#### COMMONWEALTH OF KENTUCKY

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

In the Matter of:

ELECTRONIC APPLICATION OF	)	
HORSESHOE BEND SOLAR, LLC FOR A	)	
CERTIFICATE OF CONSTRUCTION FOR AN	)	
APPROXIMATELY 60 MEGAWATT	)	CASE NO.
MERCHANT ELECTRIC SOLAR	)	2020-00190
GENERATING FACILITY IN GREEN COUNTY,	)	
KENTUCKY PURSUANT TO KRS 278.700	)	
AND 807 KAR 5:110	)	

# SITING BOARD STAFF'S SECOND REQUEST FOR INFORMATION TO HORSESHOE BEND SOLAR, LLC

Horseshoe Bend Solar, LLC (Horseshoe Bend Solar), pursuant to 807 KAR 5:001, is to file with the Siting Board an electronic version of the following information. The information requested herein is due on March 12, 2021. The Siting Board directs Horseshoe Bend Solar to the March 16, 2020 and March 24, 2020 Orders in Case No. 2020-00085¹ regarding filings with the Siting Board. The Siting Board expects the original documents to be filed with the Commission within 30 days of the lifting of the current state of emergency. All responses in paper medium shall be appropriately bound, tabbed, and indexed. Electronic documents shall be in portable document format (PDF), shall be searchable, and shall be appropriately bookmarked.

Each response shall include the name of the witness responsible for responding to the questions related to the information provided. Each response shall be answered

<sup>&</sup>lt;sup>1</sup> Case No. 2020-00085, Electronic Emergency Docket Related to the Novel Coronavirus COVID-19 (Ky. PSC Mar. 16, 2020), Order at 5–6. Case No. 2020-00085, Electronic Emergency Docket Related to the Novel Coronavirus COVID-19 (Ky. PSC Mar. 24, 2020), Order at 1–3.

under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the preparer or the person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

Horseshoe Bend Solar shall make timely amendment to any prior response if Horseshoe Bend Solar obtains information that indicates the response was incorrect when made or, though correct when made, is now incorrect in any material respect. For any request to which Horseshoe Bend Solar fails or refuses to furnish all or part of the requested information, Horseshoe Bend Solar shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

Careful attention shall be given to copied material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request. When filing a paper containing personal information, Horseshoe Bend Solar shall, in accordance with 807 KAR 5:001, Section 4(10), encrypt or redact the paper so that personal information cannot be read.

- 1. Refer to the supplement to the Section 6 of the Site Assessment Report related to the mitigation measures filed on February 12, 2021.
- a. Describe under what conditions a 120 db sound level at a neighboring residential home would be acceptable.
- b. Provide an equivalent or comparative noise level to 120 db (i.e., jet engine, rock concert).

c. Explain why this unacceptable noise level should not be set at a

lower level such at 55 db.

d. Explain how Horseshoe Bend plans to mitigate noise impacts if they

exceed 120 db as measured at a neighboring home.

2. Refer to the Supplement to Section 6 of the Site Assessment Report related

to mitigation measures. Explain whether decommissioning includes subsurface

structures such as foundation piles for the racking systems. Describe any subsurface

structures that might remain after decommissioning is completed.

3. Since the two historic cemeteries are located within the fence boundaries

(see Site Assessment Report, Appendix A: Preliminary Project Layout), describe any

plans to cut back vegetation periodically.

4. Refer to the questions propounded by Wells Engineering, which are

attached as an Appendix to this information request, and provide responses to those

questions.

Linda C. Bridwell, PE

**Executive Director** 

Public Service Commission on behalf

of the Kentucky State Board on

Generation and Transmission Siting

P.O. Box 615

Frankfort, KY 40602

DATED FEB 26 2021

# **APPENDIX**

APPENDIX TO A REQUEST FOR INFORMATION OF THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING IN CASE NO. 2020-00190 DATED FEB 26 2021

THIRTEEN PAGES TO FOLLOW

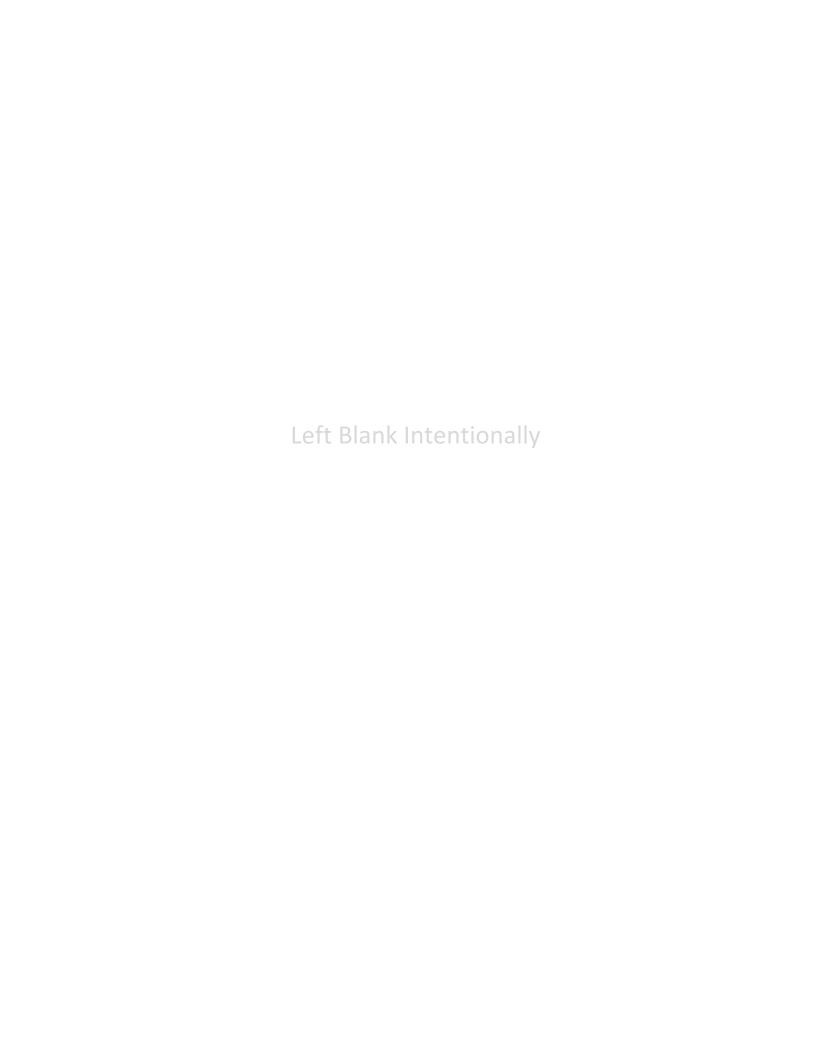


Horseshoe Bend Solar, LLC KY State Board on Electric Generation and Transmission Siting Customer:

Kentucky Public Service Commission

Prepared for:

Quang D. Nguyen





Prepared by:

Vasu Chikkeruru, P.E. Sr. Power Systems Engineer

Reviewed by:

Jim Cook Chief Operating Officer

atrik a Wells

Approved by:

Patrick Wells, P.E. President/CEO

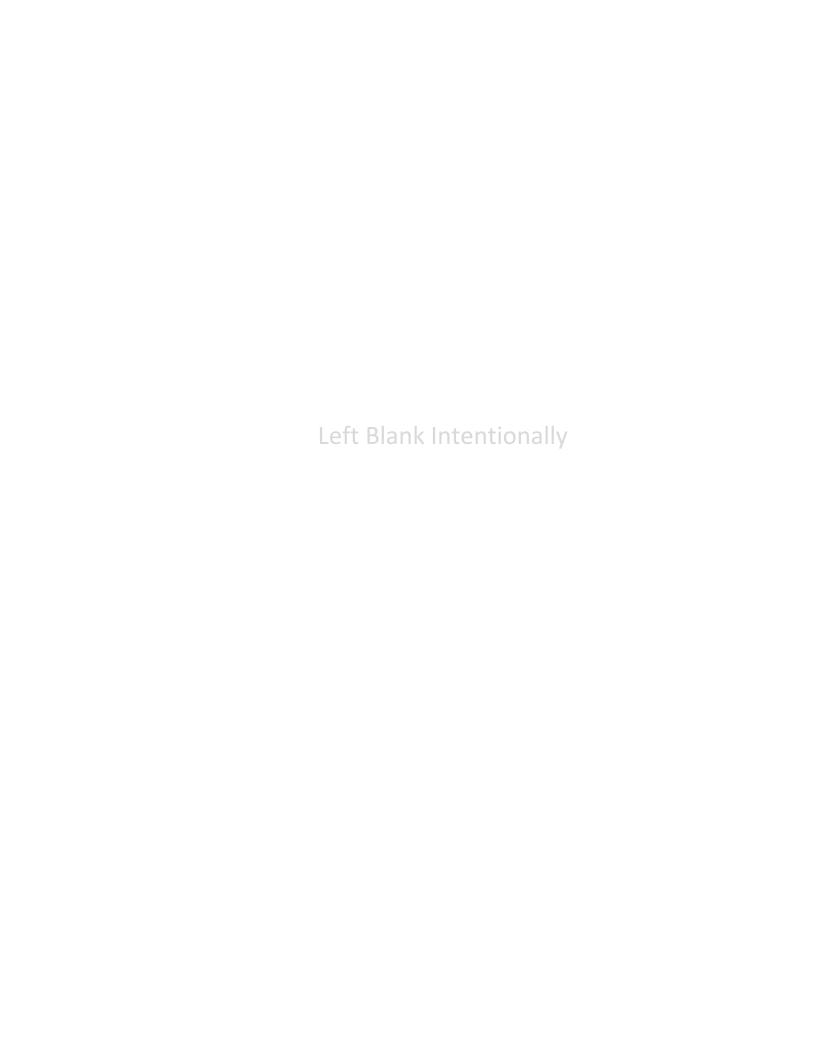
# List of Questions for Data Request-II

# **Synopsis**

This document is a list of questions prepared for the data (or) information to be requested as part of the application process for Solar Electric Generation Plant in Greensburg, KY.

WEPSC Order: WE21021845

Public Service Commission PO: PON2 123 2100001588 Version 2



# **CONTENTS**

Revi	Revision Historyi				
	out Wells Engineering				
1	Introduction				
	Scope				
	Reference Document				
2	List of Questions				
	Questions 1-4	2			
	Questions 5-10	3			
	Questions 11-12	4			

# **REVISIONS**

Revision	Date	Issue	Ву	Description
	Issued	Туре		
0	02-25-2021	For Review	VC	Issue for Review & Record

#### **ABOUT WELLS ENGINEERING**

# **Power Systems Engineering**

Since 2004, Wells Engineering has served utility, industrial, and commercial facilities for all their power needs. Quality and innovation have established Wells as the goto engineering firm specializing in the planning, design, control, and analysis of

electrical power systems. With a great reputation of working closely with our clients and listening to their requests, our team diligently provides solutions that fit every need.

# Our Mission

Our mission is to provide unsurpassed quality engineering service and customer support. We will conduct our business in the most professional manner possible and provide the highest quality product in a timely manner. Our value added engineering will be recognized and provide the opportunity to earn our customers' confidence. We will use proven technology to create advanced power systems designs to support the development of the safest and most reliable systems for our clients.



Wells Engineering delivers innovative solutions aligned with rigid standards and best engineering practices.

# Services

**PLANNING AND STUDIES**. Arc Flash Hazard Analysis • Short Circuit Analysis • Equipment Evaluation Analysis • Coordination Analysis • Load Flow Analysis • Power Factor Correction • Harmonic Analysis • Cable Ampacity Analysis • Motor Starting Analysis • Power Quality Analysis • Voltage Flicker Analysis • Insulation Coordination Analysis • Switching Transient Analysis • Generator Stability Analysis • Ground Mat Analysis • Grounding and Bonding Study • DC Power System Analysis • Project Feasibility Studies

**DESIGN ENGINEERING AND EPC SERVICES**. Generator Protection & Control • T&D Line • Power Substation • Transmission Switching Stations • Gas Insulated Substations • SCADA • Capacitor & Harmonic Filter Banks • Motor Protection & Control • Protection Relaying Schemes • Underground Ductbanks • Unit Substations • LV/MV Motor Control Centers • AC/DC Traction Power Substations • LV/MV Power Cable Distribution • Emergency Generator Integration • ATS Specifications & Design

APPLICATION ENGINEERING. Relay Protection & Control • RTU & RTAC Programming
 Induction Motor Control • Synchronous Motor Control • Capacitor & Filter Banks
 SVC Systems • FACTS/STATCOM • Forensic Investigation • Sequence of Events
 Failure Analysis • Power Systems Planning • Grounding & Bonding • Maintenance
 Planning & Audits • Troubleshooting • Disaster Recovery Plans • Technical Witness

PROJECT AND CONSTRUCTION MANAGEMENT. Equipment Specifications • Bid Document Facilitation • Subcontractor Qualification • Vendor Selection • Construction Estimates • Contract Administration & Implementation • OEM Factory Witness Testing • Resource Management • Master Project Schedule • Material Tracking • Spare Parts Management • Warranty Negotiation • Procurement Leveraging • Cash Flow Management

**TESTING AND COMMISSIONING.** MV/HV/EHV Circuit Breakers • Circuit Switchers • MV Switchgear • GSU & Power Transformers • Capacitor Banks • Harmonic Filter Banks • PTs & CCVTs • CTs • Substation Relay Protection & Control • Overcurrent, Fault Locators, & Distance Relays • Generator Protection Relaying Disconnect Switches • Surge Arrestors • Station Batteries • Grounding Resistors/Reactors/Transformers • Ground Grid • Reclosers • Reactors • Thermography • Relay protection & controls • Substation Commissioning • Predictive & Preventative Maintenance • Field Engineering & Troubleshooting • Arc Flash Hazard Analysis & Training • Refurbishment & Repair Electrical System Upgrades • NERC Compliance Testing

Visit us at www.wellsengineering.com

Horseshoe Bend Solar, LLC
KY State Board on Electric Generation and Transmission Siting



# 1 Introduction

The present document is a list of questions prepared for the request of data (or) additional information in the matter of Application of Horseshoe Bend Solar, LLC for a certificate of construction for an approximate 60MW Merchant Electric Solar Generation Facility near Exie, Green County, KY pursuant to KRS 278.700 & 807 KAR 5:110

# Scope

As part of the application evaluation process Kentucky Public Service Commission has appointed Wells Engineering PSC for providing consultancy services.

The present document is created as part of the Second request for information required as per the order issued for case number.2020-00190, by the commission.

## Reference Document

The following documents are referenced for the creation of this document.

- i. Commonwealth of Kentucky Order for Case no. 2020-00190
- ii. Application Documents for Case No. 2020-00190 by Carolina Solar Energy
- iii. Site Assessment Reports for Case No. 2020-00190 by Carolina Solar Energy
- iv. Responses to Siting Board's First Request for information for Case No. 2020-00190 by Horseshoe Bend Solar, LLC
- v. Kentucky Revised Statutes, KRS 278-706, 708, 710

Horseshoe Bend Solar, LLC

KY State Board on Electric Generation and Transmission Siting



# 2 List of Questions

In this section a detailed list of questions is described.

# Question#1

Electrical One-Line Diagram

Electrical One-line diagram is very important document required for understanding and evaluating the Electrical Power Network and Interconnection of a Power Plant.

Applicant to submit Electrical One-line diagram of the installation.

# Question#2

Project Schedule

Applicant to submit an over-all tentative schedule of the project, starting from the receival of the certificate for construction to the completion of the project.

This document helps in understanding the total time required and the major milestones involved.

## Question#3

Overall Project Layout

Please provide the information on the utilities like Water, Sewer, etc, to be provided to any of the buildings, warehouses, Project offices and Power Stations as applicable to site.

This is required for assessing the capability of the proposed utilities.

## Question#4

Applicant to provide pertinent information for,

At end of life when the system is decommissioned will the area be restored? Will the soil be useful for farming after the demolition of the solar plant after 30 years? If not, will the companies do something to bring the soil back to normal?

Horseshoe Bend Solar, LLC KY State Board on Electric Generation and Transmission Siting



## Question#5

Storage Battery Potential Hazards

Applicant to provide information on the potential hazards associated with the storage batteries if installed and what are the safety precautions taken?

## Question#6

Storage Battery Environmental Impact

Applicant to provide information on the environmental impact these batteries impose if the project is installed with storage batteries.

## Question#7

Cell Phone Towers

Applicant to provide information on any cell phone tower that may be required/constructed for the project.

## Question#8

Fiber Optic Communication & Associated excavation

Applicant to provide information on any fiber optic or any kind of communication network installed as part of the project?

Applicant to provide information on excavation that may be required for the above.

#### Question#9

PV Cell/Solar Panel Manufacturing

Applicant to provide indicative information on where the PV cells/Solar Panels are manufactured and what will be the % of import & % indigenous for the project.

## Question#10

**DOE Compliant Transformer** 

Applicant to provide information on the DOE Compliant transformers used at site.

Horseshoe Bend Solar, LLC
KY State Board on Electric Generation and Transmission Siting



# Question#11

#### Pollinator Maintenance

Applicant to provide compliance on maintaining the pollinators, as long as the plant is in operation.

# Question#12

# Cemetery Access and Maintenance

Applicant to provide compliance on providing permanent public access and maintain the Cemeteries as long as the plant is in operation.



Wells Engineering delivers innovative solutions aligned with rigid standards and best engineering practices.

Visit us at www.wellsengineering.com

\*Horseshoe Bend Solar, LLC 400 West Main Street Suite 503 Durham, NORTH CAROLINA 27701

\*James W Gardner Sturgill, Turner, Barker & Moloney, PLLC 333 West Vine Street Suite 1400 Lexington, KENTUCKY 40507

\*M. Todd Osterloh Sturgill, Turner, Barker & Moloney, PLLC 333 West Vine Street Suite 1400 Lexington, KENTUCKY 40507