

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)	CASE NO.
GENERATING FACILITY AND NONREGULATED)	2023-00360
ELECTRIC TRANSMISSION LINE IN MARION)	
AND WASHINGTON COUNTIES, KENTUCKY)	
PURSUANT TO KRS 278.700 AND 807 KAR)	
5:110)	

ORDER

On December 28, 2023, FRON BN, LLC, (Frontier Solar) filed an application with the Kentucky State Board on Electric Generation and Transmission Siting (Siting Board) seeking a construction certificate to construct an approximately 120-megawatt, ground-mounted solar photovoltaic electric generating facility comprising approximately 1,411 acres of land and an approximately 1.7-mile nonregulated transmission line in Marion and Washington counties Kentucky (Project).

There are no intervenors in this matter. Pursuant to a procedural schedule established on January 25, 2024, Frontier Solar responded to two rounds of discovery. A site visit was held on February 23, 2024. Siting Board consultant, Wells Engineering (Wells), filed its report (Wells Report) on March 31, 2024. Frontier Solar submitted its response to the Wells Report on April 14, 2024. A formal hearing was held on April 30, 2024. Frontier Solar filed its responses to post-hearing requests for information on May 17, 2024. The matter now stands submitted for a decision.

LEGAL STANDARD

The filing requirements and standard of review for requests to construct a merchant generating facility are set forth in KRS 278.700–.718.¹ KRS 278.704(1) requires that an application be filed with and approved by the Siting Board before the construction of a merchant electric generating facility can commence. KRS 278.706 requires that the application include evidence of public notice and compliance with local planning and zoning ordinances.

KRS 278.708(2) requires Frontier Solar to prepare a site assessment report (SAR) that includes (1) a detailed description of the proposed site; (2) an evaluation of the compatibility of the facility with scenic surroundings; (3) potential changes in property values and land use resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the site; (4) evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; (5) the impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and any anticipated degradation of roads and lands in the vicinity of the facility; and (6) any mitigating measures to be suggested by Frontier Solar to minimize or avoid adverse effects identified in the SAR.

KRS 278.710(1) delineates the criteria on which the Siting Board will grant or deny the certificate, which include (1) impact on scenic surroundings, property values, and surrounding roads; (2) anticipated noise levels during construction and operation of the

¹ On June 29, 2023, the Kentucky General Assembly enacted modifications to KRS 278.704-KRS 278.710. The modifications to the statutes were not made retroactive by the General Assembly, so this application was reviewed under the laws as of the filing date.

facility; (3) economic impact on the region and state; (4) whether the proposed facility meets all local planning and zoning requirements existing on the date the application was filed; (5) impact of the additional load on the reliability of jurisdictional utilities; (6) setback requirements; (7) efficacy of mitigation measures proposed by Frontier Solar; and (8) whether the applicant has a good environmental compliance history.

PROPOSED FACILITY

The Project will be located on 1,411 acres in Marion and Washington counties, Kentucky. The Project will contain approximately 266,274² photovoltaic solar panels with associated ground-mounted racking, 35 inverters, a collection station, and a substation transformer.³ The Project's generation equipment will connect to the Project's substation via underground electrical wiring.⁴ The Project substation will then interconnect to a proposed 1.7 mile 138 kV transmission line that will connect with the existing 138 kV substation, owned and operated by Louisville Gas & Electric and Kentucky Utilities Company (LG&E/KU) located on Radio Station Road in Lebanon, Kentucky (Lebanon Substation).⁵

² Application, Exhibit G at 5.

³ Application, Exhibit G at 5.

⁴ Application, II, Description of the Proposed Site at 3.

⁵ Application, II, Description of the Proposed Site at 3.

DISCUSSION AND FINDINGS

I. KRS 278.708: SAR Filing Requirements and Mitigation Measures

Mitigation Measures Proposed by Frontier Solar and Siting Board Consultant

As required by KRS 278.708(4), Frontier Solar proposed various mitigation measures consistent with the statutes regarding traffic, noise, roadway preservation, permitting, setbacks, public safety, scenic preservation, and decommissioning.⁶ In accordance with KRS 278.708(5), Wells recommended mitigation measures in the following areas: site development; compatibility with scenic surroundings, road degradation, setback and sound mitigation methods.⁷ Frontier Solar generally agreed with the mitigation measures recommended in the Wells Report but disagreed that Frontier Solar should engage with an historic or archaeologic consultant to monitor the construction process since no sites were identified by the Critical Issues Assessment within the boundaries of the Project.⁸ Frontier Solar also disagreed with Well's conclusion that transmission line associated with the Project is not under the jurisdiction of the Siting Board.⁹

The Siting Board has reviewed the mitigation measures proposed by Frontier Solar and in the Wells Report, and finds that, in addition to those Frontier Solar initially proposed, the mitigation measures set forth in Appendix A to this Order and discussed throughout this Order are appropriate and reasonable because they achieve the statutory

⁶ Application, Exhibit F, SAR at 8-11.

⁷ Wells Engineering Solar Generation Siting and Final Report (Wells Report) (filed March 31, 2024), Section 6.0 at 9-11.

⁸ Frontier Solar's Response to the Consultant's Report (filed Apr. 14, 2024) at 3.

⁹ Frontier Solar's Response to the Consultant's Report at 3.

purpose of mitigating the adverse effects identified in the SAR and the Wells Report in accordance with KRS 278.708.

Detailed Site Description

KRS 278.708(3)(a)(1–6) requires that the detailed site description in the SAR include a description of (1) surrounding land uses for residential, commercial, agricultural, and recreational purposes; (2) the legal boundaries of the proposed site; (3) proposed access control to the site; (4) the location of facility buildings, transmission lines, and other structures; (5) location and use of access ways, internal roads, and railways; and (6) existing or proposed utilities to service the facility.

Frontier Solar submitted the required SAR with its application.¹⁰ The SAR contained a preliminary site plan.¹¹ The site plan included participating parcels, existing roadways, transmission lines, and wetland features. The site plan also contained proposed features of the project including solar array, access roads, facility entrances, setbacks, fencing, MV collection line route, inverter skid locations, O&M structure location, and substation location.¹² Additional maps were provided, which included: a context map depicting parcels and residences within two miles of the Project,¹³ the proposed transmission line route,¹⁴ and a vegetative screening plan.¹⁵ The Project will

¹⁰ Application, Exhibit F, SAR.

¹¹ Application, Exhibit F, SAR.

¹² Application, Exhibit F, SAR.

¹³ Application, Exhibit F, SAR.

¹⁴ Application, Exhibit F, SAR.

¹⁵ Application, Exhibit F, SAR.

not be using railways for any construction or operational activities.¹⁶ Approximately 225 acres of vegetation clearing is contemplated in the preliminary site design.¹⁷ Any clearing activities will be initiated after the Project has obtained a KYR10-Stormwater Construction General Permit from the Kentucky Division of Water.¹⁸ Frontier Solar will coordinate with USFWS regarding protected bat species located on and near the site once the final amount of proposed tree clearing has been determined.¹⁹ Frontier Solar is aware of several existing structures that are planned to be removed before or during construction.²⁰ Frontier Solar is coordinating with these properties' respective landowners to make a decision on removal before full engineering design is completed in 2025.²¹ Multiple studies were submitted as part of the application, including a Road Traffic Evaluation,²² a Glare Analysis Study,²³ a Critical Issues Analysis (CIA),²⁴ and a Geotechnical Report.²⁵ The legal boundaries of the proposed site were described in the application and in maps of tax parcels.²⁶

¹⁶ Application, Exhibit F, SAR, Section V, Effect on Road, Railways and Fugitive Dust, Item 25.

¹⁷ Frontier Solar's Responses to Siting Board Staff's First Request for Information (Staff's First Request) (filed Feb. 24, 2024), Item 14.

¹⁸ Frontier Solar's Responses to Siting Board Staff's First Request, Item 14.

¹⁹ Frontier Solar's Responses to Siting Board Staff's First Request, Item 24.

²⁰ Frontier Solar's Responses to Siting Board Staff's First Request, Item 13.

²¹ Frontier Solar's Responses to Siting Board Staff's First Request, Item 13.

²² Application, Exhibit F, SAR, Exhibit F.

²³ Application, Exhibit F, SAR, Exhibit E.

²⁴ Frontier Solar's Second Supplemental Response to Siting Board Staff's First Request (filed Mar. 26, 2024), Item 33.

²⁵ Frontier Solar's Responses to Siting Board Staff's First Request, Item 33.

²⁶ Application, Exhibit F, SAR, Exhibit C.

The Project's generation equipment will connect to the Project's substation via underground electrical wiring.²⁷ The Project substation will then interconnect to a proposed 138 kV transmission line that will connect with the existing 138 kV substation, owned and operated by LG&E/KU located on Radio Station Road in Lebanon, Kentucky.²⁸ There will be one transformer onsite and an 8,739-foot (1.7-mile) overhead transmission line with one substation.²⁹ A fence meeting National Electrical Safety Code (NESC) requirements, typically a seven-foot fence, will secure the facility.³⁰ A farm friendly fence with wooden posts and a wire mesh is being proposed to enclose the solar panels and associated infrastructure.³¹ The perimeter security fence will be installed in accordance with NESC Section 11, Rule 110A prior to commencing any electrical work.³² A fence meeting the NESC requirements, typically a six-foot chain link fence with three strings of barbed wire at the top, will enclose the Project's substation.³³ The Project will comply with federal, state, and local regulations as applicable in determining safety signage locations around the facility.³⁴ Project security measures will include substation fencing, security cameras, controlled gate access, and cyber security via NERC CIP compliance.³⁵

²⁷ Application, II, Description of the Proposed Site

²⁸ Application, II, Description of the Proposed Site.

²⁹ Application, II, Description of the Proposed Site.

³⁰ Application, Exhibit F, SAR, Exhibit F.

³¹ Application, Exhibit F, SAR, Exhibit F.

³² Frontier Solar's Responses to Siting Board Staff's First Request, Item 11.

³³ Application, Exhibit F, SAR, Exhibit F.

³⁴ Application, Exhibit F, SAR, Exhibit F.

³⁵ Frontier Solar's Responses to Siting Board Staff's First Request, Item 12.

Limited water and electric service may be required to provide for the operations and maintenance building and is anticipated to be provided by Inter-County Energy Cooperative or Salt River Electric.³⁶ Additional water resources will be obtained from onsite wells or trucked in from an offsite water purveyor.³⁷

The site consists of 21 parcels leased from 15 landowners.³⁸ All parcels are located in areas without local zoning requirements.³⁹ The properties include primarily pasture lands with some row crops; vegetation is sparse aside from forested riparian areas generally associated with Cartwright Creek and Jackson Branch with ephemeral and intermittent streams crossing the properties.⁴⁰ Topography within the area is generally characterized by rolling hills.⁴¹ Many of the delineated onsite waters (streams and wetlands) do not fall under the jurisdiction of the United States Army Corps of Engineers because they lack surface water connections to jurisdictional features.⁴² The adjoining residential and agricultural uses by acreage show 3.65 percent of acreage is residential, 39.17 percent is agricultural, and 57.18 percent is agricultural/residential.⁴³ The Project is not located on the site of a former coal processing plant, will not use any onsite waste coal as a fuel source, and will not include any exhaust stacks or wind

³⁶ Application, Exhibit F, SAR, Exhibit F.

³⁷ Application, Exhibit F, SAR, Exhibit F.

³⁸ Application, II, Description of the Proposed Site.

³⁹ Application, II, Description of the Proposed Site.

⁴⁰ Application, II, Description of the Proposed Site.

⁴¹ Application, II, Description of the Proposed Site.

⁴² Application, II, Description of the Proposed Site.

⁴³ Application, Exhibit F, SAR.

turbines as part of the facility, nor does the Project site contain any existing electricity-generating facilities.⁴⁴ Frontier Solar filed a motion for deviation from statutory setbacks, seeking 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 1,130 feet from the nearest residential neighborhood.⁴⁵ Frontier Solar identified four residential neighborhoods within 2,000 feet of the proposed structures or facilities used for the generation of electricity.⁴⁶ The Project does not have any school, hospital, or nursing home facility within 2,000 feet from facilities to be used for generation of electricity.⁴⁷

Having reviewed the record of this proceeding, the Siting Board finds that Frontier Solar has complied with the requirements for describing the facility and a site development plan as required by KRS 278.708. With this finding, as noted above, the Siting Board does not intend this to be acceptance of the totality of the filings and reminds applicants of the importance of a thorough application and expected reports. However, the Siting Board finds that it is necessary to impose specific mitigation measures and requirements related to the description of the facility and the proposed site development plan. The Siting Board will require that Frontier Solar keep the Siting Board apprised of changes throughout the development of the Project and, as such, will order Frontier Solar to provide the final site plan before the commencement of construction for both the solar

⁴⁴ Application, II, Description of the Proposed Site.

⁴⁵ Motion for Deviation from Statutory Setbacks (filed Mar. 11, 2024) and Amended Motion and Renewed Motion for Deviation from Statutory Setback (filed on May 17, 2024.) Frontier Solar found a 20-foot discrepancy regarding the distance to the nearest project inverter.

⁴⁶Amended Motion for Deviation from Statutory Setbacks.

⁴⁷ Amended Motion for Deviation from Statutory Setbacks, Neighborhood Map.

and transmission facilities. The final site plan filed with the Commission should identify and highlight any change, including those to the design and boundaries of the Project, from the proposed site plan provided to the Siting Board during the pendency of this matter. Furthermore, based on the findings and proposals of the Wells Report, the Siting Board finds that additional mitigation measures are required. These mitigation measures are outlined in Appendix A to this Order and, in particular mitigation measures 1 through 9.

Compatibility with Scenic Surroundings

Frontier Solar indicated that the Project site is generally pasture lands with row crops with rolling hills the in the area of Marion and Washington counties.⁴⁸ Frontier Solar indicated that it will mitigate the visual impacts of the facility by utilizing the topography of the land and the addition of vegetative buffers.⁴⁹ Vegetative buffers of tree species will be a minimum of four feet tall when planted and spaced six feet apart.⁵⁰ Wells reviewed and evaluated the SAR and stated that data and conclusions contained in the SAR complied with the statutory requirements for compatibility with scenic surroundings required by KRS 278.708.⁵¹

Having reviewed the record, the Siting Board finds that, while there will always be an impact on the scenery of neighboring properties, the impact of this Project will be minimal. The proposed vegetative buffer, along with other mitigation measures proposed by Frontier Solar and Wells, will minimize the effect that the proposed facility will have on

⁴⁸ Application, at 2.

⁴⁹ Application, Exhibit F, SAR at 5.

⁵⁰ Application, Exhibit F, SAR at 5-6.

⁵¹ Wells Report at 6.

the scenic surroundings of the site. However, the Siting Board will require mitigation measures in addition to those proposed by Frontier Solar. Those are set forth in Appendix A to this Order and, in particular mitigation measures 10 through 14.

Impact on Property Values

Frontier Solar submitted a property value impact report conducted by Kirkland Appraisals (Kirkland Report), a certified real estate appraiser.⁵² The Kirkland Report found that, based upon a comparative analysis the solar facility will have no impact on the property values of abutting or adjoining residential or agricultural properties.⁵³ The report indicated that the solar facility would function in a harmonious manner with the nearby surroundings, which is mostly agricultural, and that operation of the Project would not generate the level of noise, odor, or traffic to negatively impact the nearby surroundings as compared to a fossil fuel generating facility or other industrial facilities.⁵⁴

The Wells Report provided a review and analysis by Clark Toleman, MAI, on the Kirkland Report and its findings.⁵⁵ Mr. Toleman analyzed the paired sales analysis prepared by the Kirkland Report to determine that there is a strong indicator that the proximity to a solar facility has a neutral impact on adjoining property values with proper setbacks and landscaped buffers.⁵⁶ The Wells Report concluded that the Kirkland Report

⁵² Application, Exhibit F, SAR, Exhibit B at 2.

⁵³ Application, Exhibit F, SAR, Exhibit B at 2.

⁵⁴ Application, Exhibit F, SAR, Exhibit B at 2 and 109.

⁵⁵ Wells Report, Attachment B.

⁵⁶ Wells Report Attachment B at 8.

was credible and representative of the market conditions that would exist if the Project is constructed.⁵⁷

Having reviewed the record, the Siting Board finds sufficient evidence to conclude that the proposed Frontier Solar facility will not have any significant adverse impact on nearby property values so long as proper mitigation measures are implemented. The characteristics of the solar facility's operations are passive, and the facility will be temporary, with the land returned to its natural state after a few decades of operation. The facility does not produce any air, noise, waste, or water pollution, nor does it create any traffic issues during operations.

Anticipated Noise Level

Frontier Solar's Noise Assessment Report was completed by Environmental Resources Management, Inc. (ERM).⁵⁸ ERM used representative noise levels from the Federal Highway Administration's Roadway Construction Noise Model.⁵⁹ ERM stated the estimated maximum noise levels during construction will occur during pile driving, and estimated that at the closest receiver, 350 feet from the closest panel, would have noise levels during pile driving of 81 decibels A-weighted scale (dBA).⁶⁰ Construction related activity is expected to occur between 8 a.m. and 8 p.m.⁶¹

⁵⁷ Wells Report at 62.

⁵⁸ Application, Exhibit F, SAR, Exhibit D, Noise Assessment Report.

⁵⁹ Application, Exhibit F, SAR, Exhibit D, Noise Assessment Report at 11.

⁶⁰ Application, Exhibit F, SAR, Exhibit D, Noise Assessment Report at 9.

⁶¹ Application, Exhibit F, SAR, Exhibit D, Noise Assessment Report at 10.

ERM found operational noise will emanate from inverters and transformers.⁶² Based on ERM's operational sound modeling the highest sound level at nearby sensitive receptors was 55 dBA.⁶³ ERM stated that the Project generated noise levels for daytime and nighttime operation are estimated to be below the USEPA's recommended protective noise level of 48.6 dBA for 24-hour operation.⁶⁴ ERM concluded that no one Noise Sensitive Area will be exposed to the same sound levels over an extended period of time, as construction progresses through the site.⁶⁵ Wells evaluated the Noise Assessment Report conducted by ERM and concluded that the Project's construction phase will produce the highest noise levels especially during pile-driving activity. Wells also concluded that the worst-case maximum noise [Lmax (dBA)] expected to occur at the nearest receptor during construction (NSA 17) is 81 dBA.⁶⁶

In its SAR, Frontier Solar detailed noise mitigation measure.⁶⁷

Construction noise mitigation measures may include measures such as maintaining construction equipment to ensure proper operation and routinely checking vehicles using internal combustion engines equipped with mufflers to ensure they are in good working order; locating noisy equipment as far as reasonably practicable from noise-sensitive areas and residences; and implementing a complaint resolution program during construction to address any noise-related issues. Potential noise from piling and other construction activities will be mitigated by implementing a phased construction schedule and limiting noise-causing activities to certain hours.

⁶² Application, Exhibit F, SAR, Exhibit D, Noise Assessment Report at 4-5.

⁶³ Application, Exhibit F, SAR, Exhibit D, Noise Assessment Report at 7.

⁶⁴ Application, Exhibit F, SAR, Exhibit D, Noise Assessment Report at 7.

⁶⁵ Application, Exhibit F, SAR, Exhibit D, Noise Assessment Report at 10.

⁶⁶ Wells Report at 7.

⁶⁷ Application, Exhibit F, SAR, Exhibit F at 29.

The Siting Board finds that noise from the construction phase will be intermittent and temporary but will be significant to the nearest residences. As indicated by ERM and Wells the noise will be loudest during the construction phase but will not be permanent to nearby residents. The Siting Board further finds that the operational noise from inverters and the main transformer should have little to no effect on residences in the area.

Based on the case record, the Siting Board finds that Frontier Solar's application is in compliance with the statutory requirements for disclosing noise levels. However, the Siting Board further finds that, based on the entire record, to ensure the impact of construction noise does not unduly impact nearby residents, Frontier Solar will be required to implement specific mitigation measures to ensure the impact of construction noise does not unduly impact nearby residents. The mitigation measures implemented by the Siting Board are designed to limit the effects of construction noise by controlling the hours of construction in general, as well as the time and manner pile driving can occur. The Siting Board will require Frontier Solar to mitigate construction noise up to 1,000 feet to ensure the surrounding community is not negatively impacted by the construction noise. Frontier Solar may forego noise suppression if it employs a panel installation method that does not involve pile driving, so long as the method does not produce noise levels similar to pile driving. These mitigation measures are further outlined in Appendix A to this Order, specifically mitigation measures 15 through 18.

Impact on Roads, Railways, and Fugitive Dust

Construction is anticipated to take 22 months.⁶⁸ ERM concluded that, based on the roadway conditions, the locations of the access points and the average daily traffic on KY 55, the anticipated construction traffic would not exceed the roadway capacity of KY 55.⁶⁹ During the construction phase, additional traffic is not anticipated to result in traffic delays or congestion.⁷⁰ The site is located west of Kentucky State Highway 55 (KY 55) and east of Kentucky Highway 429.⁷¹ The primary state highway providing access to the Project area will be KY 55 to the east of the project site.⁷² Other affected roadways include Kentucky-3165 (Old Lebanon Road), County Road 1214 (Booker Road), Moraja Lane, Jackson Branch Lane and Jackson Branch Spur, McLain Road, Jenny Road, Kentucky-2154 (Veterans Memorial Highway), US Highway 150, (US 150) and US Highway 68 (US 68).⁷³

During the operational phase of the Project, traffic will be limited to three to five monthly site visits for inspection and maintenance.⁷⁴ The operational phase will have little impact on the roads and traffic.⁷⁵

⁶⁸ Application, Exhibit F, SAR, Exhibit F at 6.

⁶⁹ Application, Exhibit F, SAR, Exhibit F at 7.

⁷⁰ Application, Exhibit F, SAR, Exhibit F at 7.

⁷¹ Application, Exhibit F, SAR, Exhibit F at 2.

⁷² Application, Exhibit F, SAR, Exhibit F at 2.

⁷³ Application, Exhibit F, SAR, Exhibit F at 2-3.

⁷⁴ Application, Exhibit F, SAR, Exhibit F at 6.

⁷⁵ Application, Exhibit F, SAR, Exhibit F at 6.

The Siting Board finds that traffic and road degradation issues can be addressed with Frontier Solar's mitigation measures, the additional measures proposed by Wells, and mitigation measures set forth in Appendix A to this Order and in particular, mitigation measures 19 through 27.

The Siting Board anticipates some fugitive dust from the construction phase. Frontier Solar stated that it will mitigate the dust from the construction by utilizing best management practices that include revegetation measures, covering soil piles and application of water as necessary⁷⁶. Dust will not be a factor during the operations phase. The project will not use railways during construction or operation.⁷⁷

The Siting Board requires additional mitigation measures to reduce any potentially harmful effects on the area, which are outlined in Appendix A to this Order. The Siting Board will require Frontier Solar to inform the Siting Board and the Energy and Environment Cabinet (EEC) of the date construction will commence, 30 days prior, to ensure the proper permits have been obtained and whether proper steps have been taken to comply with the mitigation measures set forth in Appendix A to this Order.

II. KRS 278.710(1) Criteria

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

⁷⁶ Application, Exhibit F, SAR at 8.

⁷⁷ Application, Exhibit F, SAR Exhibit F at 8.

Economic Impact on Affected Region and the State

According to Frontier Solar's economic impact report from Mangum Economics, the total capitalized investment is estimated at \$149.4 million with approximately \$68.9 million⁷⁸ invested in Marion and Washington counties and the Commonwealth of Kentucky, with 30 percent of this total going to vendors within the state.⁷⁹ The projected local total includes architecture, engineering, site preparation and other development and construction costs.⁸⁰ The project is expected to generate significant positive economic and fiscal impacts to Marion and Washington counties. Such impacts include the creation of hundreds of construction jobs and the expansion of the local tax base. The project will be conducted in two phases: a construction phase and an operation phase.⁸¹

The IMPLAN model used for the economic impact analysis focused on both Marion and Washington counties and the Commonwealth of Kentucky as a whole.⁸² During the project construction phase, Frontier Solar estimates that approximately 29 construction job years will be created over the construction period in Marion and Washington counties with labor income of approximately \$1.5 million and an economic output of \$13.3 million.⁸³ The indirect and induced economic impacts are estimated to contribute another 29 job years with approximately an additional \$1.1 million of labor income and \$4.4 million in

⁷⁸ Application, Exhibit E. All estimates in this section are in 2023 dollars.

⁷⁹ Application, Exhibit E at 14.

⁸⁰ Application, Exhibit E at 14. The balance of the total construction cost (approximately \$80.5 million) is to be spent on capital equipment and associated costs from vendors outside Marion and Washington counties and Kentucky.

⁸¹ Application, Exhibit E at 2.

⁸² Application, Exhibit E at 14.

⁸³ Application, Exhibit E at 14.

economic output.⁸⁴ The total construction phase economic impact is estimated to be 58 total job years with labor income of \$2.6 million and economic output of \$17.8 million.⁸⁵ In addition, the above economic activity is estimated to generate approximately \$0.5 million in state and local tax revenue.⁸⁶

For the Commonwealth of Kentucky, as a whole, the direct construction phase economic impact is the creation of approximately 45 construction job years with labor income of approximately \$2.5 million and an economic output of \$16.8 million.⁸⁷ The indirect economic impacts are estimated to contribute another 106 job years with an additional approximate \$4.8 million in labor income and \$16.0 million in economic output.⁸⁸ The total construction phase economic impact is estimated to be 151 total job years with labor income of \$7.3 million and economic output of \$32.8 million.⁸⁹ In addition, the above economic activity is estimated to generate approximately \$1.2 million in state and local tax revenues.⁹⁰

The ongoing economic impact from the project's operational phase is estimated to be very small relative to the one-time impacts from the construction phase. For Marion and Washington counties alone, the ongoing operational phase of the project is expected to directly support one job with labor income of \$0.1 million and an economic impact of

⁸⁴ Application, Exhibit E at 15 and Table 1 at 15.

⁸⁵ Application, Exhibit E at 14-15 and Table 1 at 15.

⁸⁶ Application, Exhibit E at 14.

⁸⁷ Application, Exhibit E at 16 Table 2.

⁸⁸ Application, Exhibit E Table 2 at 15.

⁸⁹ Application, Exhibit E at 15.

⁹⁰ Application, Exhibit E Table 2 at 15.

\$0.3 million.⁹¹ The indirect and induced economic activity from the operational phase is expected to support three jobs, with labor income of \$0.1 million and an economic output of \$0.5.⁹² The total economic activity from the operational phase is expected to support four jobs, with a combined payroll of \$0.2 million and an economic output of \$0.8 million.⁹³

For the Commonwealth of Kentucky as a whole (including Marion and Washington counties), the ongoing operational phase of the project is expected to directly support three jobs with labor income of approximately \$0.2 million and an economic impact of \$0.5.⁹⁴ The indirect economic activity from the operational phase is expected to support five jobs, with a total payroll of approximately \$0.2 million and an economic output of \$0.8 million.⁹⁵ The total economic activity from the operational phase is expected to support eight jobs in total, with a combined payroll of approximately \$0.4 million and an economic output of \$1.3 million.⁹⁶

Frontier Solar intends to encourage the Engineering Procurement and Construction (EPC) contractor it hires to incorporate local labor as much as possible during both construction and operation phases for the project.⁹⁷

Frontier Solar does not intend to pursue the negotiation of an Industrial Revenue Bond (IRB) and a Payment in Lieu of Taxes (PILOT) Agreement with Marion and

⁹¹ Application, Exhibit E at 16.

⁹² Application, Exhibit E at 16 and Table 3 at 16.

⁹³ Application, Exhibit E at 16.

⁹⁴ Application, Exhibit E

⁹⁵ Application, Exhibit E at 17 and Table 4 at 17.

⁹⁶ Application, Exhibit E at 17.

⁹⁷ Frontier Solar's Response to Staff's First Request, Item 28.

Washington Counties.⁹⁸ Frontier Solar is currently negotiating a Build Transfer Agreement (BTA) with LG&E/KU in which Frontier Solar develops and constructs the Project and then LG&E/KU will purchase and operate the Project.⁹⁹

Without an IRB and PILOT in place, Marion County is estimated to receive approximately \$60,100 per year for 40 years for a cumulative total of \$2.4 million in local real estate tax revenue.¹⁰⁰ Washington County is estimated to receive \$67,900 per year for 40 years for a cumulative total of approximately \$2.7 million in local real estate tax revenue.¹⁰¹ These values factor in both taxes to the land itself and improvements to the land because of the Project. Marion County is additionally estimated to receive a total of approximately \$1.6 million over the 40-year life of the project in Tangible Personal Property Tax revenue, while Washington County is estimated to receive approximately \$1.9 million.¹⁰²

The Commonwealth of Kentucky is estimated to receive approximately \$17,500 per year for 40 years for a cumulative total of approximately \$0.7 million in state real estate tax revenue.¹⁰³ These values factor in both taxes to the land itself and improvements to the land because of the Project.¹⁰⁴ The Commonwealth of Kentucky is estimated to receive a total of approximately \$2.4 million over the 40-year life of the

⁹⁸ Frontier Solar's Response to Staff's First Request, Item 27.

⁹⁹ Frontier Solar's Responses to Siting Board Staff's Second Request for Information (Staff's Second Request) (filed Mar. 1, 2024), Item 27.

¹⁰⁰ Application, Exhibit E at 19 and Table 5 at 20.

¹⁰¹ Application, Exhibit E at 19 and Table 5 at 20.

¹⁰² Application, Exhibit E at 21 and Table 6 at 22-23.

¹⁰³ Application, Exhibit E at 19 and Table 5 at 20.

¹⁰⁴ Application, Exhibit E at 19.

project in machinery property tax revenue.¹⁰⁵ Additionally, the Commonwealth of Kentucky is estimated to receive a total of approximately \$1.8 million over the 40-year life of the project in Tangible Personal Property Tax revenue.¹⁰⁶

No in-depth analysis on supplemental tax income for Marion and Washington counties and the Commonwealth of Kentucky was conducted.

For comparison purposes, the project site can be evaluated to see what the economic impact and tax revenues would be if the site remained in agricultural use. The site remaining in agricultural use annually supports in total 6 jobs, with approximately \$239,900 in labor income and \$763,500 in economic output for Marion and Washington counties.¹⁰⁷ The site being used for agricultural use would generate approximately \$4,800 per year for 40 years, yielding approximately \$192,100 in total local tax revenue for Marion and Washington counties.¹⁰⁸ The site in agricultural use would also generate approximately \$570 per year for 40 years, yielding \$22,800 in total tax revenue for the Commonwealth of Kentucky.¹⁰⁹

Mark Watters of Watters Unclaimed Property Consulting LLC was contracted by Wells to evaluate the economic impact of the project.¹¹⁰ Based upon its review and analysis, the Wells Report concluded that the project will provide significant positive

¹⁰⁵ Application, Exhibit E at 24 and Table 7 at 24.

¹⁰⁶ Application, Exhibit E at 21 and Table 6 at 22-23.

¹⁰⁷ Application, Exhibit E at 27 and Table 9 at 27.

¹⁰⁸ Application, Exhibit E at 28 and Table 10 at 28.

¹⁰⁹ Application, Exhibit E at 28 and Table 10 at 28.

¹¹⁰ Wells Report, Attachment C.

economic effects to the region and Commonwealth during the construction and operations phases of the project.¹¹¹

Having reviewed the record, the Siting Board finds that the Frontier Solar facility will have a positive economic impact on the region.

Existence of Other Generating Facilities

Frontier Solar indicated there are no existing facilities near the proposed site that generate electricity.¹¹² Frontier Solar stated that the Project was sited in a location with proximity to existing transmission infrastructure,¹¹³ and that the Project will tap into an existing Lebanon Substation 138 kV transmission line.¹¹⁴

Local Planning and Zoning Requirements

Marion and Washington counties do not have Planning and Zoning and have not enacted zoning ordinances or setback requirements.¹¹⁵ The statutory requirements of KRS 278.706(2)(e) apply unless a deviation is applied for and granted by the Siting Board. KRS 278.706(2)(e) requires that all proposed structures or facilities used for generation of electricity must be 2,000 feet from any residential neighborhood, school, hospital, or nursing home facility. This Project will be closer than that to a residential neighborhood, but there are no school, hospitals, or nursing homes within 2,000 feet.¹¹⁶

Impact on Transmission System

¹¹¹Wells Report, Attachment C at 8-9.

¹¹² Application at 9.

¹¹³ Application at 10.

¹¹⁴ Application at 10.

¹¹⁵ Frontier Solar's Notice of Intent (filed Nov. 7, 2023).

¹¹⁶ Frontier Solar's Amended Motion for Deviation from the Setback Requirements.

The project is located within the territory of LG&E/KU.¹¹⁷ Frontier Solar applied for interconnection with LG&E/KU.¹¹⁸ The connecting transmission line will be approximately 1.7 miles in length.¹¹⁹ Frontier Solar will be responsible for any costs associated with interconnection.¹²⁰ A System Impact Study, Feasibility Study, and Facility Study have been completed.¹²¹

Frontier Solar filed an interconnection request with LG&E/KU and have completed all phases of LG&E/KU studies.¹²² Frontier Solar provided the LG&E/KU Feasibility Study Report, LG&E/KU System Impact, and LG&E/KU Facilities Study Report.¹²³ PJM affected Systems Studies have also been completed.¹²⁴

Based upon the case record, the Siting Board finds that Frontier Solar has satisfied the requirements of KRS 278.710(f) and that the additional load imposed upon the electricity transmission system by the generation of electricity at Frontier Solar's facility will not adversely affect the reliability of service for retail customers of electric utilities regulated by the Kentucky Public Service Commission. This finding is based upon

¹¹⁷ Application at 10.

¹¹⁸ Hearing Video Testimony (HVT) of the April 30, 2024 hearing, Joseph Albrecht Testimony (Albrecht Testimony) at 09:40:14-25.

¹¹⁹ Application at 10.

¹²⁰ HVT of the April 30, 2024 hearing, Albrecht Testimony at 09:40:01-07.

¹²¹ Application at 14. See Application, Attachment G for the complete Feasibility Study, System Impact Study and Facilities Study and HVT of April 30, 2024 hearing, Albrecht Testimony at 09:40:25-27.

¹²² HVT of the April 30, 2024 hearing, Albrecht Testimony at 09:40:17-25.

¹²³ Application, Exhibit D.

¹²⁴ HVT of the April 30, 2024 hearing, Albrecht Testimony at 09:40:31-35.

Frontier Solar’s commitment to the interconnection process and protocols consistent with the requirements of KRS 278.212.

Compliance with Setback Requirements

Neither Marion nor Washington counties have any planning nor zoning, and neither has enacted any zoning ordinances or setback requirements.¹²⁵ The statutory requirements of KRS 278.706(2)(e) require that all proposed structures or facilities used for electric generation be setback by at least 2,000 feet from any residential neighborhood, school or hospital or nursing home facility.¹²⁶ KRS 278.700(6) defines “residential neighborhood” as a populated area of five or more acres containing at least one residential structure per acre.¹²⁷ KRS 278.704(4) authorizes the Siting Board to grant a deviation from the setback requirements in KRS 278.706(2)(e) if requested.¹²⁸ Frontier Solar has requested a deviation from the setback requirements in KRS 278.706(2)(e).¹²⁹ Frontier Solar stated that there are four residential neighborhoods within 2,000 feet of the project’s boundaries.¹³⁰

Of the four residential neighborhoods, residential neighborhood 2 (Neighborhood2) is the closest.¹³¹ The projects fencing is proposed to be 166 feet from

¹²⁵ Frontier Solar’s Notice of Intent.

¹²⁶ KRS 278.706(2)(e).

¹²⁷ KRS 278.700(6).

¹²⁸ KRS 278.704(4).

¹²⁹ Frontier Solar’s Amended and Renewed Motion for Deviation from Setback Requirements (Amended Motion for Deviation) (filed May 17, 2024).

¹³⁰ Amended Motion for Deviation at 3.

¹³¹ Frontier Solar’s Response to Commission Staff’s Post-Hearing Request for Information (Staff’s Post-Hearing Request) (filed May 17, 2024), Item 6.

the closest residence in Neighborhood 2. The closest solar panel is proposed to be 273 feet from the closet residence in Neighborhood 2. Residential neighborhood 1 (Neighborhood 1) and Neighborhood 2 are the closest to the project's inverters.¹³² The closest inverter is 1,347 feet from the closest home in Neighborhood 1 and 1,264 feet from the closet home in Neighborhood 2.¹³³ All neighborhoods are over 8,000 feet from the project's substation.¹³⁴

The Siting Board approves Frontier Solar's proposed setback from residences of 270 feet from any panel or string inverter. The Siting Board also approves a distance of 270 feet between any solar panel or string inverter and any residential neighborhood and 100 feet from any exterior property line. Regardless, the Siting Board finds that Frontier Solar shall not place solar panels or string inverters, if used, closer than 150 feet from any residence, church, or school, 25 feet from non-participating adjoining parcels and 50 feet from adjacent roadways. Frontier Solar shall not place a central inverter, and if used, energy storage systems, closer than 450 feet from any adjacent residences, church, or school. Exceptions to these setbacks for participating landowners are included in Appendix A.

The Siting Board finds, given the totality of the mitigation measures proposed by Frontier Solar, the nature of the surrounding property, and the mitigation measures the Siting Board has imposed in Appendix A, the statutory purposes are met by the project. The Siting Board grants a deviation from this requirement as to residences and residential

¹³² Frontier Solar's Response to Staff's Post-Hearing Request, Item 6.

¹³³ Frontier Solar's Response to Staff's Post-Hearing Request, Item 6.

¹³⁴ Frontier Solar's Amended Motion for Deviation.

neighborhoods as set forth in Appendix A to this Order. Exceptions to these setback requirements for participating landowners, and easement holders are included in Appendix A, mitigation measure 18.

History of Environmental Compliance

In the application, Frontier Solar stated that neither it, nor anyone with an ownership interest in it, has violated any environmental laws, rules, or administrative regulations.¹³⁵ Further, Frontier Solar is not the subject of any pending judicial or administrative actions¹³⁶.

Transfer of Ownership

Solar developments are often sold to other companies during the planning, construction, and operation of projects. When a construction certificate for a solar facility is sought, the project and the developers are thoroughly evaluated to ensure that the project will comply with all statutory and regulatory requirements. After review, the construction certificate is conditionally granted on the condition of full compliance with all mitigation measures, some of which continue into the operation of the project. As noted, in the preceding section, the Siting Board not only reviews the history and abilities of the Person¹³⁷ seeking the certificate, but also the entities that have an ownership interest in the Project.

¹³⁵ Application at 11.

¹³⁶ Application at 11.

¹³⁷ KRS 278.700(3) defines a person as any individual, corporation, public corporation, political subdivision, governmental agency, municipality, partnership, cooperative association, trust, estate, two (2) or more persons having a joint or common interest, or any other entity.

Here, Frontier Solar has no resources or employees of its own, and instead depends on the resources and employees of affiliates or entities with an ownership interest in it. BrightNight, LLC (BrightNight) will employ the persons responsible for compliance with the construction certificate during construction and the persons responsible for the continued compliance during operations.¹³⁸ Without BrightNight, Frontier Solar would not have the managerial, technical, or financial capability necessary to construct or operate the facility, nor to comply with the conditions required herein. As such, the Siting Board will require approval of the transfer of ownership or control of Frontier Solar, the Person seeking and being granted, with conditions, the construction certificate in this matter. Without knowledge of who is providing the resources and employees to Frontier Solar to ensure ongoing compliance with the measures required herein, there is no way to ensure the requirements are adhered to throughout the life of the Project. To be clear, this condition does not apply to the actual transfer of the facility, but rather the transfer of ownership or control of the Person holding the certificate to construct. The measures related to the transfer of ownership or control of the Person holding the construction certificate are set forth more fully in Appendix A, mitigation measure 28.

Decommissioning

Frontier Solar submitted a decommissioning plan with the application.¹³⁹ The decommissioning plan and the applicable property leases contain covenants to remove

¹³⁸ Frontier Solar's Response to Staff's Second Request, Item 26 and HVT of the April 30, 2024 hearing, Albrecht Testimony at 10:14:14-17.

¹³⁹ Application, Exhibit G.

all underground components.¹⁴⁰ Frontier Solar indicated it will secure a bond to assure financial performance of the decommissioning obligation.¹⁴¹

The Siting Board finds that Frontier Solar must return the land to its original use, to the extent possible, at the end of the Project's life. Returning the land back to its original state and use after decades of operation is an important part of the Siting Board's finding regarding the impact of the facilities on scenic surroundings, property values, and the economy. The relatively "temporary" nature of the facilities compared to other types of more permanent development, such as thermal merchant generation facilities, industrial operations, or housing, is a prime consideration of the Siting Board in granting a certificate, with conditions, in this matter. An inability or unwillingness to return the land back to its prior state after the life of the facility, including leaving underground facilities in excess of three feet, increases the permanence of the facility. As such, the Siting Board requires the removal of all components above and below ground. Removal of all underground components and regrading or recompacting the soil for agricultural use will mitigate any damage to the land, thus returning the land to a state that provides at least as great of an economic impact as it does today. The Siting Board will also require additional mitigation measures related to decommissioning, which are outlined in Appendix A to this Order, mitigation measures 29 through 32.

III. Requirements under KRS 278.714

¹⁴⁰ Application, Exhibit G at 5 and Frontier Solar's Response to Staff's First Request, Item 1.

¹⁴¹ Application, Exhibit G at 10.

KRS 278.714(2) directs the Siting Board to consider the following criteria in considering an application for the construction of the unregulated transmission line as proposed by Frontier Solar:

- Location of proposed line and structures to support it;
- Proposed right-of-way limits;
- Existing property lines that will be crossed and names of owners;
- Distance from neighborhoods, schools, public and private parks;
- Voltages and capacities;
- Length of line;
- Terminal points;
- Substation connections; and
- Statement of compliance for construction and maintenance with engineering practices and the NESC.

Full Description of the Proposed Route of Transmission Line

The Project's generation equipment will connect to the Project's substation via underground electrical wiring.¹⁴² The project substation will then interconnect to a 138 kV proposed transmission line that extends 1.7 miles to interconnect to the Lebanon Substation that is owned and operated by LG&E/KU located on Radio Station Road in Lebanon, Kentucky.¹⁴³ The transmission line will be interconnected to the existing substation via a 138 kV circuit breaker.¹⁴⁴ Frontier Solar has filed several maps for the proposed transmission line route.¹⁴⁵

Detailed Description of the Proposed Transmission Line and Appurtenances

¹⁴² Application at 3.

¹⁴³ Application at 3.

¹⁴⁴ Application at 3.

¹⁴⁵ Application, Exhibit A.

KRS 278.714(2)(c) states that a full description of the proposed electric transmission line and appurtenances is required, including the following: initial and design voltages and capacities; length of the line; terminal points; and substation connections.

Frontier Solar submitted a map showing the existing property lines that the proposed transmission line is proposed to cross.¹⁴⁶ Frontier Solar submitted copies of the leases currently procured for the route of the transmission line.¹⁴⁷ During the hearing held on April 30, 2024, Frontier Solar did provide a modification to the route of the transmission line.¹⁴⁸

The Siting Board finds additional requirements are necessary to ensure protections exist in the case the transmission route is different than the route supported by the record of this matter. This will be set forth more fully in Appendix A to this Order, specifically mitigation measure 35-37.

Compliance with National Electrical Safety Code (NESC)

KRS 278.714(2)(d) requires that the Applicant provide a statement that the proposed electric transmission line and appurtenances will be constructed and maintained in accordance with accepted engineering practices and the NESC. Frontier Solar confirmed that the proposed electric transmission line would be built and maintained in accordance with accepted engineering practices and the NESC.¹⁴⁹

Requirements under KRS 278.714(3)

¹⁴⁶ Application, Exhibit A.

¹⁴⁷ Frontier Solar's Response to Staff's First Request, Item 1 and Hearing Exhibit 1.

¹⁴⁸ HVT of the April 30, 2024 hearing, Albrecht Testimony at 09:11:53-09:14:17 and Hearing Exhibit 1.

¹⁴⁹ Application at 3.

The Siting Board is also tasked with examining the following additional criteria in rendering its decision regarding construction of the proposed transmission line.

Scenic Impact

For the proposed non-regulated transmission line, the Project features under consideration for scenic compatibility include the proposed towers to support the transmission line, and the approximately 1.7-mile route of the transmission line from the Project's substation location within the proposed Frontier Solar generating facility to the Lebanon Substation.

Frontier Solar stated that the proposed route of the electric transmission line will not significantly alter the viewshed due to the presence of other existing transmission lines, the rolling topography and the existing vegetation.¹⁵⁰ Frontier Solar stated that it will construct and maintain the line according to accepted engineering practices and the NESC.¹⁵¹

The Siting Board finds that Frontier Solar should discuss potential screening plan agreement with landowners leasing land to Frontier Solar for the transmission line to determine any screening strategies that might mitigate and reduce the visual impact to the affected residences and continue to address complaints through construction phase of the transmission line.

Compliance with all Legal Requirements

KRS 278.714(3) frames the decision to be made by the Siting Board for proposed nonregulated transmission lines:

¹⁵⁰ Application, Exhibit F, SAR at 6.

¹⁵¹ Application, at 3.

Action to grant the certificate shall be based on the board's determination that the proposed route of the line will minimize significant adverse impact on the scenic assets of Kentucky and that the Applicant will construct and maintain the line according to all applicable legal requirements. In addition, the board may consider the interstate benefits expected to be achieved by the proposed construction or modification of electric transmission facilities in the Commonwealth. If the board determines that locating the transmission line will result in significant degradation of scenic factors or if the board determines that the construction and maintenance of the line will be in violation of applicable legal requirements, the board may deny the application or condition the application's approval upon relocation of the route of the line, or changes in design or configuration of the line.

As previously discussed, the Siting Board finds that overall, the proposed transmission line would not have a significant adverse impact on the scenic assets of Marion and Washington counties, Kentucky. Frontier Solar has complied, to date, with all applicable conditions relating to electrical interconnection with utilities by following the LG&E/KU interconnection process. The Siting Board finds that Frontier Solar's proposed transmission line meets the requirements of KRS 278.714(3), subject to the mitigation measures and conditions imposed in this Order and the attached Appendix A to this Order.

Based upon the case record, the Siting Board finds Frontier Solar's application for a construction certificate for a nonregulated transmission line should be approved. The transmission line will have minimal effects on the scenic surroundings and Frontier Solar has stated it will abide by the NESC in the construction and operation of the transmission line. The Siting Board conditions its approval upon fully implementing all mitigation measures and other requirements described herein and listed in Appendix A to the Order.

CONCLUSION

After carefully considering the criteria outlined in KRS Chapter 278, the Siting Board finds that Frontier Solar has presented sufficient evidence to support the issuance of a construction certificate to construct the proposed merchant solar facility and nonregulated electric transmission line. The Siting Board conditions its approval upon the full implementation of all mitigation measures and other requirements described herein and listed in Appendix A to this Order. A map showing the location of the proposed solar generating facility and proposed transmission line is attached hereto as Appendix B.

IT IS THEREFORE ORDERED that:

1. Frontier Solar's application for a construction certificate to construct an approximately 120 MW merchant solar electric generating facility in Marion and Washington counties, Kentucky, and an approximately 1.7-mile non-regulated electric transmission line is conditionally granted subject to full compliance with the mitigation measures and conditions prescribed in Appendix A to this Order.

2. Frontier Solar's amended motion for deviation from the setback requirements in KRS 278.704(2) is granted. Frontier Solar shall comply with the setbacks prescribed in the mitigation measures in Appendix A to this Order.

3. Frontier Solar shall fully comply with the mitigation measures and conditions prescribed in Appendix A to this Order.

4. In the event mitigation measures within the body of this Order conflict with those prescribed in Appendix A to this Order, the measures in Appendix A shall control.

5. This case is closed and removed from the Siting Board's docket.


KENTUCKY STATE BOARD ON ELECTRIC
GENERATION AND TRANSMISSION SITING




Chairman, Public Service Commission



Vice Chairman, Public Service Commission



Commissioner, Public Service Commission



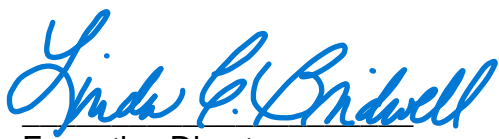
Secretary, Energy and Environment Cabinet,
or her designee

by KAC
w/permissions

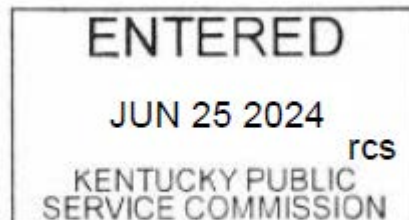


Secretary, Cabinet for Economic Development,
or his designee

ATTEST:



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



APPENDIX A

APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING IN CASE NO. 2023-00360 DATED JUN 25 2024

MITIGATION MEASURES AND CONDITIONS IMPOSED

The following mitigation measures and conditions are hereby imposed on FRON, BN, LLC (Frontier Solar) to ensure that the facilities proposed in this proceeding are constructed as ordered.

1. A final site layout plan shall be submitted to the Siting Board upon completion of the final site design. Deviations from the preliminary site layout should be clearly indicated on the revised graphic. Those changes could include, but are not limited to, location of solar panels, inverters, transformers, substation, operation and maintenance building, transmission line route, or other Project facilities and infrastructure.

2. Any change in the Project boundaries from the information that formed this evaluation shall be submitted to the Siting Board for review.

3. The Siting Board will determine whether any deviation in the boundaries or site layout plan is likely to create a materially different pattern or magnitude of impacts.

4. Frontier Solar shall provide the date construction will commence to the Siting Board and the Kentucky Energy and Environment Cabinet (EEC) 30 days prior to that date.

5. Frontier Solar shall comply with all requirements in KRS 278.710 for monitoring by EEC.

6. Prior to construction, Frontier Solar shall provide a finalized Emergency Response Plan to the local fire district, first responders, and any county Emergency

Management Agency. Frontier Solar shall provide a site-specific training for local emergency responders at their request. Access for fire and emergency units shall be set up after consultation with local authorities.

7. Frontier Solar or its contractor will control access to the site during construction and operation. All construction entrances will be gated and locked when not in use.

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

9. The security fence must be installed prior to activation of any electrical installation work in accordance with National Electrical Safety Code (NESC) standards. The substation shall have its own separate security fence and locked access installed in accordance with NESC standards.

10. Existing vegetation between solar arrays and nearby roadways and homes shall be left in place to the extent feasible to help minimize visual impacts and screen the Project from nearby homeowners and travelers. Frontier Solar will not remove any existing vegetation except to the extent it must remove such vegetation for the construction and operation of Project components.

11. Frontier Solar shall implement planting of native evergreen species as a visual buffer to mitigate visual viewshed impacts, in areas where those viewshed impacts occur from residences or roadways directly adjacent to the Project and there is not adequate existing vegetation. If it is not adequate, then vegetation ten feet thick reaching

six feet at maturity (in four years) will be added by Frontier Solar between Project infrastructure and residences, or other occupied structures, with a line of sight to the facility to the reasonable satisfaction of the affected adjacent property owners. Planting of vegetative buffers may be done over the construction period; however, Frontier Solar should prioritize vegetative planting at all periods of construction to reduce viewshed impacts. All planting shall be done prior to the operation of the facility.

12. Frontier Solar shall cultivate at least two acres of native, pollinator friendly species on-site.

13. Frontier Solar shall carry out visual screening consistent with the plan proposed in its application, SAR, and the maps included, and ensure that the proposed new vegetative buffers are successfully established and developed as expected over time. Should vegetation used as buffers die over time, Frontier Solar shall replace plantings as necessary.

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

15. Frontier Solar is required to limit construction activity, process, and deliveries to the hours between 8 a.m. and 6 p.m. local time, Monday through Saturday. The Siting Board directs that construction activities that create a higher level of noise, such as pile-driving, will be limited to 9 a.m. to 5 p.m. local time, Monday through Friday. Non-noise causing and non-construction activities can take place on the site between 7 a.m. and 10 p.m. local time, Monday through Sunday, including field visits, arrival, departure, planning, meetings, mowing, surveying, etc.

16. If the pile-driving activity occurs within 1,000 feet of a noise-sensitive receptor, Frontier Solar shall implement a construction method that will suppress the noise generated during the pile-driving process (i.e., semi-tractor and canvas method; sound blankets on fencing surrounding the solar site; or any other comparable method). Frontier Solar can forego using noise suppression measures if it employs a panel installation method that does not use pile driving, so long as that method does not create noise levels similar to pile driving.

17. Frontier Solar shall notify residents and businesses within 2,400 feet of the Project boundary about the construction plan, the noise potential, any mitigation plans, and its Complaint Resolution Program referred to in Item 33 of this Appendix, at least one month prior to the start of construction.

18. Frontier Solar shall place panels, inverters, and substation equipment consistent with the distances to noise receptors to which it has committed in its maps and site plans. The Siting Board approves Frontier Solar's proposed setback from residences of 270 feet from any panel or string inverter. The Siting Board also approves a distance of 270 feet between any solar panel or string inverter and any residential neighborhood and 100 feet from any exterior property line. Nevertheless, Frontier Solar shall not place solar panels or string inverters, if used, closer than 150 feet from a residence, church, or school, 25 feet from non-participating adjoining parcels, or 50 feet from adjacent roadways. Frontier Solar shall not place a central inverter, and if used, energy storage systems, closer than 450 feet from any adjacent residences, church, or school. These further setbacks shall not be required for residences owned by landowners involved in the Project that explicitly agree to lesser setbacks and have done so in writing. All

agreements by participating landowners to lesser setbacks must include language advising the participating landowners of the setbacks otherwise required herein. All agreements by participating landowners to lesser setbacks must be filed with the Siting Board prior to commencement of the Project.

19. Frontier Solar shall fix or pay for repairs for damage to roads and bridges resulting from any vehicle transport to the site. For damage resulting from vehicle transport in accordance with all permits, those permits will control.

20. Frontier Solar shall comply with all laws and regulations regarding the use of roadways.

21. Frontier Solar shall implement ridesharing between construction workers when feasible, use appropriate traffic controls, or allow flexible working hours outside of peak hours to minimize any potential traffic delays during AM and PM peak hours.

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

23. Frontier shall consult with the Marion County Road Department (MCRD) and Washington County Road Department and (WCRD) regarding truck and other construction traffic and obtain any necessary permits from the MCRD and WCRD.

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

25. Frontier Solar shall comply with any road use agreement executed with MCRD and WCRD. Such an agreement might include special considerations for

overweight loads, routes utilized by heavy trucks, road weight limits, and bridge weight limits.

26. Frontier Solar shall develop and implement a traffic management plan to minimize the impact on traffic flow and keep traffic safe. Any such traffic management plan shall also identify any traffic-related noise concerns during the construction phase and develop measures that would address those noise concerns.

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

28. If any Person as defined by KRS 278.700(3) shall acquire or transfer ownership of, or control, or the right to control Frontier Solar, by sale of assets, transfer of stock, or otherwise, or abandon the same, Frontier Solar or its successors or assigns shall request explicit approval from the Siting Board with notice of the request provided to the Washington County Fiscal Court and Marion County Fiscal Court. In any application requesting such abandonment, sale, or change of control, Frontier Solar shall certify its compliance with KRS 278.710(1)(i).

29. Frontier Solar did file a decommissioning plan with the Siting Board. If this decommissioning plan should change, Frontier Solar shall submit an updated decommissioning plan pursuant to KRS 278.710(8).

30. As applicable to individual lease agreements, Frontier Solar, its successors, or assigns will abide by the specific land restoration commitments agreed to by individual property owners, as described in each executed lease agreement.

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

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

33. Prior to construction, Frontier Solar shall initiate and maintain the Complaint Resolution Program provided to the Siting Board in the case record to address any complaints from community members. Frontier Solar shall submit yearly referencing this case in number in post-case correspondence, from the date of filing of the Complaint Resolution Program with the Siting Board, a status report annually a status report associated with its Complaint Resolution Program, providing, among other things, the individual complaints, how Frontier Solar addressed those complaints, and the ultimate resolution of those complaints identifying whether the resolution was resolved to the complainant's satisfaction.

34. Frontier Solar shall provide the Marion County Fiscal Court and Washington County Fiscal Court contact information for individuals within the company that can be contacted with concerns. This shall include contact information for the general public to

reach individuals that can address their concerns. Frontier Solar shall update this contact information yearly, or within 30 days of any change in contact information.

35. Frontier Solar shall adhere to the proposed transmission route presented in the application. Should Frontier Solar find it necessary to include any parcel of land not included in this response in order to finalize the route of the proposed transmission line, Frontier Solar shall return to the Siting Board to request an amendment to the location of the transmission line.

36. In order to minimize the impacts provided for in KRS 278.714(3) Frontier Solar shall submit a final layout of the transmission line and make all reasonable efforts to minimize a new right of way and instead try to co-locate with current transmission facility.

37. Frontier Solar shall discuss potential screening plan agreements with the landowners leasing land to Frontier Solar for the transmission line to determine if any screening strategies that might mitigate and reduce the visual impact to the affected residences and continue to address complaints through the construction phase of the transmission line.

38. Within 30 days of entry of this Order, Frontier Solar shall send a copy of this Order to all the adjoining landowners who previously were required to receive notice of this Project.

APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON
ELECTRIC GENERATION AND TRANSMISSION SITING IN
CASE NO. 2023-00360 DATED JUN 25 2024

TWO PAGES TO FOLLOW

Project Details

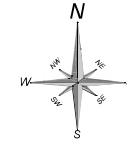
Site latitude	37°38'18.12"N
Site longitude	85°16'12.91"W
PV DC capacity (max.)	145.119 MWp
PV AC capacity at POI	120 MWac
DC AC ratio at POI	1.209
Evacuation voltage	138 kV
Module wattage	545Wp
Module type	Bifacial
Module quantity	266274
Module per string	27
Total strings	9862
PV Inverter rating	4MWac
PV Inverter Type	Central
PV Inverter quantity	35
Racking type	Tracker
Pitch	24'-11"
Ground coverage ratio	30%
Tracker Quantity_4 String Tracker	2039
Tracker Quantity_3 String Tracker	412
Tracker Quantity_2 String Tracker	235
Total Trackers	2686
Land area used for PV	935 Acres
Site fence length	76461'

Note:-
 * All Dimensions Are in Feet.
 * Coordinates System - UTM84-16N, UTM-WGS 1984 datum, Zone 16 North, Meter; Cent. Meridian 87d W
 * Tree cutting considered

DATE	REV.	REVISION HISTORY	DRN. BY	CKD. BY	APPD. BY
2023-12-21	09	LAND BOUNDARY AND CONSTRAINTS REVISED	MA	PS	KP
2023-09-22	08V04	MATTINGLY KEVIN PROPERTY & PINKSTON (KIM) PROPERTY USED	SS	PS	KP
2023-08-29	07	LAND BOUNDARY REVISED	SS	PS	KP
2023-05-06	06	LAND BOUNDARY REVISED	MA	PS	KP
2023-03-27	05V02	DC CAPACITY AND GCR REVISED	MA	PS	KP
2022-10-27	04	NEW PARCEL ADDED & AC CAPACITY REVISED	MA	PS	KP
2022-09-07	03	NEW PARCEL ADDED & AC CAPACITY REVISED	MA	PS	KP
2022-08-02	02	ATI TRACKER USED	YS	PS	KP
2022-07-27	01	WET LAND DELINEATION ADDED	YS	PS	KP
2022-03-31	00	FIRST ISSUE	MA	PS	KP

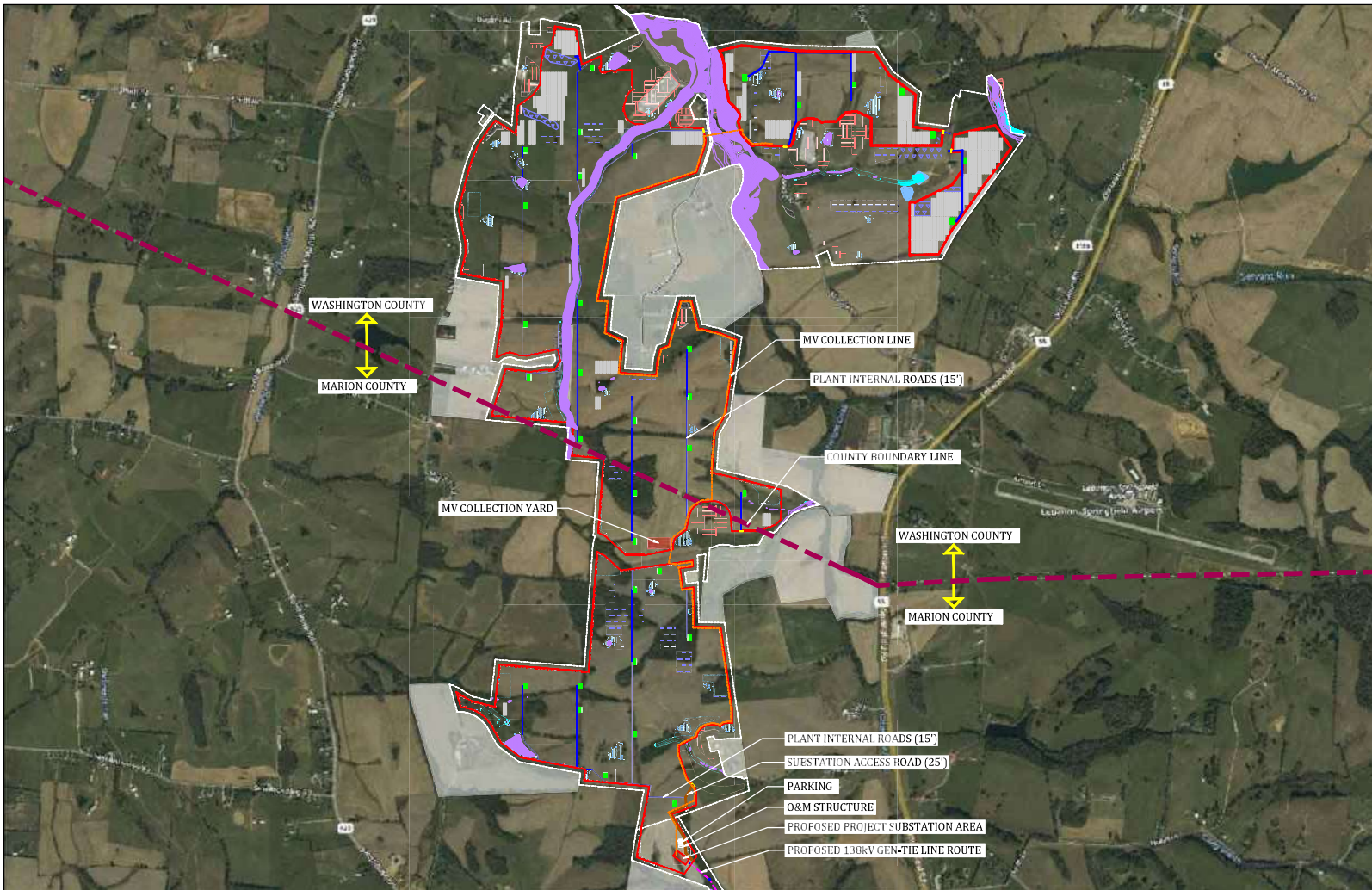
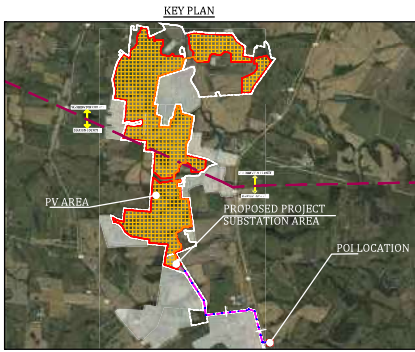
BRIGHT NIGHT	BrightNight Power
PROJECT NAME	FRONTIER (FRON)
DRAWN	TITLE:- PLANT LAYOUT (PV)
APPROVED	PURPOSE CODE DRAWING NO. REV. SHEET
SCALE	NTS ISSUE FOR PERMIT 00 09 1 OF 5

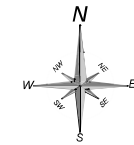
NOTE:-
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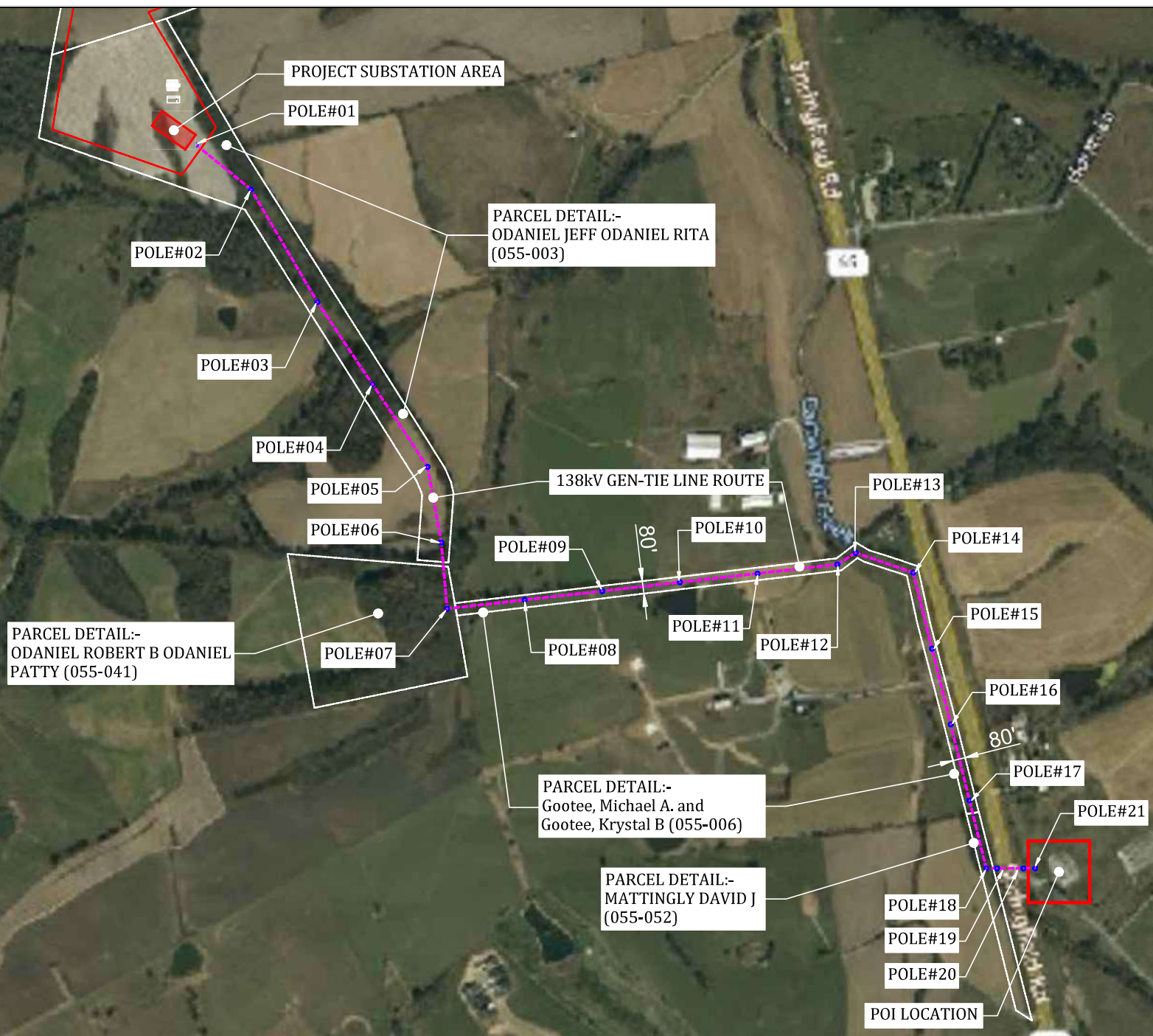
SYMBOL	DESCRIPTION
[Yellow dashed line]	ACCESS GATE
[Pink dashed line]	PROPOSED 138KV GEN-TIE LINE ROUTE
[Orange dashed line]	PROPOSED MV COLLECTION LINE ROUTE
[Purple shaded area]	FLOOD AREA
[Blue hatched area]	NATURAL DRAIN
[Red dashed line]	COUNTY BOUNDARY LINE
[Grey shaded area]	EXCLUSION AREA
[Blue circle]	PROPOSED GEN TIE STRUCTURE

SYMBOL	DESCRIPTION
[Red dashed line]	SITE BOUNDARY
[Red solid line]	SITE FENCE
[Red dashed line]	SETBACK LINE
[Orange solid line]	COUNTY ROAD
[White line]	TRACKER
[Green rectangle]	INVERTER SKID
[Blue solid line]	PLANT INTERNAL ROADS (15')
[Brown solid line]	SUBSTATION ACCESS ROAD (25')
[Blue hatched area]	WETLAND
[Blue dotted area]	UNDULATED AREA
[Green hatched area]	TREE SHADING AREA
[Blue hatched area]	STORM WATER BASINS
[Red hatched area]	RESIDENTIAL SETBACK





LEGEND-	
SYMBOL	DESCRIPTION
	SITE BOUNDARY
	SITE FENCE
	PROPOSED 138kV GEN-TIE LINE ROUTE
	PROPOSED GEN TIE STRUCTURE



Note:-
 * All Dimensions Are in Feet.
 * Coordinates System :-
 UTM84-16N, UTM-WGS 1984 datum, Zone 16 North, Meter; Cent. Meridian 87d W
 * Tree cutting considered

DATE	REV.	REVISION HISTORY	DRN, BY	CKD, BY	APPD, BY
2023-12-21	09	LAND BOUNDARY AND CONSTRAINTS REVISED	MA	PS	KP
2023-09-22	08V04	MATTINGLY KEVIN PROPERTY & PINKSTON (KIM) PROPERTY USED	SS	PS	KP
2023-08-29	07	LAND BOUNDARY REVISED	SS	PS	KP
2023-05-06	06	LAND BOUNDARY REVISED	MA	PS	KP
2023-03-27	05V02	DC CAPACITY AND GCR REVISED	MA	PS	KP
2022-10-27	04	NEW PARCEL ADDED & AC CAPACITY REVISED	MA	PS	KP
2022-09-07	03	NEW PARCEL ADDED & AC CAPACITY REVISED	MA	PS	KP
2022-08-02	02	ATI TRACKER USED	YS	PS	KP
2022-07-27	01	WET LAND DELINEATION ADDED	YS	PS	KP
2022-03-31	00	FIRST ISSUE	MA	PS	KP

	BrightNight Power
PROJECT NAME	FRONTIER (FRON)
DRAWN	TITLE:- 138kV GEN-TIE LINE ROUTE LAYOUT
APPROVED	PURPOSE CODE DRAWING NO. REV. SHEET
SCALE	NTS ISSUE FOR PERMIT 00 09 4 OF 5

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