Headquarter 6.16 Mvar capacitor bank, and Headquarters to Millerburg to Crane Ridge to Sideview to Reid Village to Miller Hunt to Hunt to Dale Station 69 kV circuit 1.	8/19	Stable
P4.13	Fault at Headquarters 69 kV on Millerburg to Crane Ridge to Sideview to Reid Village to Miller Hunt to Hunt to Dale Station circuit 1. Breaker 644 is stuck. Fault is cleared with loss of Headquarters to AD2-048 Tap 69 kV circuit 1, Headquarters 6.12 Mvar capacitor bank, and Headquarters to Snow Hill to Murphysville 69 kV circuit 1.	8/19	Stable

Table 8: Single-Phase Faults with Delayed Clearing at Remote End

Fault ID	Fault Description	Clearing Time Normal/Delayed (Cycles)	AD2-048
P5.01	Fault at 80% of 69 kV line from AD2-048 Tap to Headquarters circuit 1. Delayed clearing at AD2-048 Tap and loss of Headquarters 6.12 Mvar capacitor bank.	8/45	Stable
P5.02	Fault at 80% of 69 kV line from Headquarters to AD2-048 Tap circuit 1. Delayed clearing at Headquarters and loss of Headquarters 6.12 Mvar capacitor bank.	8/45	Stable
P5.03	Fault at 80% of 69 kV line from AD2-048 to Cynthiana Jct. to Renaker circuit 1. Delayed clearing at AD2-048 Tap.	8/45	Stable
P5.04	Fault at 80% of 69 kV line from Renaker to Cynthiana Jct. to AD2-048 Tap circuit 1. Delayed clearing at Renaker.	8/45	Stable

Table 9: Updated Hard Reactive Current Limits for AD2-036, AC2-075, AC1-074

Queue Project	QMX (J+7)	Old Iqhl (J+22)	New Iqhl (J+22)
AC1-074	0.4150	1.0	0.4150
AC2-075	0.4150	1.0	0.4150
AD2-036	0.3777	1.0	0.3777

APPENDIX A PSS/E ONE- LINE DIAGRAM

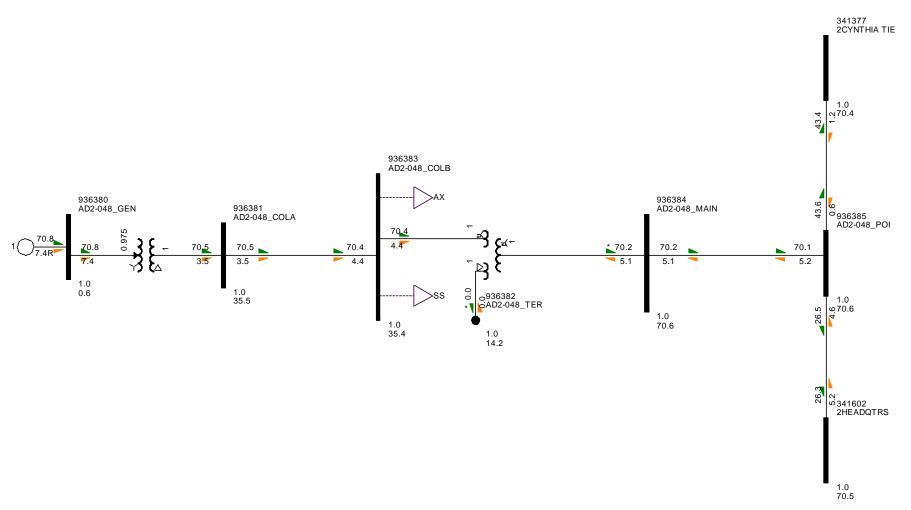


Figure A-2: PSS/E Slider Diagram for AD2-048.

APPENDIX B PSS/E DYNAMIC MODEL AND IDEV FILE

/***Addition of AD2-048 Queue Project***/

BAT_PURGBRN 341377 341602 '1'

RDCH

1

936380,'AD2-048_GEN', 0.5500,2, 320,1315, 340,1.01000, 22.0096,1.10000,0.90000,1.10000,0.90000

936381,'AD2-048_COLA', 34.5000,1, 320,1315, 340,1.02760, 18.8411,1.10000,0.90000,1.10000,0.90000

936382, 'AD2-048_TER', 13.8000, 1, 320, 1315, 340, 1.02596, 19.2861, 1.10000, 0.90000, 1.10000, 0.90000

936383,'AD2-048_COLB', 34.5000,1, 320,1315, 340,1.02570, 18.7484,1.10000,0.90000,1.10000,0.90000

936384,'AD2-048_MAIN', 69.0000,1, 320,1315, 340,1.02347, 11.0547,1.10000,0.90000,1.10000,0.90000

936385, 'AD2-048_POI', 69.0000,1, 320,1315, 340,1.02329, 10.9328,1.10000,0.90000,1.10000,0.90000

0 / END OF BUS DATA, BEGIN LOAD DATA

936383, 'AX', 0, 320, 1315, 0.040, 0.010, 0.000, 0.000, 0.000, 0.000, 340, 1,0

936383,'SS',0, 320,1315, 0.010, 0.002, 0.000, 0.000, 0.000, 0.000, 340,1,0

0 / END OF LOAD DATA, BEGIN FIXED SHUNT DATA

0 / END OF FIXED SHUNT DATA, BEGIN GENERATOR DATA

936380,'1', 70.752, 7.448, 38.500, -38.500,1.01000, 0, 80.000, 0.00000E+0, 1.00000E+4, 0.00000E+0, 0.00000E+0, 1.00000, 70.752, 0.000, 340,1.0000

0 / END OF GENERATOR DATA, BEGIN BRANCH DATA

341377,936385,'1', 8.13717E-3, 3.24910E-2, 0.00051, 73.00, 76.00, 77.00, 0.00000, 0.00000, 0.00000, 1.96, 340,1.0000

341602,936385,'1', 3.13828E-2, 1.25309E-1, 0.00196, 73.00, 76.00, 77.00, 0.00000, 0.00000, 0.00000, 0.00000, 1,1, 7.54, 340,1.0000

936381,936383,'1 ', 2.64000E-3, 2.57000E-3, 0.00955, 0.00, 0.00, 0.00, 0.00000, 0.00000, 0.00000, 1,1, 0.00, 340,1.0000

936384,936385,'1', 4.90000E-4, 3.14000E-3, 0.00005, 0.00, 0.00, 0.00, 0.00000, 0.00000, 0.00000, 1,1, 0.00, 340,1.0000

0 / END OF BRANCH DATA, BEGIN TRANSFORMER DATA

936380,936381, 0,'1 ',1,2,1, 0.00000E+0, 0.00000E+0,2,' ',1, 340,1.0000, 0,1.0000, 0,1.0000, 'Yd1 '

4.50000E-3, 6.70000E-2, 80.00

0.97500, 0.000, 0.000, 0.00, 0.00, 0.00, 0, 1.10000, 0.90000, 1.10000, 0.90000, 33, 0, 0.00000, 0.0000

1.00000, 0.000

936384,936383,936382,'1 ',1,2,1, 0.00000E+0, 0.00000E+0,2,' ',1, 340,1.0000, 0,1.0000, 0,1.0000, 'YN0yn0d1 '

1.90000E-3, 9.00000E-2, 45.00, 3.20000E-3, 2.52000E-2, 45.00, 4.60000E-3, 1.27800E-1, 45.00, 1.02596, 19.2861

1.00000, 0.000, 0.000, 45.00, 60.00, 75.00, 0, 1.10000, 0.90000, 1.10000, 0.90000, 33, 0, 0.00000, 0.0000

1.00000, 0.000, 0.000, 45.00, 60.00, 75.00, 0, 1.10000, 0.90000, 1.10000, 0.90000, 33, 0, 0.00000, 0.0000

1.00000, 0.000, 0.000, 45.00, 60.00, 75.00, 0, 1.10000, 0.90000, 1.10000, 0.90000, 33, 0, 0.00000, 0.0000

0 / END OF TRANSFORMER DATA, BEGIN AREA DATA

320, 0, 0.000, 10.000, EKPC

- 0 / END OF AREA DATA, BEGIN TWO-TERMINAL DC DATA
- 0 / END OF TWO-TERMINAL DC DATA, BEGIN VSC DC LINE DATA
- 0 / END OF VSC DC LINE DATA, BEGIN IMPEDANCE CORRECTION DATA
- 0 / END OF IMPEDANCE CORRECTION DATA, BEGIN MULTI-TERMINAL DC DATA
- 0 / END OF MULTI-TERMINAL DC DATA, BEGIN MULTI-SECTION LINE DATA
- 0 / END OF MULTI-SECTION LINE DATA, BEGIN ZONE DATA

1315,'EKPC '

- 0 / END OF ZONE DATA, BEGIN INTER-AREA TRANSFER DATA
- 0 / END OF INTER-AREA TRANSFER DATA, BEGIN OWNER DATA

340, EK NATIVE '

0 / END OF OWNER DATA, BEGIN FACTS DEVICE DATA

- 0 / END OF FACTS DEVICE DATA, BEGIN SWITCHED SHUNT DATA
- 0 / END OF SWITCHED SHUNT DATA, BEGIN GNE DATA
- 0 / END OF GNE DATA, BEGIN INDUCTION MACHINE DATA
- 0 / END OF INDUCTION MACHINE DATA

Q

```
/**********************
/*** Project: AD2-048 - 70.0 MW MFO
/*** POI: Tap on Roxbury – Greene 138 kV circuit
/*** Inverter: SMA Sunny Central 2500-US inverters
/*** Size: 32 x 2.211 MW Solar PV
/*** PSSE Version 33
/*****************
936380 'USRMDL' 1 'SMAPPC18' 4 0 4 28 9 21 936384 936385 1 1
             2 0.5 0.25 0.04 0.0 0.1 1.0 0.04 0
             0 1 0 10 -0.001
             0.1 1.0 0.04 0 1 0.2 0.2
             0.8 0.91 0.915 1.09 1.085 0.3 1.0/
             CtlMod KP_PF KI_PF PFXdcrTm PFDB KP_Vol KI_Vol VolXdcrTm VolDB
             PFNomTot VolNomTot QNomTot VolDroop HybCtlTun
             KP_P KI_P PXdcrTm PDB PNomTot QCommTm PCommTm
             PFLim FRTThrhLo1 FRTThrhLo2 FRTThrhHi1 FRTThrhHi2 FRTHldTm
Reserved
936380 'USRMDL' 1 'SMASC131' 1 1 0 76 15 193
              1.0\ 1.0\ 0.0\ 0.8\ 1.0\ 0.0\ 1.0\ 1.0\ 0.35
              1.0 0.0 5.0 0.5 2.0
             0.0 0.9 0.5 1.0 0.9 0.9
             0.0 0.2 0.05 0.4
             0.35\ 0.35\ 1.0\ 2.0\ 2.0\ 2.0\ 0.1\ 0.098\ 0.1\ 0.098\ 0.2\ 0.2
             0.01 1.0 20.0 0.5 0.61 0.62 0.0 0.125 0.1
              1.2 0.1 1.18 1.0 1.15 2.0 0.88 12.0 0.6 5.0 0.5 3.0
             65.0 0.1 64.0 1.0 61.5 3.0 59.3 5.0 57.0 3.0 50.0 0.1
```

30.0 0.0 10.0 30.0 0.0 1.0 1.0/

/ QoDQMax	PPrim PWNom QVArNom PFLIM PFPF PFPFExt QVArMod QoDEna
/ VArCtlVol_V	VArCtlVol_Volref VArCtlVol_VolDB VArCtlVol_VArGra ArMax VArCtlVol_VArTm
/	PFPFExtStr PFPFStr PFWStr PFPFExtStop PFPFStop PFWStop
/	WCtlHzMod PHzStr PHzStop PWGra
	WGra VArGra DGSMod DGSArGraNom DGSArGraNomHi nLo DbVolNomMax DbVolNomMaxH DbVolNomMin DbVolNomMinH DGSNqRcvrTm
/ FRTThrshld2 V	VArCmdFltTm FRTPreErrVEna FRTPreErrTm FRTSwOffTm FRTThrshld1 VCtllCharEna VCtlllCharTm VCtlCorTm
/ VCtllLim VCtl	VCtlMax VCtlMaxTm VCtlhhLim VCtlhhLimTm VCtlhLimTm lLimTm VCtlllLim VCtlllLimTm VCtlMinTm
/ HzCtlhLimTm	HzCtlMax HzCtlMaxTm HzCtlhhLim HzCtlhhLimTm HzCtlhLim HzCtllLim HzCtllLimTm HzCtlllLimTm HzCtlllLimTm HzCtlMinTm
/	KPLL1 PLLFlag KPPLL2 KIPLL2 Reserved Reserved GenTrpFlag
/*********	******************
/*** Project:	AD2-048 ends
/********	******************

APPENDIX C FINAL GENERATION DISPATCH TABLE

Table C-1: Generation Dispatch for System Impact Study of AD2-048

Ref. No.	Bus Number	Bus Name	Voltage (kV)	Id	Area Num.	Area Name	In Serv.	PGen (MW)	PMax (MW)	PMin (MW)	Qgen (Mvar)	Qmax (Mvar)	Qmin (Mvar)
1	248005	06KYGER	345	1	206	OVEC	1	72.59	72.59	22.2	10.07	20.28	-22.64
2	248005	06KYGER	345	2	206	OVEC	1	72.59	72.59	22.2	10.07	20.28	-22.64
3	248005	06KYGER	345	3	206	OVEC	1	72.59	72.59	22.2	10.07	20.28	-22.64
4	248005	06KYGER	345	4	206	OVEC	1	72.59	72.59	22.2	10.07	20.28	-22.64
5	248005	06KYGER	345	5	206	OVEC	1	72.59	72.59	22.2	10.07	20.28	-22.64
6	248005	06KYGER	345	6	206	OVEC	1	123.61	123.61	37.8	17.15	34.52	-38.56
7	248005	06KYGER	345	7	206	OVEC	1	123.61	123.61	37.8	17.15	34.52	-38.56
8	248005	06KYGER	345	8	206	OVEC	1	123.61	123.61	37.8	17.15	34.52	-38.56
9	248005	06KYGER	345	9	206	OVEC	1	123.61	123.61	37.8	17.15	34.52	-38.56
10	248005	06KYGER	345	A	206	OVEC	1	123.61	123.61	37.8	17.15	34.52	-38.56
11	253038	09KILLEN	345	2	209	DAY	1	612	612	230	199.00	199.00	-63.00
12	253038	09KILLEN	345	3	209	DAY	1	18	18	15.66	18.00	18.00	-10.20
13	253077	09STUART	345	1	209	DAY	1	580.6	580.6	300	-0.75	280.00	-17.00
14	253077	09STUART	345	2	209	DAY	1	580	580	300	-0.75	280.00	-30.00
15	253077	09STUART	345	3	209	DAY	1	580.4	580.4	300	8.00	280.00	8.00
16	253077	09STUART	345	4	209	DAY	1	577	577	300	-0.75	280.00	-30.00

Ref. No.	Bus Number	Bus Name	Voltage (kV)	Id	Area Num.	Area Name	In Serv.	PGen (MW)	PMax (MW)	PMin (MW)	Qgen (Mvar)	Qmax (Mvar)	Qmin (Mvar)
17	253077	09STUART	345	5	209	DAY	1	9.2	9.2	0	-0.01	8.80	-5.20
18	324918	1JKCT 1G	13.8	1	320	EKPC	1	110	110	0	-3.56	78.00	-60.30
19	342921	1JKCT 2G	13.8	1	320	EKPC	1	110	110	0	-3.63	78.00	-60.30
20	342924	1JKCT 3G	13.8	1	320	EKPC	1	110	110	0	-3.65	78.00	-60.30
21	342927	1JKCT 4G	13.8	1	320	EKPC	1	73	73	0	17.41	40.00	-34.45
22	342930	1JKCT 5G	13.8	1	320	EKPC	1	72.6	72.6	0	17.42	40.00	-34.45
23	342933	1JKCT 6G	13.8	1	320	EKPC	1	73	73	0	16.70	72.50	-42.70
24	342936	1JKCT 7G	13.8	1	320	EKPC	1	73	73	0	16.66	72.50	-42.70
25	342939	1JKCT 9G	13.8	1	320	EKPC	1	76	76	0	38.52	41.80	-76.00
26	342942	1JKCT 10G	13.8	1	320	EKPC	1	76	76	0	38.88	41.80	-76.00
27	342957	1SPURLK1G	22	1	320	EKPC	1	300	300	100	98.38	175.00	-142.00
28	342960	1SPURLK2G	22	1	320	EKPC	1	510	510	210	182.68	290.00	-227.00
29	342963	1SPURLK3G	18	1	320	EKPC	1	268	268	80	106.94	268.00	-138.20
30	342966	1SPURLK4G	18	1	320	EKPC	1	268	268	80	106.94	268.00	-138.20
31	925984	AC1-074 GEN	0.6	1	320	EKPC	1	82.5	82.5	0	4.58	33.65	-33.65
32	926063	AC1-085 GENA	0.6	1	209	DAY	1	200	200	0	34.78	81.40	-81.40
33	926065	AC1-085 GENB	0.6	1	209	DAY	1	200	200	0	34.78	81.40	-81.40
34	931183	AB1-169 CT1	25	1	209	DAY	1	341	341	0	87.29	165.63	-112.41

Ref. No.	Bus Number	Bus Name	Voltage (kV)	Id	Area Num.	Area Name	In Serv.	PGen (MW)	PMax (MW)	PMin (MW)	Qgen (Mvar)	Qmax (Mvar)	Qmin (Mvar)
35	931184	AB1-169 ST1	25	1	209	DAY	1	243.6	243.6	0	100.39	300.00	-177.00
36	931185	AB1-169 CT2	25	1	209	DAY	1	341	341	0	87.29	165.63	-112.41
37	931186	AB1-169 ST2	25	1	209	DAY	1	243.6	243.6	0	100.39	300.00	-177.00
38	932553	AC2-075 GEN1	0.6	1	320	EKPC	1	20.7	20.7	0	4.58	6.83	-6.83
39	936282	AD2-036 GEN	0.6	1	320	EKPC	1	61.25	61.25	0	4.58	25.50	-25.50
40	936380	AD2- 048_GEN	0.55	1	320	EKPC	1	70.75	70.75	0	7.45	38.50	-38.50

Attachment 1. Impact Study Data

Attachment 2. EKPC One Line Diagram

Attachment 3. Plots from Dynamic Simulations

EXHIBIT E

BLUE MOON SOLAR

ECONOMIC & FISCAL CONTRIBUTION TO HARRISON COUNTY & THE STATE OF KENTUCKY



Prepared for RECURRENT

A subsidiary of Canadian Solar



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MANGUMECONOMICS.COM

OCTOBER 2021

About Mangum Economics, LLC

Mangum Economics, LLC is a Richmond, Virginia based firm that specializes in producing objective economic, quantitative, and qualitative analysis in support of strategic decision making. Much of our recent work relates to IT & Telecom Infrastructure (data centers, terrestrial and subsea fiber), Renewable Energy, and Economic Development. Examples of typical studies include:

POLICY ANALYSIS

Identify the intended and, more importantly, unintended consequences of proposed legislation and other policy initiatives.

ECONOMIC IMPACT ASSESSMENTS AND RETURN ON INVESTMENT ANALYSES.

Measure the economic contribution that businesses and other enterprises make to their localities.

WORKFORCE ANALYSIS

Project the demand for, and supply of, qualified workers.

CLUSTER ANALYSIS

Use occupation and industry clusters to illuminate regional workforce and industry strengths and identify connections between the two.

The Project Team

Martina Arel, M.B.A.

Research Director —

Economic Development and Renewable Energy

A. Fletcher Mangum, Ph.D. Founder and CEO



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Executive Summary

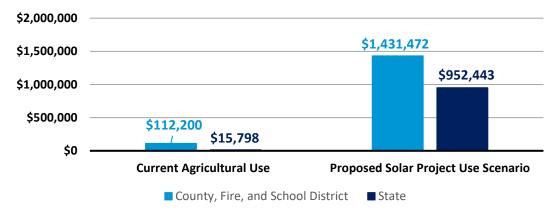
This report assesses the economic and fiscal contribution that the proposed Blue Moon Solar project would make to Harrison County and to the State of Kentucky. The primary findings from that assessment are as follows:

- Blue Moon Solar is a proposed 70-Megawatt (MW) AC utility-scale solar photovoltaic power
 generating facility that would be developed by Recurrent Energy. The project would be
 located at Millersburg Pike and Ruddles Mill Road in Harrison County, Kentucky. The leased
 acreage encompasses approximately 800 acres of agricultural land of which approximately
 650 acres would be used for solar purposes.
- The proposed Blue Moon Solar project would make a significant economic contribution to Harrison County and to the State of Kentucky during construction of the project:
 - The proposed Blue Moon Solar project would provide an estimated one-time pulse of economic activity to Harrison County during its construction phase supporting approximately:
 - o 184 jobs.
 - \$10.4 million in associated labor income.
 - \$26.3 million in economic output.
 - \$1.3 million in state and local tax revenue.
 - The proposed Blue Moon Solar project would provide an estimated one-time pulse of economic activity to the state of Kentucky (including Harrison County) during its construction phase supporting approximately:
 - o 291 jobs.
 - \$16.6 million in associated labor income.
 - \$43.5 million in economic output.
 - \$2.0 million in state and local tax revenue.
- The proposed Blue Moon Solar project would make a significant economic contribution to Harrison County and to the State of Kentucky during its ongoing operational phase:
 - The proposed Blue Moon Solar project would provide an estimated annual economic impact to Harrison County during its ongoing operational phase supporting approximately:
 - o 3 jobs.
 - \$118,171 in associated labor income.
 - \$365,475 in economic output.



- \wedge
- The proposed Blue Moon Solar project would provide an estimated annual economic impact to the State of Kentucky (including Harrison County) during its ongoing operational phase supporting approximately:
 - o 3 jobs.
 - \$136,491 in associated labor income.
 - \$425,824 in economic output.
- If financed using an Industrial Revenue Bond (IRB), the proposed Blue Moon Solar project would have a significantly greater fiscal impact on Harrison County, Harrison Fire District, Harrison School District, and the state of Kentucky than the property generates in its current agricultural use:¹
 - The proposed Blue Moon Solar project would generate approximately \$1.4 million in cumulative county, fire district, and school district revenue as compared to approximately \$112,200 in cumulative county, fire district, and school district tax revenue over 40 years in the property's current agricultural use – this constitutes a difference of approximately \$1.3 million between the two uses (in 2021 dollars).²
 - The proposed Blue Moon Solar project would also generate approximately \$1.0 million in cumulative state tax revenue as compared to approximately \$15,798 in cumulative state tax revenue over 40 years in the property's current agricultural use this constitutes a difference of approximately \$0.9 million between the two uses (in 2021 dollars).

Estimated Cumulative Harrison County (incl. Fire & School District) and State of Kentucky Tax Revenue over 40 Years - IRB Scenario (2021 dollars)



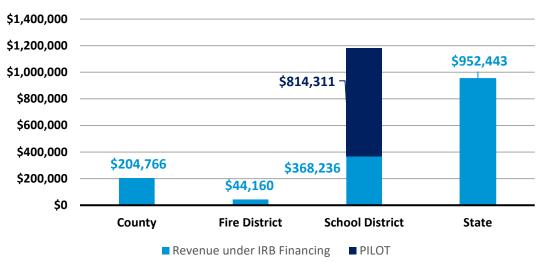
¹ Please note that the future tax revenue stream for the investments has been calculated based on the cost approach to valuation due to data limitations on the future income streams of the project. Actual revenues generated by Blue Moon Solar may therefore vary from the analysis presented because they do not include the impact on the revenues that are associated with the franchise value of the project.

² Includes the illustrative value of PILOT payments that are calculated as the school district tax revenue from taxation of the capital investments in personal property if the property was privately financed. Actual value of PILOT payments is subject to negotiation between Recurrent Energy and Harrison County.



- \mathcal{N}
- Taxation of the proposed Blue Moon Solar project over the facility's anticipated 40-year operational life under an Industrial Revenue Bond financing scenario would generate approximately:
 - \$204,766 in cumulative Harrison County tax revenue,
 - \$44,160 in cumulative Harrison Fire District tax revenue,
 - \$368,236 in cumulative Harrison School District tax revenue plus \$814,311 in PILOT payments³, and
 - \$1.0 million in cumulative state tax revenue.

Estimated Cumulative Harrison County, Harrison Fire District, Harrison School District, and State of Kentucky Tax Revenue over 40 Years - IRB Scenario plus PILOT (2021 dollars)



- The proposed Blue Moon Solar project would provide a boost to Harrison County's construction sector:
 - At 188 jobs, construction is Harrison County's 5th largest major industry sector. It also pays average weekly wages (\$1,151/week) that are the second highest in the county and 30 percent above the county-wide average (\$884/week).
 - Additionally, the construction sector posted the largest job gain of any sectors in the county between the 2019 and 2020 (a gain of 24 jobs).
 - The proposed Blue Moon Solar project could directly support approximately 143 jobs and \$8.8 million in labor income in Harrison County's construction sector.

³ Illustrative value of PILOT payments calculated as the school district tax revenue from taxation of the capital investments in personal property if the property was privately financed. Actual value of PILOT payments is subject to negotiation between Recurrent Energy and Harrison County.





The estimates provided in this report are based on the best information available and all reasonable care has been taken in assessing that information. However, because these estimates attempt to foresee circumstances that have not yet occurred, it is not possible to provide any assurance that they will be representative of actual events. These estimates are intended to provide a general indication of likely future outcomes and should not be construed to represent a precise measure of those outcomes.



Introduction

This report assesses the economic and fiscal contribution that the proposed Blue Moon Solar project would make to Harrison County and to the State of Kentucky. This report was commissioned by Recurrent Energy and produced by Mangum Economics.

The Project

Blue Moon Solar is a proposed 70-Megawatt (MW) AC utility-scale solar photovoltaic power generating facility that would be developed by Recurrent Energy. The project would be located at Millersburg Pike and Ruddles Mill Road in Harrison County, Kentucky. The leased acreage encompasses approximately 800 acres of agricultural land of which approximately 650 acres would be used for solar purposes.

Electricity Production in Kentucky

This section provides a backdrop for the proposed Blue Moon Solar project by profiling Kentucky's electricity production sector and the role that solar energy could play in that sector.

Overall Market

As shown in Figure 1, electricity sales and direct use in Kentucky totaled 75.6 million megawatt hours in 2019. However, net generation only totaled 71.8 million megawatt hours and Kentucky had to import the remaining electricity it consumed from producers in other states. As with all imports, this means that the jobs, wages, and economic output created by that production went to localities in those states, not to localities in Kentucky.



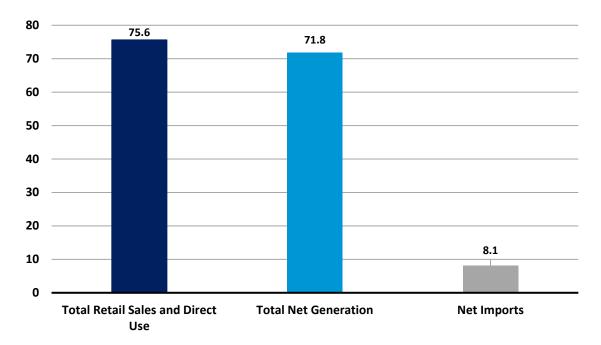


Figure 1: Demand and Supply of Electricity in Kentucky in 2019 (in millions of megawatt-hours)⁴

Sources of Production

Between 2009 and 2019, the total amount of electricity produced in Kentucky decreased from 90.6 to 71.8 million megawatt hours, while retail and direct consumption of electricity only decreased from 89.3 to 75.7 million megawatt hours. Consequently, imports of electricity increased by 3.0 million megawatt hours (or 58 percent) during this time.

Figure 2 provides a comparison of the energy sources that were used to produce electricity in Kentucky in 2009 and 2019. As these data show, the most significant change between 2009 and 2019 was a decrease in the use of coal and an increase in the use of natural gas. Where coal was the state's largest source of electricity in 2009, accounting for 84.0 million megawatt hours (or 93 percent) of production, by 2019 production had fallen by 32.3 million megawatt hours, keeping coal as the largest source of electricity, but reducing the dependence to 72 percent of total production.

In contrast, the share of electricity produced using cleaner-burning low-emissions energy sources increased over the period. Where natural gas accounted for only 0.9 million megawatt hours (or 1 percent) of Kentucky's electricity production in 2009, by 2019 that proportion had increased to 15.3 million megawatt hours (or 21 percent of production), making natural gas the state's second largest source of electricity. Although solar is not a major player in Kentucky yet, having only entered the state's electricity production market in 2016, its share increased to 0.04 million megawatt hours by 2019.

⁴ Data Source: U.S. Energy Information Administration. In this chart, "Net Imports" does not directly equal the residual of "Total Net Generation" minus "Total Retail Sales and Direct Use" because of losses during transmission.



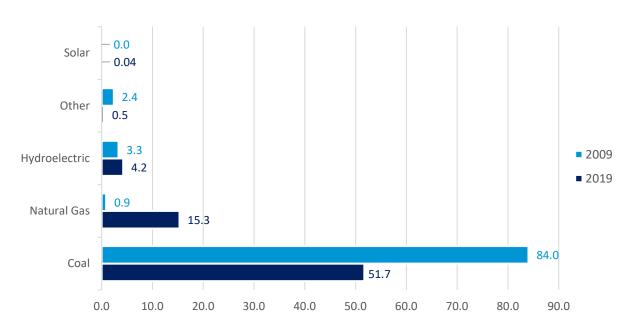


Figure 2: Electricity Generation in Kentucky by Energy Source in 2009 and 2019 (in millions of megawatt-hours) ⁵

Figure 3 provides similar data for the U.S. as a whole. A quick comparison of Figures 2 and 3 shows that although the degree of reliance on specific energy sources for electricity production is quite different between the U.S. and Kentucky, the trend toward lower-emissions energy sources is the same. Nationally, between 2009 and 2019 the amount of electricity produced using coal declined by 790.9 million megawatt hours from 44 to 23 percent of production, while in contrast the amount of electricity produced using natural gas increased by 664.6 million megawatt hours from 23 to 38 percent of production. Nationwide, as in Kentucky, the reliance on renewable energy sources increased during this time but at a much faster pace than in Kentucky. Between 2009 and 2019, the amount of electricity produced using solar increased by 71.0 million megawatt hours to 2 percent of total electricity production compared to 0.06 percent of total electricity production in Kentucky.

⁵ Data Source: U.S. Energy Information Administration. "Other" includes other biomass, other, petroleum, and wood.



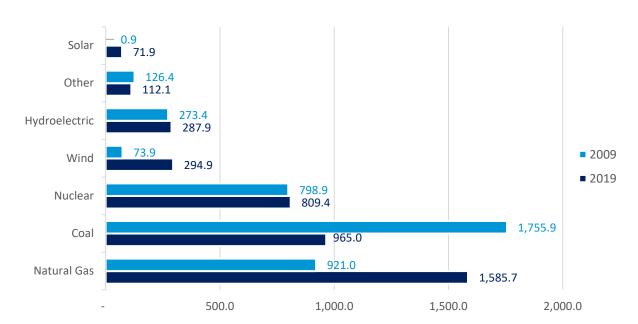


Figure 3: Electricity Generation in the United States by Energy Source in 2009 and 2019 (in millions of megawatt-hours) ⁶

Impact on the Environment

In discussing the impact of these trends on the environment, it is important to realize that electricity production is one of the U.S.'s largest sources of greenhouse gas emissions. Figure 4 depicts carbon dioxide emissions from electricity production in 2009 and 2019 for both Kentucky and the U.S. As these data indicate, between 2009 and 2019, as the share of electricity produced in Kentucky by coal fell from 93 to 72 percent, carbon dioxide emissions from electricity production fell from 86.2 to 58.8 million metric tons. Where at the national level, as the share of electricity produced by coal fell from 44 to 23 percent, carbon dioxide emissions from electricity production fell from 2,269.5 to 1,724.4 million metric tons.

⁶ Data Source: U.S. Energy Information Administration. "Other" includes battery, geothermal, other, other biomass, other gas, petroleum, pumped storage, wind, and wood.



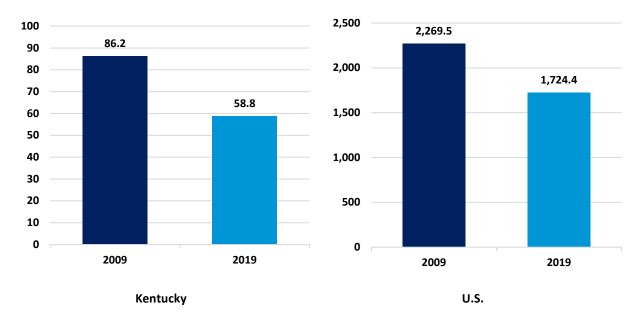


Figure 4: Carbon Dioxide Emissions from Electricity Production (millions of metric tons)⁷

Local Economic Profile

The local economic profile offers context for the economic and fiscal impact assessments to follow by profiling the local economy of Harrison County.

Total Employment

Figure 5 depicts the trend in total employment in Harrison County from December 2015 to December 2020. As these data show, employment generally trended upward throughout the period, aside from seasonal fluctuations, until April 2020, when total employment fell significantly in response to a decrease in economic activity associated with the COVID-19 pandemic. Total employment only partially recovered in the months that followed. As of December 2020, total employment stood at 4,834 jobs, which represents a decrease of 8 jobs or 0.2 percent over the entire five-year period. To put this number in perspective, over this same five-year period, total statewide employment in Kentucky decreased by 2.3 percent.⁸

⁸ Data Source: Bureau of Labor Statistics.



⁷ Data Source: U.S. Energy Information Administration.

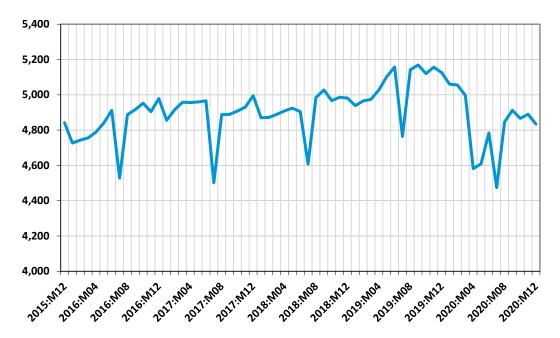


Figure 5: Total Employment in Harrison County – December 2015 to December 20209

To control for seasonality and provide context for the growth numbers given above, Figure 6 compares the year-over-year change in total employment in Harrison County to that of Kentucky as a whole over the same five-year period. Any point above the zero line in this graph indicates an increase in employment, while any point below the zero line indicates a decline in employment. As these data show, year-over-year employment growth in Harrison County had periods of overperforming and underperforming the statewide trend in Kentucky, and even dipped into negative territory in the middle of the period. Beginning in April 2020, both Harrison County and the state of Kentucky experienced significant drops in employment numbers as a result of labor dislocations caused by the coronavirus pandemic. As of December 2020, the year-over-year change in total employment in Harrison County was minus 5.7 percent while the change in employment for Kentucky as a whole was minus 4.8 percent.

⁹ Data Source: Bureau of Labor Statistics.



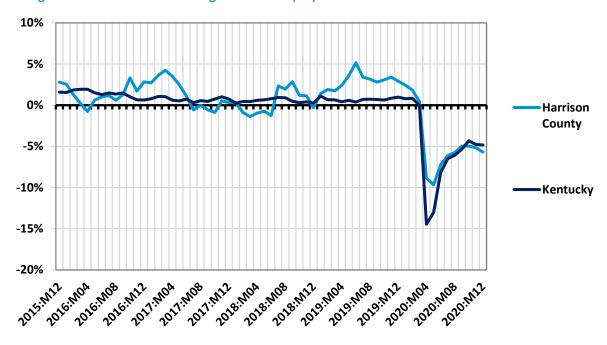


Figure 6: Year-Over-Year Change in Total Employment – December 2015 to December 2020¹⁰

Employment and Wages by Major Industry Sector

To provide a better understanding of the underlying factors motivating the total employment trends depicted in Figures 5 and 6, Figures 7 through 9 provide data on private employment and wages in Harrison County by industry super sector.¹¹

Figure 7 provides an indication of the distribution of private sector employment across industry super sectors in Harrison County for 2020. As these data indicate, the county's largest industry super sector that year was Manufacturing (1,283 jobs), followed by Education and Health Services (1,011 jobs), and Trade, Transportation and Utilities (734 jobs).

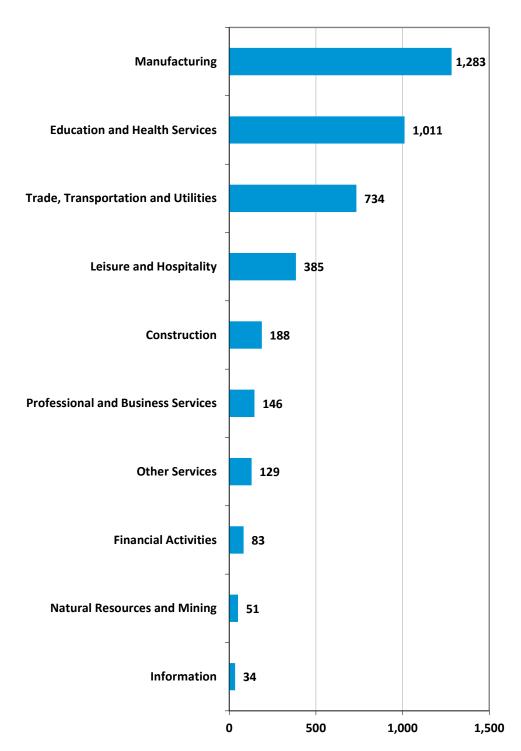
Figure 8 provides a similar ranking for average private sector weekly wages by industry super sector in Harrison County for 2020. As these data show, the highest paying industry super sectors that year were Manufacturing (\$1,190 per week), Construction (\$1,151 per week), and Natural Resources and Mining (\$1,030 per week). For reference, the average private sector weekly wage across all industry sectors in Harrison County that year was \$884 per week.

¹¹ A "super sector" is the highest level of aggregation in the coding system that the Bureau of Labor Statistics uses to classify industries.



¹⁰ Data Source: Bureau of Labor Statistics.

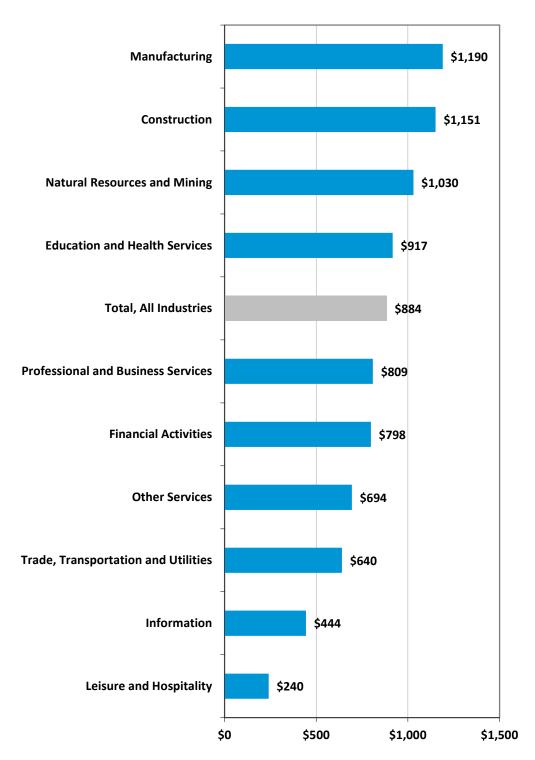




¹² Data Source: Bureau of Labor Statistics.



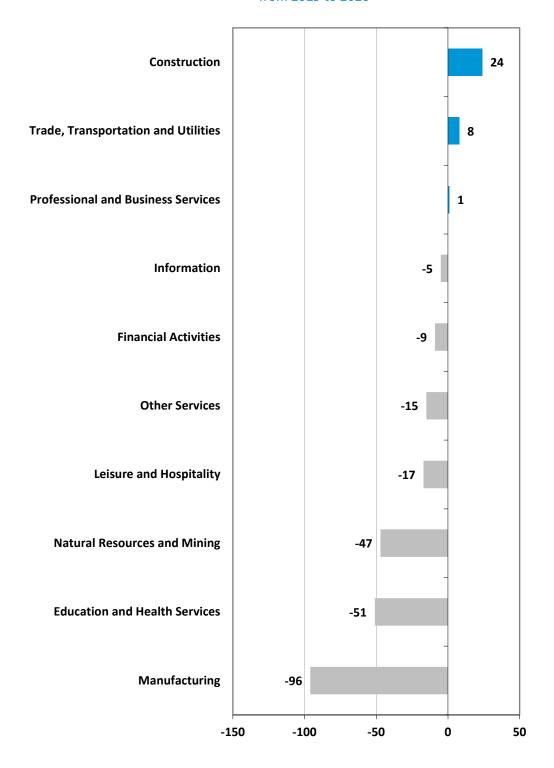




 $^{^{13}}$ Data Source: Bureau of Labor Statistics.



Figure 9: Change in Private Employment by Major Industry in Harrison County from 2019 to 2020¹⁴



¹⁴ Data Source: Bureau of Labor Statistics.



Lastly, Figure 9 details the year-over-year change in private sector employment from 2019 to 2020 in Harrison County by industry super sector. Multiple industries experienced heavy employment losses over this period. The largest employment losses occurred in the Manufacturing (down 96 jobs), Education and Health Services (down 51 jobs), and Natural Resources and Mining (down 47 jobs) sectors. The largest employment gains occurred in the Construction (up 24 jobs) and Trade, Transportation and Utilities (up 8 jobs) sectors.

Unemployment

Figure 10 illustrates the trend in Harrison County's unemployment rate over the five-year period from April 2016 through April 2021 and benchmarks those data against the statewide trend for Kentucky. As these data show, unemployment rates in Harrison County generally tracked closely with statewide trends but at rates on average 0.2 percentage points lower than the statewide rate. As of April 2021, unemployment stood at 3.1 percent in Harrison County as compared to 3.8 percent in Kentucky as a whole, reflecting the beginning of a recovery from the recent economic downturn caused by the coronavirus pandemic.

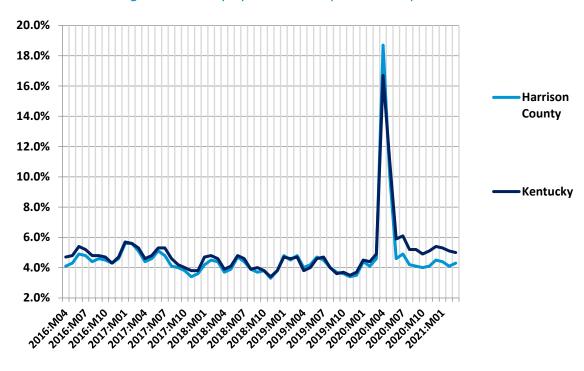


Figure 10: Unemployment Rate – April 2016 to April 2021¹⁵

¹⁵ Data Source: Bureau of Labor Statistics.



Economic and Fiscal Impact

The analysis provided in this section quantifies the economic and fiscal contribution that the proposed Blue Moon Solar project would make to Harrison County and the state of Kentucky. The analysis separately evaluates the one-time pulse of economic activity that would occur during the construction phase of the project, as well as the annual economic activity that the project would generate during its ongoing operations phase.

Method

To empirically evaluate the likely local economic impact attributable to the proposed Blue Moon Solar project, the analysis employs a regional economic impact model called IMPLAN.¹⁶ The IMPLAN model is one of the most commonly used economic impact simulation models in the U.S. and is commonly employed by universities, state agencies and research institutes. Like all economic impact models, the IMPLAN model uses economic multipliers to quantify economic impact.

Economic multipliers measure the ripple effects that an expenditure generates as it makes its way through the economy. For example, as when the Blue Moon Solar project purchases goods and services — or when employees and contractors hired by the facility use their salaries and wages to make household purchases — thereby generating income for someone else, which is in turn spent, thereby becoming income for yet someone else, and so on, and so on. Through this process, one dollar in expenditures generates multiple dollars of income. The mathematical relationship between the initial expenditure and the total income generated is the economic multiplier.

One of the primary advantages of the IMPLAN model is that it uses regional and national production and trade flow data to construct region-specific and industry-specific economic multipliers, which are then further adjusted to reflect anticipated actual spending patterns within the specific geographic study area that is being evaluated. As a result, the economic impact estimates produced by IMPLAN are not generic. They reflect as precisely as possible the economic realities of the specific industry, and the specific study area, being evaluated.

In the analysis that follows, these impact estimates are divided into three categories. First round direct impact measures the direct economic contribution of the entity being evaluated (e.g., goods and services purchased by the Blue Moon Solar project). Second round indirect and induced impact measures the economic ripple effects of this direct impact in terms of business to business, and household (employee) to business, transactions. Total impact is simply the sum of the preceding two. These categories of impact are then further defined in terms of employment (the jobs that are created), labor income (the wages and benefits associated with those jobs), and economic output (the total amount of economic activity that is created in the economy).

¹⁶ IMPLAN is produced by IMPLAN Group, LLC.



Construction Phase

This portion of the section assesses the economic and fiscal impact that the one-time pulse of activity associated with construction of the proposed Blue Moon Solar project would have on Harrison County.

Assumptions

The analysis is based on the following assumptions:

- Total capitalized investment in the Blue Moon Solar project is estimated to be approximately \$91.8 million.¹⁷
- Of that total:
 - Architecture, engineering, site preparation, and other development and construction costs are estimated to be approximately \$28.1 million.¹⁸ It is estimated that approximately 74 percent of that total could be spent in Harrison County while the remainder would be spent with vendors within the state.
 - Capital equipment and other costs are estimated to be approximately \$63.8 million.¹⁹ It is anticipated that no capital equipment would be purchased from vendors in Harrison County or Kentucky.²⁰
- For ease of analysis, all construction expenditures are assumed to take place in a single year.

Results – Harrison County

Applying these assumptions in the IMPLAN model results in the following estimates of one-time economic impact on Harrison County. As shown in Table 1, construction of the proposed Blue Moon Solar project would directly provide a one-time pulse of economic activity supporting approximately: 1) 143 jobs, 2) \$8.8 million in labor income, and 3) \$20.8 million in economic output to Harrison County (in 2021 dollars).²¹

Taking into account the economic ripple effects that direct investment would generate, the total estimated one-time impact on Harrison County would support approximately: 1) 183 jobs, 2) \$10.4 million in labor income, and 3) \$26.3 million in economic output, and 4) \$1.3 million in state and local tax revenue (in 2021 dollars).

²¹ It is important to note that construction sector jobs are not necessarily new jobs, but the investments made can also support a job during the construction of the project.



¹⁷ Data Source: Recurrent Energy.

¹⁸ Data Source: Recurrent Energy.

¹⁹ Data Source Recurrent Energy.

²⁰ Data Source: IMPLAN Group, LLC.

Table 1: Estimated One-Time Economic and Fiscal Impact on Harrison County from Construction of the Blue Moon Solar Project (2021 Dollars)²²

Economic Impact	Employment	Labor Income	Output
1 st Round Direct Economic Activity	143	\$8,819,934	\$20,756,251
2 nd Round Indirect and Induced Economic Activity	40	\$1,554,639	\$5,567,215
Total Economic Activity	183	\$10,374,573	\$26,323,466
Fiscal Impact			
State and Local Tax Revenue			\$1,298,512

^{*}Totals may not sum due to rounding.

Results – Kentucky Statewide

(Includes Harrison County impact)

Applying the above stated assumptions in the IMPLAN model results in the following estimates of one-time economic impact on the state of Kentucky. As shown in Table 2, construction of the proposed Blue Moon Solar project would directly provide a one-time pulse of economic activity supporting approximately: 1) 190 jobs, 2) \$12.1 million in labor income, and 3) \$28.1 million in economic output to the state of Kentucky as a whole (in 2021 dollars).²³

Taking into account the economic ripple effects that direct investment would generate, the total estimated one-time impact on the state of Kentucky would support approximately: 1) 291 jobs, 2) \$16.6 million in labor income, and 3) \$43.5 million in economic output, and 4) \$2.0 million in state and local tax revenue (in 2021 dollars).

Table 2: Estimated One-Time Economic and Fiscal Impact on the State of Kentucky from Construction of the Blue Moon Solar Project (2021 Dollars)²⁴

Economic Impact	Employment	Labor Income	Output
1 st Round Direct Economic Activity	190	\$12,081,098	\$28,058,969
2 nd Round Indirect and Induced Economic Activity	100	\$4,561,122	\$15,464,358
Total Economic Activity	291	\$16,642,219	\$43,523,327
Fiscal Impact			
State and Local Tax Revenue			\$2,031,080

^{*}Totals may not sum due to rounding.

²⁴ Please note that construction sector jobs are not necessarily new jobs, but the investments made can also support a job during the construction of the project.



²² Please note that construction sector jobs are not necessarily new jobs, but the investments made can also support a job during the construction of the project.

²³ It is important to note that construction sector jobs are not necessarily new jobs, but the investments made can also support a job during the construction of the project.

Ongoing Operations Phase

This portion of the section assesses the annual economic and fiscal impact that the proposed Blue Moon Solar project would have on Harrison County and the state of Kentucky during its anticipated 40-year operational life.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- The Blue Moon Solar project would spend approximately \$234,295 each year for vegetative control, maintenance and repair, and other operational expenditures.²⁵
- The Blue Moon Solar project would make confidential lease payments to local landowners.

Results – Harrison County

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact on Harrison County. As shown in Table 3, annual operation of the proposed Blue Moon Solar project would directly support approximately: 1) 1 job, 2) \$52,565 in labor income, and 3) \$141,682 in economic output to Harrison County (in 2021 dollars).

Taking into account the economic ripple effects that direct impact would generate, the total estimated annually supported impact on Harrison County would be approximately: 1) 3 jobs, 2) \$118,171 in labor income, and 3) \$365,475 in economic output (in 2021 dollars).

Table 3: Estimated Annual Economic Impact on Harrison County from the Ongoing Operation of the Blue Moon Solar Project (2021 Dollars)

Economic Impact	Employment	Labor Income	Output
1 st Round Direct Economic Activity	1	\$52,565	\$141,682
2 nd Round Indirect and Induced Economic Activity	2	\$65,606	\$223,792
Total Economic Activity	3	\$118,171	\$365,475

^{*}Totals may not sum due to rounding.

Results – Kentucky Statewide

(Includes Harrison County impact)

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact on the state of Kentucky. As shown in Table 4, annual operation of the proposed Blue Moon Solar project would directly support approximately: 1) 1 job, 2) \$52,565 in labor income, and 3) \$141,682 in economic output to the state of Kentucky (in 2021 dollars).

²⁵ Data Source: Recurrent Energy.



Taking into account the economic ripple effects that direct impact would generate, the total estimated annually supported impact on the state of Kentucky would be approximately: 1) 3 jobs, 2) \$136,491 in labor income, and 3) \$425,824 in economic output (in 2021 dollars).

Table 4: Estimated Annual Economic Impact on the State of Kentucky from the Ongoing Operation of the Blue Moon Solar Project (2021 Dollars)

Economic Impact	Employment	Labor Income	Output
1st Round Direct Economic Activity	1	\$52,565	\$141,682
2 nd Round Indirect and Induced Economic Activity	2	\$83,926	\$284,142
Total Economic Activity	3	\$136,491	\$425,824

^{*}Totals may not sum due to rounding.

Fiscal Impact Assumptions

The analysis provided on the following pages is based on the following assumptions:

- The total capitalized investment in the Blue Moon Solar project would be categorized as follows.
 - Approximately \$82.6 million would be classified as manufacturing machinery.²⁶
 - Approximately \$9.2 million would be classified as tangible personal property.²⁷
- The manufacturing machinery and tangible personal property would be depreciated using the Kentucky Department of Revenue depreciation schedule for Class VI.²⁸
- The Blue Moon Solar project would be situated on a 650-acre tract of farmland, located in the Harrison County district, that is currently assessed at a farmland value of approximately \$323,720.²⁹
- Once operational, the affected 650 acres used for solar purposes would be assessed at its farm fair cash value estimated at approximately \$1.8 million.³⁰
- The remaining acreage of each parcel would continue to be assessed at its current agricultural use farmland value.³¹
- For taxation purposes, we assume that:³²

³² Data Source: Recurrent Energy.



²⁶ Data Source: Recurrent Energy.

²⁷ Data Source: Recurrent Energy.

²⁸ Data Source: Recurrent Energy.

²⁹ Data Source: Derived from parcel data provided on the Harrison County Property Valuation Administrator (PVA) website. Includes value of structures that would be removed under solar use.

³⁰ Data Source: Recurrent Energy. Value derived from parcel data on the Harrison County PVA website.

³¹ Data Source: Based on informal discussion with Harrison County PVA office and Kentucky Department of Revenue. Assumes each remaining parcel has 11 or more acres in farm use.

- The entire capitalized investment in manufacturing machinery and personal property would be financed with Industrial Revenue Bonds (IRBs) and taxed only at the state level.³³
- The project would not qualify for a reduced state IRB tax rate of \$0.015 per \$100.34
- Manufacturing machinery would be taxed at a rate of 15.0 cents per \$100.³⁵
- o Tangible personal property would be taxed at a rate of 45.0 cents per \$100.36
- Real property would be taxed at the state and local levels. Applicable tax rates would be: state – 12.2 cent per \$100; Harrison County – 28.749 cents per \$100; Harrison County Fire District – 6.2 cents per \$100; and Harrison School District – 51.7 cents per \$100.³⁷

Fiscal Impact Results

The analysis on the following pages quantifies the direct fiscal contribution that the proposed Blue Moon Solar project would make to Harrison County, the Harrison County Fire District, the Harrison School District, and to the State of Kentucky from taxation of the real property (land), taxation of the IRB financed investments in manufacturing machinery and personal property, and potential PILOT payments to the local school district. It should be noted at the outset, however, that the analysis that follows likely understates the actual fiscal impact that Blue Moon Solar would have as it only accounts for the direct fiscal impact that Blue Moon Solar would have on Harrison County and the state. It does not take into account any additional tax revenue that would be generated as a result of the indirect economic activity attributable to the ongoing operation of Blue Moon Solar.

Real Estate Tax Revenue - Land

Table 5 details the revenue that the proposed Blue Moon Solar project would generate for Harrison County, the Harrison County Fire District, the Harrison School District, and the State of Kentucky over a 40-year period from the increased property assessments associated with assessing the affected, fenced-in acreage at the farm fair cash value.

As the data in Table 5 indicate, the county, fire district, and school district real estate tax revenue from the project after removal of the agricultural exemption status is estimated to be approximately \$15,429 per year (in 2021 dollars) for a cumulative total of approximately \$0.6 million over 40 years (in 2021 dollars). This consists of approximately \$204,766 in county tax revenue, approximately \$44,160 in fire district tax revenue, and approximately \$368,236 in school district tax revenue (in 2021 dollars).

³⁷ Data Source: Recurrent Energy. Tax rates: Kentucky Department of Revenue and Harrison County PVA, 2020 property tax rates. Analysis assumes tax rates remain constant throughout analysis.



³³ Data Source: Recurrent Energy.

³⁴ Data Source: Recurrent Energy.

³⁵ Data Source: Kentucky Department of Revenue.

³⁶ Data Source: Kentucky Department of Revenue and Harrison County PVA, 2020 property tax rates. Assumes tax rates remain constant throughout analysis.

Table 5 also shows the state real estate tax revenue from the project after removal of the agricultural exemption status, which is estimated to be approximately \$2,172 per year (in 2021 dollars) for a cumulative total of approximately \$86,895 over 40 years (in 2021 dollars).

Table 5: Estimated Tax Revenue Generated by the Proposed Blue Moon Solar Project over 40 Years from Additional Real Property Taxes – Land (2021 Dollars)

	Harrison County	Harrison County Fire District	Harrison School District	Total Local Revenue	State Revenue
Real Estate Tax Rate per \$100 38	0.28749	0.062	0.517	0.8665	0.122
Estimated Farm Fair Cash Value of Land ³⁹	e \$1,780,636				
Annual Real Estate Tax Revenue Land	\$5,119	\$1,104	\$9,206	\$15,429	\$2,172
Cumulative Real Estate Revenue over 40 Years – Land	\$204,766	\$44,160	\$368,236	<u>\$617,161</u>	<u>\$86,895</u>

Industrial Revenue Bond Financed Property

Tables 6 and 7 detail the revenue that the proposed Blue Moon Solar project would generate for the State of Kentucky over a 40-year period from taxation of the manufacturing machinery and the tangible personal property located on the site. Based on guidance from the Kentucky Department of Revenue, this property would be assessed by the Department based on a cost approach during the initial years of operation, moving to an income approach thereafter. Due to data limitations on the future income streams of the project, the analysis presented on the following pages relies on the cost approach for the duration of the project. Please note that actual revenues generated by Blue Moon Solar may therefore vary from the analysis presented.

Manufacturing Machinery Property Tax Revenue

Table 6 details the revenue that the proposed Blue Moon Solar project would generate for the State of Kentucky over a 40-year period from taxation of the IRB financed manufacturing machinery located on the site. As shown in Table 6, the state tax revenue fluctuates over the 40-year period as the assessed value of the property is depreciated but the leasehold interest is increased over the period. The state tax revenue is estimated to be approximately \$3,003 in year 1 of the project with that figure projected to increase to approximately \$29,974 in year 17 of the project and then to decline to approximately \$12,395 in year 40 of the project, for a cumulative total of approximately \$649,161 over 40 years (in 2021 dollars).

³⁹ Data Source: Derived from parcel data on the Harrison County PVA website.



³⁸ Data Source: Kentucky Department of Revenue and Harrison County PVA, 2020 property tax rates. Assumes tax rates remain constant throughout analysis.

Table 6: Estimated Tax Revenue Generated by the Proposed Blue Moon Solar Project over 40 Years from Additional Manufacturing Machinery Taxes (2021 Dollars)

Year	Original Cost	Depreciation 40	Net Book Value	Leasehold	Total State Tax
				Interest	Revenue
Tax Rate (per	\$100)				0.15
1	\$82,632,627	0.97	\$80,071,016	\$2,001,775	\$3,003
2	\$82,632,627	0.96	\$79,079,424	\$3,953,971	\$5,931
3	\$82,632,627	0.94	\$78,005,200	\$5,850,390	\$8,776
4	\$82,632,627	0.93	\$76,765,710	\$7,676,571	\$11,515
5	\$82,632,627	0.90	\$74,038,834	\$9,254,854	\$13,882
6	\$82,632,627	0.85	\$69,989,835	\$10,498,475	\$15,748
7	\$82,632,627	0.82	\$68,006,652	\$11,901,164	\$17,852
8	\$82,632,627	0.79	\$65,197,143	\$13,039,429	\$19,559
9	\$82,632,627	0.76	\$62,387,633	\$14,037,218	\$21,056
10	\$82,632,627	0.74	\$61,313,409	\$15,328,352	\$22,993
11	\$82,632,627	0.71	\$58,917,063	\$16,202,192	\$24,303
12	\$82,632,627	0.65	\$53,711,208	\$16,113,362	\$24,170
13	\$82,632,627	0.65	\$53,298,044	\$17,321,864	\$25,983
14	\$82,632,627	0.62	\$51,149,596	\$17,902,359	\$26,854
15	\$82,632,627	0.61	\$50,158,005	\$18,809,252	\$28,214
16	\$82,632,627	0.58	\$48,092,189	\$19,236,876	\$28,855
17	\$82,632,627	0.57	\$47,017,965	\$19,982,635	\$29,974
18	\$82,632,627	0.52	\$43,051,599	\$19,373,219	\$29,060
19	\$82,632,627	0.47	\$38,837,335	\$18,447,734	\$27,672
20	\$82,632,627	0.41	\$34,044,642	\$17,022,321	\$25,533
21	\$82,632,627	0.36	\$29,747,746	\$15,617,567	\$23,426
22	\$82,632,627	0.30	\$25,037,686	\$13,770,727	\$20,656
23	\$82,632,627	0.24	\$20,079,728	\$11,545,844	\$17,319
24	\$82,632,627	0.19	\$15,287,036	\$9,172,222	\$13,758
25	\$82,632,627	0.13	\$10,329,078	\$6,455,674	\$9,684
26	\$82,632,627	0.10	\$8,263,263	\$5,371,121	\$8,057
27	\$82,632,627	0.10	\$8,263,263	\$5,577,702	\$8,367
28	\$82,632,627	0.10	\$8,263,263	\$5,784,284	\$8,676
29	\$82,632,627	0.10	\$8,263,263	\$5,990,865	\$8,986
30	\$82,632,627	0.10	\$8,263,263	\$6,197,447	\$9,296
31	\$82,632,627	0.10	\$8,263,263	\$6,404,029	\$9,606
32	\$82,632,627	0.10	\$8,263,263	\$6,610,610	\$9,916
33	\$82,632,627	0.10	\$8,263,263	\$6,817,192	\$10,226
34	\$82,632,627	0.10	\$8,263,263	\$7,023,773	\$10,536
35	\$82,632,627	0.10	\$8,263,263	\$7,230,355	\$10,846
36	\$82,632,627	0.10	\$8,263,263	\$7,436,936	\$11,155

⁴⁰ Data Source: Kentucky Department of Revenue depreciation schedule for Class VI. Values rounded to first digit.



Year	Original Cost	Depreciation ⁴⁰	Net Book Value	Leasehold Interest	Total State Tax Revenue
37	\$82,632,627	0.10	\$8,263,263	\$7,643,518	\$11,465
38	\$82,632,627	0.10	\$8,263,263	\$7,850,100	\$11,775
39	\$82,632,627	0.10	\$8,263,263	\$8,056,681	\$12,085
40	\$82,632,627	0.10	\$8,263,263	\$8,263,263	\$12,395
Cumulative Total over 40 years					<u>\$649,161</u>

Tangible Personal Property Tax Revenue

Table 7 portrays the tax revenue that the proposed Blue Moon Solar project would generate for the State of Kentucky over a 40-year period from taxation of the IRB financed tangible personal property located on the site. As the data in Table 7 indicate, the state tax revenue fluctuates over the 40-year period as the value of the property is depreciated but the leasehold interest is increased over the period. The state tax revenue is estimated to be approximately \$1,001 in year 1 of the project with that figure projected to increase to approximately \$9,991 in year 17 of the project and then to decline thereafter as the value of the property is further depreciated, for a cumulative total of approximately \$216,387 over 40 years (in 2021 dollars).

Table 7: Estimated Tax Revenue Generated by the Proposed Blue Moon Solar Project over 40-Years from Additional Tangible Personal Property Taxes (2021 Dollars)

Year	Original Cost	Depreciation ⁴¹	Net Book Value	Leasehold Interest	Total State Tax Revenue
Tax Rate (pe	er \$100)				0.45
1	\$9,181,403	0.97	\$8,896,780	\$222,419	\$1,001
2	\$9,181,403	0.96	\$8,786,603	\$439,330	\$1,977
3	\$9,181,403	0.94	\$8,667,244	\$650,043	\$2,925
4	\$9,181,403	0.93	\$8,529,523	\$852,952	\$3,838
5	\$9,181,403	0.90	\$8,226,537	\$1,028,317	\$4,627
6	\$9,181,403	0.85	\$7,776,648	\$1,166,497	\$5,249
7	\$9,181,403	0.82	\$7,556,295	\$1,322,352	\$5,951
8	\$9,181,403	0.79	\$7,244,127	\$1,448,825	\$6,520
9	\$9,181,403	0.76	\$6,931,959	\$1,559,691	\$7,019
10	\$9,181,403	0.74	\$6,812,601	\$1,703,150	\$7,664
11	\$9,181,403	0.71	\$6,546,340	\$1,800,244	\$8,101
12	\$9,181,403	0.65	\$5,967,912	\$1,790,374	\$8,057
13	\$9,181,403	0.65	\$5,922,005	\$1,924,652	\$8,661
14	\$9,181,403	0.62	\$5,683,288	\$1,989,151	\$8,951
15	\$9,181,403	0.61	\$5,573,112	\$2,089,917	\$9,405
16	\$9,181,403	0.58	\$5,343,577	\$2,137,431	\$9,618
17	\$9,181,403	0.57	\$5,224,218	\$2,220,293	\$9,991

⁴¹ Data Source: Kentucky Department of Revenue depreciation schedule for Class VI. Values rounded to first digit.



Year	Original Cost	Depreciation ⁴¹	Net Book Value	Leasehold Interest	Total State Tax Revenue
18	\$9,181,403	0.52	\$4,783,511	\$2,152,580	\$9,687
19	\$9,181,403	0.47	\$4,315,259	\$2,049,748	\$9,224
20	\$9,181,403	0.41	\$3,782,738	\$1,891,369	\$8,511
21	\$9,181,403	0.36	\$3,305,305	\$1,735,285	\$7,809
22	\$9,181,403	0.30	\$2,781,965	\$1,530,081	\$6,885
23	\$9,181,403	0.24	\$2,231,081	\$1,282,872	\$5,773
24	\$9,181,403	0.19	\$1,698,560	\$1,019,136	\$4,586
25	\$9,181,403	0.13	\$1,147,675	\$717,297	\$3,228
26	\$9,181,403	0.10	\$918,140	\$596,791	\$2,686
27	\$9,181,403	0.10	\$918,140	\$619,745	\$2,789
28	\$9,181,403	0.10	\$918,140	\$642,698	\$2,892
29	\$9,181,403	0.10	\$918,140	\$665,652	\$2,995
30	\$9,181,403	0.10	\$918,140	\$688,605	\$3,099
31	\$9,181,403	0.10	\$918,140	\$711,559	\$3,202
32	\$9,181,403	0.10	\$918,140	\$734,512	\$3,305
33	\$9,181,403	0.10	\$918,140	\$757,466	\$3,409
34	\$9,181,403	0.10	\$918,140	\$780,419	\$3,512
35	\$9,181,403	0.10	\$918,140	\$803,373	\$3,615
36	\$9,181,403	0.10	\$918,140	\$826,326	\$3,718
37	\$9,181,403	0.10	\$918,140	\$849,280	\$3,822
38	\$9,181,403	0.10	\$918,140	\$872,233	\$3,925
39	\$9,181,403	0.10	\$918,140	\$895,187	\$4,028
40	\$9,181,403	0.10	\$918,140	\$918,140	\$4,132
Cumulative	Total over 40 years				\$216,387

School District Tax Revenue without IRB Financing (PILOT)

The analysis that follows summarizes the tax revenue that the proposed Blue Moon Solar project would generate for the Harrison School District, assuming the project was financed without the use of IRBs. In a private financing scenario, in addition to the real property tax revenue generated from taxation of the land assessed at a farm fair cash value (see Table 5), the Harrison School District would generate tax revenue from taxation of the tangible personal property located on the site. Please note that, as mentioned in the previous section, based on guidance from the Kentucky Department of Revenue, this property would be assessed by the Department based on a cost approach during the initial years of operation, moving to an income approach thereafter. Due to data limitations on the future income streams of the project, the analysis presented on the following pages relies on the cost approach for the duration of the project. Please note that actual revenues generated by Blue Moon Solar under this scenario could therefore vary from the analysis presented.

Table 8 portrays the tax revenue that the proposed Blue Moon Solar project would generate for the Harrison School District over a 40-year period from taxation of the tangible personal property located on



the site, without the use of IRB financing. As the data in Table 8 indicate, the tax revenue is estimated to be approximately \$45,996 in year 1 of the project and is projected to decrease to approximately \$4,747 in year 26 of the project and thereafter as the value of the property is depreciated, for a cumulative total of approximately \$0.8 million over 40 years (in 2021 dollars).

Table 8: Estimated Tax Revenue Generated by the Proposed Blue Moon Solar Project over 40 Years from Additional Tangible Personal Property Taxes without IRB Financing (2021 Dollars)

Year	Original Cost	Depreciation	Net Book Value	School District Tax Revenue
Tax Rate (per	· \$100)			0.517
1	\$9,181,403	\$45,996	\$45,996	\$45,996
2	\$9,181,403	\$45,427	\$45,427	\$45,427
3	\$9,181,403	\$44,810	\$44,810	\$44,810
4	\$9,181,403	\$44,098	\$44,098	\$44,098
5	\$9,181,403	\$42,531	\$42,531	\$42,531
6	\$9,181,403	\$40,205	\$40,205	\$40,205
7	\$9,181,403	\$39,066	\$39,066	\$39,066
8	\$9,181,403	\$37,452	\$37,452	\$37,452
9	\$9,181,403	\$35,838	\$35,838	\$35,838
10	\$9,181,403	\$35,221	\$35,221	\$35,221
11	\$9,181,403	\$33,845	\$33,845	\$33,845
12	\$9,181,403	\$30,854	\$30,854	\$30,854
13	\$9,181,403	\$30,617	\$30,617	\$30,617
14	\$9,181,403	\$29,383	\$29,383	\$29,383
15	\$9,181,403	\$28,813	\$28,813	\$28,813
16	\$9,181,403	\$27,626	\$27,626	\$27,626
17	\$9,181,403	\$27,009	\$27,009	\$27,009
18	\$9,181,403	\$24,731	\$24,731	\$24,731
19	\$9,181,403	\$22,310	\$22,310	\$22,310
20	\$9,181,403	\$19,557	\$19,557	\$19,557
21	\$9,181,403	\$17,088	\$17,088	\$17,088
22	\$9,181,403	\$14,383	\$14,383	\$14,383
23	\$9,181,403	\$11,535	\$11,535	\$11,535
24	\$9,181,403	\$8,782	\$8,782	\$8,782
25	\$9,181,403	\$5,933	\$5,933	\$5,933
26	\$9,181,403	\$4,747	\$4,747	\$4,747
27	\$9,181,403	\$4,747	\$4,747	\$4,747
28	\$9,181,403	\$4,747	\$4,747	\$4,747
29	\$9,181,403	\$4,747	\$4,747	\$4,747
30	\$9,181,403	\$4,747	\$4,747	\$4,747
31	\$9,181,403	\$4,747	\$4,747	\$4,747
32	\$9,181,403	\$4,747	\$4,747	\$4,747
33	\$9,181,403	\$4,747	\$4,747	\$4,747



Year	Original Cost	Depreciation	Net Book Value	School District Tax Revenue
34	\$9,181,403	\$4,747	\$4,747	\$4,747
35	\$9,181,403	\$4,747	\$4,747	\$4,747
36	\$9,181,403	\$4,747	\$4,747	\$4,747
37	\$9,181,403	\$4,747	\$4,747	\$4,747
38	\$9,181,403	\$4,747	\$4,747	\$4,747
39	\$9,181,403	\$4,747	\$4,747	\$4,747
40	\$9,181,403	\$4,747	\$4,747	\$4,747
Cumulative T	otal over 40 years			\$814,311

Total Fiscal Impact

Table 9 combines the results from the calculations depicted in Tables 5 through 8 to provide an estimate of the cumulative fiscal contribution that the proposed Blue Moon Solar project would make to Harrison County, the Harrison County Fire District, the Harrison School District, and to the State of Kentucky over its anticipated 40-year operational life under an IRB financing scenario. As these data indicate, that cumulative total is approximately \$204,766 for Harrison County, approximately \$44,160 for the Harrison County Fire District, approximately \$1.2 million for the Harrison School District, for a total local contribution of approximately \$1.4 million, and approximately \$1.0 million in state tax revenue over 40 years (in 2021 dollars).⁴²

Table 9: Estimated Cumulative Tax Revenue from the Proposed Blue Moon Solar Project over 40 Years – IRB Scenario plus PILOT Payments (2021 dollars)

Tax Revenue by Type	Harrison County	Harrison County Fire District	Harrison School District	Total Local Tax Revenue	Total State Tax Revenue
Real Property Tax Revenue – Land	\$204,766	\$44,160	\$368,236	\$617,161	\$86,895
Manufacturing Machinery Tax Revenue	-	-	-	-	\$649,161
Personal Property Tax Revenue	-	-	-	-	\$216,387
PILOT Payments ⁴³	-	-	\$814,311	\$814,311	-
TOTAL Cumulative Revenue over 40 years	\$204,766	\$44,160	\$1,182,547	<u>\$1,431,472</u>	<u>\$952,443</u>

^{*}Totals may not sum due to rounding.

⁴³ Actual value of PILOT payments is subject to negotiation between Recurrent Energy and Harrison County.



 $^{^{42}}$ Actual value of PILOT payments is subject to negotiation between Recurrent Energy and Harrison County.

Current Agricultural Use

This section provides a benchmark for the previous estimates of the economic contribution that the proposed Blue Moon Solar project would make to Harrison County by estimating the economic and fiscal contribution that the site would make to the county in an active agricultural use. The analysis is based on the following assumptions:

- The proposed Blue Moon Solar would be situated on an approximate 650-acre tract of land, which is currently used to produce corn, soybeans, hay, and as rangeland for cattle.⁴⁴
- Average annual revenue per acre for Harrison County farmland is approximately \$252.54.⁴⁵
- The 650-acre tract of farmland would be located in the Harrison County district. The land and structures to be removed are currently assessed at approximately \$323,720.46

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 10, in its current agricultural use, the proposed Blue Moon Solar project site directly supports approximately: 1) 3 jobs, 2) -\$29,223 in labor income⁴⁷, and 3) \$164,149 in economic output to Harrison County.

Taking into account the economic ripple effects that direct impact generates, the total annually supported impact on Harrison County would be approximately: 1) 3 jobs, 2) -\$26,962 in labor income, 3) \$178,153 in economic output.

Table 10: Total Annual Economic Impact of the Blue Moon Solar Project Site on Harrison County – Current Agricultural Use (2021 Dollars)

Economic Impact	Employment	Labor Income ⁴⁸	Output
1st Round Direct Economic Activity	3	-\$29,223	\$164,149
2 nd Round Indirect and Induced Economic Activity	0	\$2,262	\$14,004
Total Economic Activity	3	-\$26,962	\$178,153

Table 11 details the estimated current real property tax revenue generated from taxation of the affected structures and the project site assessed at an agricultural use farmland value. The total local real property tax revenue from the site is estimated to be approximately \$2,805 per year, for a cumulative

⁴⁸ Labor income is the sum of employee compensation and proprietor income. If proprietor income is negative, overall labor income can be negative, even when total employee wages are positive.



⁴⁴ Data Source: Recurrent Energy.

⁴⁵ Data Source: Estimated based on data from the U.S. Department of Agriculture 2017 Census in Harrison County. Calculated as the weighted average revenue per acre for corn, soy, hay, and rangeland for cattle, based on the respective acreage for each category.

⁴⁶ Data Source: Derived from the site layout provided by Recurrent Energy and from parcel data on the farmland value provided on the Harrison County Property Valuation Administrator website.

⁴⁷ Labor income is the sum of employee compensation and proprietor income. If proprietor income is negative, overall labor income can be negative, even when total employee wages are positive.

total of approximately \$112,200 (consisting of approximately \$37,227 in county revenue, \$8,028 in fire district revenue, and \$66,945 in school district revenue) over the project's anticipated 40-year operational life (in 2021 dollars).

The total current state real property tax revenue from the site is estimated to be approximately \$395 per year for a cumulative total of approximately \$15,798 over the project's anticipated 40-year operational life (in 2021 dollars).

Table 11: Estimated Tax Revenue Generated by the Land under an Agricultural Use over 40 Years (2021 Dollars)

	Harrison County	Harrison County Fire District	Harrison School District	Total Local Tax Revenue	State Revenue
Real Estate Tax Rate per \$100 49	0.2875	0.062	0.517	0.8665	0.122
Estimated Current Agricultural Farmland Value of Land and Affected Structures ⁵⁰					\$323,720
Annual Real Estate Tax Revenue	\$931	\$201	\$1,674	\$2,805	\$395
Cumulative Real Estate Tax Revenue over 40 Years – Agricultural Use	\$37,227	\$8,028	\$66,945	<u>\$112,200</u>	<u>\$15,798</u>

The estimates provided in this report are based on the best information available and all reasonable care has been taken in assessing that information. However, because these estimates attempt to foresee circumstances that have not yet occurred, it is not possible to provide any assurance that they will be representative of actual events. These estimates are intended to provide a general indication of likely future outcomes and should not be construed to represent a precise measure of those outcomes.

⁵⁰ Data Source: Derived from the site layout provided by Recurrent Energy and from parcel data provided on the Harrison County Property Valuation Administrator website.



⁴⁹ Data Source: Kentucky Department of Revenue and Harrison County PVA, 2020 property tax rates. Assumes tax rates remain constant throughout analysis.

EXHIBIT G - CUP Approval



Cynthiana-Harrison Co-Berry Joint Planning Commission 111 South Main Street, Suite 202 Cynthiana, KY 41031 Ph (859) 234-7165 Fax (859) 234-7211 www.harrisonplanning.com

October 26, 2021

From: Bonnie Skinner Director

To: Blue Moon Energy LLC,

Cynthiana, Ky. 41031

Re: Conditional Use approval and conditions.

Dear Blue Moon Energy LLC,

The Harrison County Board of Adjustment approved at its meeting on 10/26/2021 your request of a conditional use for Blue Moon Energy LLC ("Applicant"), a wholly-owned subsidiary of Recurrent Energy, LLC (RE), proposes the following conditions in connection to their Conditional Use Permit application to develop and construct the Blue Moon Solar Project (the "Project"), an approximately 70 MW (AC) photovoltaic (PV") solar energy conversion facility ("Facility") in Harrison County (the "County"), Kentucky.

- 1. **Site Development Plan; Location.** All solar panels and other above-ground equipment will be located within the "Buildable Area" as shown on the Conceptual Site Plan included with the CUP application.
- 2. **Height.** Permanently installed solar equipment, excluding MET stations, utility poles, antennas, and substation equipment, shall not exceed twenty (20) feet in height.
- 3. **Setbacks.** Except for fencing and any pole mounted electric lines, consistent with the County ordinance, all above-ground equipment will have a minimum front setback of at least one hundred (100) feet to frontage boundary lines and fifty (50) feet to side and rear boundary lines of any non-participating properties and roadways. No setbacks are required between the boundary lines of parcels that are part of a single project. Above-ground equipment shall be located no closer than 150' from any participating residential structures and no closer than 200' feet from any non-participating landowner.
- 4. Landscaping. Along the perimeter locations shown on the Conceptual Site Plan, the setback will include a vegetative buffer area comprised of existing vegetation and supplemental landscaping consisting of a double row of evergreen trees and shrubs, as needed. Applicant will confer with the agricultural department and communicate with adjoining property owners regarding appropriate landscaping. Trees will size 6 feet in height at planting. Supplemental landscaping will be replaced within six (6) months of death. 100% of all project boundaries shall be buffered.
- 5. **Permanent Storage.** Associated outside storage shall be completely screened with a vegetative buffer from view from all streets and adjacent residential structures.
- 6. **Construction.** All construction activities shall be limited to daylight hours between 7:00 a.m. to 9:00 p.m. and will not be conducted on Sundays unless it is necessary to make up for delays or to meet



Cynthiana-Harrison Co-Berry Joint Planning Commission 111 South Main Street, Suite 202 Cynthiana, KY 41031 Ph (859) 234-7165 Fax (859) 234-7211 www.harrisonplanning.com

deadlines. Construction workers may arrive on site prior to 7 a.m., but construction activities shall not commence until 7 a.m.

- 7. **Stormwater Management.** The Applicant shall prepare stormwater management plans that meet or exceed the Kentucky Stormwater Management Program regulations for all regulated activities at all stages of construction, operation, and decommissioning.
- 8. **Permits.** The Applicant shall obtain all required regulatory permits including, but not limited to, a KPDES General Permit for Stormwater Discharges Associated with Construction Activity and a certificate of construction from the Kentucky State Board on Electric Generation and Transmission.
- 9. **Security.** Following construction of the Project, the Facility shall be fenced and secured with a locked gate. The Project Site shall also be secured during construction. The Facility Owner will install and maintain a permanent perimeter fence that meets the requirements of the National Electrical Safety Code. The perimeter fence will consist of a chain link fence coated in green or black coating.
- 10. **Lighting.** Fixed lighting will be shielded and downward facing to minimize light spillage and shall be motion-activated.
- 11. **Decommissioning.** A Decommissioning Plan shall be prepared by the applicant that includes a commitment to remove above ground solar facility equipment and restore the land to a quality suitable for its previous use upon the end of the project's life. Equipment located below ground may be left in place in accordance with landowner agreements. A Cost Estimate shall be prepared by a an individual or firm with experience or expertise in the costs for removal or decommissioning of electric generating facilities. The Applicant shall post a combination performance and warranty surety in the amount indicated by the Cost Estimate in the form of either a Cash Deposit, Irrevocable Letter of Credit, or Surety Bond. The Decommissioning Plan and associated Cost Estimate will be updated every five (5) years, and the security revised as appropriate. Decommissioning will occur in accordance with Article 23 of the Harrison County Zoning Ordinance within a timeframe of twelve (12) months.
- 12. **Survival.** So long as the Project is operated in conformance with these conditions, the CUP shall continue for the life of the Project.
- 13. **Debris Maintenance.** Ground shall remain free of debris at all times after construction has been completed.
- 14. **Emergency Response.** Prior to construction, the Applicant shall provide a finalized Emergency Response Plan to the local fire district and the County Emergency Management Agency. Applicant will provide training for local emergency responders at their request.
- 15. **Road Repairs.** Damage to public roads caused by construction within 150 feet of the designated access points will be promptly repaired. Ninety days prior to commencement of construction, Applicant shall conduct a pre-construction road survey to document the condition of the pavement and shoulders along roads adjacent to the Project boundary. Applicant will repair damage directly attributable to Facility construction within such area.
- 16. **Sound.** Applicant shall not generate noise in excess of 125 db at the outer boundary of the setbacks required by condition 3. Compliance with this condition shall be sufficient to negate the need for any sound mitigation techniques or equipment during construction. Additionally, compliance with this condition shall provide the Applicant flexibility to place central inverters, panels, and substations, in any project location so long as the 125db limit is maintained during construction and operation.
- 17. **Construction Dust.** Applicant shall produce a plan to control fugitive dust during construction and make said plan available to the County upon request.



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18. **Comment Response.** Applicant shall create a plan to track and address comments or concerns from adjoining landowners during construction. The plan and tracked information shall be available to the County upon request.