

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

In the Matter of:

ELECTRONIC APPLICATION OF FRON BN, LLC)	
(FRONTIER SOLAR) FOR A CERTIFICATE OF)	
CONSTRUCTION FOR AN APPROXIMATELY 120)	
MEGAWATT MERCHANT SOLAR ELECTRIC)	
GENERATING FACILITY AND NONREGULATED)	Case No. 2023-00360
ELECTRIC TRANSMISSION LINE IN MARION AND)	
WASHINGTON COUNTIES, KENTUCKY)	
PURSUANT TO KRS 278.700 AND 807 KAR)	
5:110)	

MOTION FOR DEVIATION FROM SETBACK REQUIREMENTS

FRON bn, LLC (the “Applicant” or “Frontier Solar”), by and through counsel, pursuant to KRS 278.704(4), moves the Kentucky State Board on Electric Generation and Transmission Siting (“Siting Board” or “Board”) for a deviation from the setback requirements in KRS 278.704(2). Specifically, Frontier Solar seeks a deviation from the 2,000-foot setback requirement in KRS 278.704(2) to allow it to place generating equipment no closer than 271 feet from the nearest residential neighborhood and to place inverters no closer than 1,110 feet from the nearest residential neighborhood. In support thereof, Frontier Solar respectfully states as follows:

I. INTRODUCTION

On June 23, 2023, Frontier Solar filed an application for a Certificate to Construct an approximately 120 megawatt utility-scale solar-powered merchant electric generating facility in unincorporated Marion and Washington Counties (the “Frontier Solar Project” or “Project”). Photovoltaic (PV) solar modules are used to convert sunlight into direct current (DC) electricity, which is then converted to alternating current (AC) electricity through inverters. Transformers step up the AC electricity to a higher voltage so that it can connect to the regional transmission grid.

The Project will be situated on approximately 1,411 acres of land, which has historically experienced row crop agriculture, pastureland, and residential uses. The Project footprint, generally the area within the fence line where Project infrastructure will be located, includes approximately 935 acres after site constraints and proposed setbacks.

There is no zoning applicable to the unincorporated portions of Marion and Washington Counties. As such, the Project will not be subject to local zoning regulations.

II. THE 2,000 FOOT SETBACK REQUIREMENT

In relevant part, KRS 278.704(2) establishes setback requirements for merchant electric generating facilities as follows:

Except as provided in subsections (3), (4), and (5) of this section, no construction certificate shall be issued to construct a merchant electric generating facility unless the exhaust stack of the proposed facility and any wind turbine is at least one thousand (1,000) feet from the property boundary of any adjoining property owner and 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.

Without a deviation, all proposed structures or facilities used for the generation of electricity must be located more than 2,000 feet from any residential neighborhood, school, hospital, or nursing home facility. There are no schools, hospitals, or nursing home facilities within 2,000 feet of the proposed structures or facilities used for the generation of electricity.

Per KRS 278.700(6), a “residential neighborhood” is “a populated area of five (5) or more acres containing at least one (1) residential structure per acre.” The following four residential neighborhoods are within 2,000 feet of the proposed structures or facilities used for the generation of electricity:

Neighborhood	Distance to Panel (ft)	Distance to Inverters (ft)	Distance to Substation (ft)
1	700	1,110	8,784
2	271	1,247	10,159
3	1,395	1,751	14,969
4	879	1,400	14,806

Because the Project will not be subject to local zoning regulations, it will be subject to statutory setback requirements in KRS 278.704(3) and permitted to seek deviation from those requirements pursuant to KRS 278.704(4).

III. DEVIATION FROM SETBACK REQUIREMENTS

The Siting Board, pursuant to KRS 278.704(4), may grant a deviation from the 2,000-foot setback requirement in KRS 278.704(2) if “the proposed facility is designed to and, as located, would meet the goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716 at a distance closer than those provided in subsection (2) of this section.” The Board has previously stated that the purpose of the setback requirements in KRS 278.704(2) is to protect property owners from the adverse impacts that might result from the construction of merchant electric generation facilities.¹ With that in mind, the Project has been designed to minimize any adverse impacts on residential neighborhoods that might result from construction of the Project. Additionally, the Project has been designed to and will meet the goals of the statutes referenced in KRS 278.704(4). Thus, deviation from the setback requirements in KRS 278.704(2) is appropriate.

¹ *In the Matter of Application of ecoPower Generation-Hazard, LLC for a Certificate to Construct and Operate a Merchant Electric Generating Facility and a 69KV Transmission Line in Perry County, Kentucky* (the “ecoPower Order”) at 32-33, Case No. 2009-00530 (Ky. P.S.C. May 18, 2010).

IV. DISCUSSION

A. The Project Meets the Goals for Setbacks Identified in KRS 278.704(4)

The Project was designed with the goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.716, 278.718, and 278.700 to 278.716 in mind, and if constructed, will meet those goals as required by KRS 278.704(4).

1. KRS 224.10-280

KRS 224.10-280 provides that, prior to constructing a facility to be used for the generation of electricity, a developer must submit a cumulative environmental assessment (CEA) to the Energy and Environment Cabinet and pay a fee set pursuant to KRS 224.10-100(2). A CEA has been prepared and the results are provided below. The CEA demonstrates that the Project will have limited environmental impact. There have been no regulations promulgated establishing a fee to defray the costs of processing the CEA. As such, no CEA fee is paid.

a. Air Evaluation (KRS 224.10-280(3)(a))

As required by KRS 224.10-280(3)(a), the CEA evaluates the air pollutants to be emitted by the facility and the associated control measures. Solar facilities do not produce any emissions during operation. As such, the Project is not anticipated to emit any of the criteria pollutants or Hazardous Air Pollutants (HAPs). The CEA describes the estimated emissions of each air pollutant. Indirect air emissions from the Project would occur during construction from staging of supplies and operation of construction equipment, worker personnel vehicles, and equipment and supply deliveries, as well as during facility operation from maintenance vehicles, such as trucks used by technicians and equipment used during mowing and other vegetation control. The CEA

describes the air pollution mitigation measures during both construction and operation of the Project. No air emissions permit is required for the Project.

b. Water Evaluation (KRS 224.10-280(3)(b))

KRS 224.10-280(3)(b) requires that the CEA describe the type and quantity of water pollutants that will be discharged to the Waters of the Commonwealth, and the methods that will be used to control those discharges. Site grading and construction activities will be the most likely source of surface water pollutants from the Project. The Project will minimize grading and excavating by incorporating existing topography into the layout to the extent possible. Frontier Solar will conduct Project construction activities under the coverage of the Kentucky Pollutant Discharge Elimination System (KPDES) permit for Stormwater Discharges Associated with Construction Activities (“KYR10 Permit”). The KYR10 Permit requires Frontier Solar to develop and implement a stormwater pollution prevention plan (SWPPP) which will identify best management practices (BMPs), such as silt fences, sediment basins, and buffer zones, that will be followed to minimize impacts associated with construction. Following construction, Frontier Solar will seed all disturbed areas with non-invasive species of ground cover for stabilization and erosion minimization. During operation, the Project will store small quantities of petroleum fuels, lubricants, and fluids, as well as groundskeeping chemicals for use in maintenance and upkeep. These chemicals will be stored inside a building or, if bulk storage is used, in appropriate tanks with secondary containment. Frontier Solar will implement BMPs to minimize the impacts of any spills on groundwater or surface water.

c. Waste Evaluation (KRS 224.10-280(3)(c))

As required by KRS 224.10-280(3)(c), the CEA evaluates the waste to be generated by the facility and the associated control measures. Waste generated during construction activities would

include wooden crates, pallets, cardboard boxes, and other packaging material. Additionally, excess wiring and other random debris could be intermittently produced. Where practical, construction waste material will be recycled and any material that cannot be recycled will be disposed offsite at a permitted facility. Trash and other solid waste generated during operation will also be disposed offsite at a permitted facility. The Project could also generate very small amounts of hazardous waste. The Project would be considered a conditionally exempt small quantity generator (CESQG). Any hazardous waste will be managed offsite at a permitted facility. Finally, portable chemical toilets will be provided for construction workers during development.

d. Water Withdrawal Evaluation (KRS 224.10-280(3)(d))

As required by KRS 224.10-280(3)(d), the CEA identifies the source and volume of anticipated water withdrawal needed to support facility construction and operations, and the CEA describes the methods to be used for managing water usage and withdrawal. As described in the CEA, water will be obtained from several potential sources, including an on or offsite groundwater well, or trucked from an offsite water purveyor. Water use related to construction activities would include site preparation such as dust control and grading activities. Solar electricity operation is not a water-intensive process. Rainfall in the region will suffice to remove dust and other debris from the PV panels. However, water will be used for vegetation management needs, including screening vegetation installation and during prolonged periods of drought. In summary, the Project is designed and located to meet the goals of KRS 224.10-280.

2. KRS 278.010

KRS 278.010 provides a list of definitions to be used in conjunction with KRS 278.010 to 278.450, 278.541 to 278.544, 278.546 to 278.5462, and 278.990. The Board's authority begins with KRS 278.700 and extends through KRS 278.716 and any applicable provision of KRS

278.990. In filing a complete application pursuant to the applicable statutes in this proceeding, Frontier Solar has satisfied the goal of providing the required information utilizing the definition of any applicable term defined in KRS 278.010.

3. KRS 278.212

KRS 278.212 requires the filing of plans for electrical interconnection with a merchant electric generating facility and costs of upgrading the existing grid. Frontier Solar has met the goals of KRS 278.212 because the Project will comply with all applicable conditions relating to electrical interconnection with utilities by following the Louisville Gas & Electric/Kentucky Utilities (LG&E/KU) interconnection process. Additionally, Frontier Solar will accept responsibility for appropriate costs which may result from its interconnecting with the electricity transmission grid. With the Applicant's commitment to comply with KRS 278.212, the proposed facility has been designed and located to meet the goals of KRS 278.212.

4. KRS 278.214

KRS 278.214 establishes a curtailment priority for utilities or cooperatives that provide transmission service in the event that an emergency on its transmission facilities require curtailment. Frontier Solar will abide by the requirements of this provision to the extent that these requirements are applicable. By committing to comply with these requirements Frontier Solar has met the goals anticipated by KRS 278.214.

5. KRS 278.216

KRS 278.216 requires a jurisdictional utility, as defined by KRS 278.010(3), to comply with many of the requirements that are included within KRS 278.700 to 278.716, including the submission of a site assessment report. However, Frontier Solar is not a jurisdictional utility.

Therefore, by complying with the requirements of KRS 278.700 *et seq.*, Frontier Solar has met the requirements and goals of KRS 278.216.

6. KRS 278.218

KRS 278.218 requires approval by the Public Service Commission for change in ownership or control of assets owned by a utility. Frontier Solar is not a utility as described in KRS 278.010(3), and therefore this statute does not apply to Frontier Solar. However, to the extent Siting Board approval may at some time be required for change of ownership or control of assets owned by Frontier Solar, Frontier Solar will abide by the applicable rules and regulations which govern its operation.

7. KRS 278.700 to KRS 278.716

KRS 278.700 to KRS 278.716 are the statutory provisions governing the application for and grant of construction certificates to merchant electric generating facilities. The Board has described the goals of these provisions as ensuring the proposed facility will be constructed and operated in a way that will not intrude upon or unnecessarily disrupt other surrounding land uses including hospitals, nursing homes, residential areas, schools, and parks, or otherwise have adverse environmental impacts which are not otherwise regulated.

Frontier Solar's application includes an evaluation of the issues required by KRS 278.700 to KRS 278.716. Moreover, the Applicant has designed the Project to ensure that, through Project layout and other mitigation measures, it will not intrude on or otherwise disrupt its neighboring landowners. The Project meets the goals of KRS 278.700 to KRS 278.716.

B. The Project's Impact on Residential Neighborhoods will be Minimal

Frontier Solar has designed the Project to minimize impacts on the environment and the neighboring community. The Site Assessment Report (SAR), required by KRS 278.708 and

included as Exhibit F to Frontier Solar’s application, described the Project’s anticipated noise, visual, and traffic impacts.

1. Noise Impacts

SAR Exhibit D includes a thorough evaluation of the anticipated noise impacts of Project construction and operation (“Noise Assessment”). The Noise Assessment considered existing sources of noise at the Project site, noise impacts from Project construction, and noise impacts from Project operations. Existing noise at the Project site consists of vehicular traffic noise from Route 55 and Route 429, and noise from vehicular traffic on other roadways in the area. The Lebanon-Springfield Airport may also occasionally contribute to the area’s existing noise conditions. Additionally, wildlife contributes to local noise conditions including birds, frogs, and insects.

a. Noise During Construction

The Project area has historically been used for agricultural and forestry purposes and the Project parcels are predominately bordered by agricultural farmland with scattered rural homesteads and residential properties. Noise-producing construction activities include pile driving for solar array panel racking as well as demolition and site preparation activities involving grading.

The Noise Assessment identifies multiple pieces of construction equipment that may be utilized during Project construction; the loudest of which is an impact pile driver that could be used to construct foundations for solar panels. The U.S. Department of Transportation describes the typical noise level of an impact pile driver as 101 decibels (“dB”) at 50 feet.²

² FHWA 2006. *Roadway Construction Noise Model User’s Guide*. U.S. Department of Transportation. U.S. Department of Transportation, Federal Highway Administration, FHWA-HEP-05-054, DOT-VNTSCFHWA05-01. January 2006.

Based on current site plans, all sensitive noise receptors located in residential neighborhoods are greater than 271 feet away from locations where pile drivers will operate. Moreover, the noise from construction activities will be limited in duration and will generally occur only during daylight hours. Noise from construction equipment will not result in long-term negative impacts to neighboring landowners.

In addition to noise from construction equipment such as pile drivers, construction of the Project will result in a temporary increase in truck traffic. The Noise Assessment evaluated the potential noise impact from heavy trucks operating in the Project's vicinity and found that the closest residents would experience only a minimal, temporary impact from construction-related truck traffic.

b. Noise During Operation

Noise from the Project during operation will be minimal. Any operational noise will be produced by panel tracking system motors (if utilized), inverters, and transformers. Tracking system motors are small motors used to track the arc of the sun to maximize each panel's solar absorption. Tracking system motors would operate no more than one minute out of every 15-minute period. Based on the current site layout, the noise levels generated from operating the tracking motors, inverters, and transformers would be less than a soft whisper, or 30dBA. Thus, operation of equipment would not be a significant contributor of noise.

2. Visual Impacts

Viewshed impacts to residences in the surrounding area are not expected. SAR Exhibit E is the Project's Glare Analysis ("Glare Study"). Per the Glare Study, red glare is not predicted at any of the Project's assessed viewpoints. Frontier Solar will also employ supplemental vegetative screening in accordance with its Landscape Plan contained in SAR Exhibit A. Additionally,

Frontier Solar has submitted a series of Visual Impact Illustrations that demonstrate the Project will be compatible with the area's scenic surroundings, with limited portions being momentarily visible due to the area's rolling terrain.

3. Traffic Impacts

SAR Exhibit F is the Applicant's Traffic Impact Study ("Traffic Study"). The Traffic Study analyzes the traffic impact during both the construction and operation phases of the proposed facility. The Project will have 6 functional access points; however, the number of workers and the associated construction and delivery truck trips expected during the construction of the Project is not anticipated to adversely impact traffic on these adjoining roads. As operation of the Project will only require a single person to be on site daily, and up to three additional employees as needed for site inspections and repairs, the additional volume of daily traffic will have no measurable impact on traffic and/or transportation infrastructure.

4. Frontier Solar's Mitigation Efforts

The Board should grant this motion for deviation because Frontier Solar has made every effort to protect property owners from all adverse impacts that might result from the construction and operation of the facility. Frontier Solar has had an extensive outreach program to the community generally, and the neighbors specifically, which went above and beyond the statutory and regulatory requirements. The proposed merchant electric generating facility will not produce any emissions, only a negligible amount of noise once constructed, and it will have very minimal visual impacts.

V. PRAYER FOR RELIEF

FRON bn, LLC, has designed the Project to protect the residents of adjacent residential neighborhoods from any potentially adverse impacts of the Project. Additionally, the Project meets the goals of the statutory provisions listed in KRS 278.704(4).

Wherefore, FRON bn, LLC, respectfully requests that the Board:

1. grant the Frontier Solar Project a deviation from the 2,000-foot setback requirement in KRS 278.704(2);
2. allow FRON bn, LLC, to place generating equipment 271 feet from the relevant residential neighborhood; and
3. authorize FRON bn, LLC, to place inverters 1,110 feet from the relevant residential neighborhood.

Respectfully submitted,



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