COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON
ELECTRIC GENERATION AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF TURKEY CREEK SOLAR, LLC FOR A CONSTRUCTION CERTIFICATE TO CONSTRUCT AN APPROXIMATELY 50 MEGAWATT MERCHANT ELECTRIC SOLAR GENERATING FACILITY IN GARRARD COUNTY, KENTUCKY PURSUANT TO KRS 278.700 AND 807 KAR 5:110	)))))))	CASE NO. 2020-00040

O R D E R

On March 27, 2020, Turkey Creek Solar, LLC (Turkey Creek) filed an application (Application) requesting a Certificate of Construction to construct a 50 megawatt alternating current (MWac) solar photovoltaic electric generating facility to be located in Lancaster, Garrard County, Kentucky.[1] Turkey Creek is a limited liability company and is based in Durham, North Carolina.[2] The footprint of the facility is approximately 540 acres which has been historically used as pasture land. The on-site equipment will consist of crystalline solar panels with a tracking system, inverters, substation transformer, and associated wiring and balance of system.[3] The Turkey Creek solar facility's output will be transmitted and sold in the wholesale power market through the existing transmission line that crosses the property.[4]

[1] Application at 1.

[2] *Id.*

[3] Application Volume 1, Exhibit B Newspaper Notice of Application.

[4] Application at 1.

Pursuant to a Siting Board Staff Notice issued on May 13, 2020, a procedural schedule was established for the orderly review and processing of this matter. The procedural schedule provided for two rounds of discovery upon Turkey Creek's application, a deadline for the filing of the consultant's report, and an opportunity for Turkey Creek to submit comments in response to the consultant's report. The May 13, 2020 Siting Board Staff Notice also included a memorandum from Rebecca W. Goodman, Secretary, Energy and Environment Cabinet, extending the deadline for the processing of this matter to 180 days from the date of the filing of the application, pursuant to the authority delegated to Secretary Goodman under KRS Chapter 39A and the Governor's Executive Orders, including Executive Orders 2020-00243 and 2020-00257.

Pursuant to 807 KAR 5:110, Section 4, requests to intervene had to be filed within 30 days from the date of the filing of the application. Also, pursuant to 807 KAR 5:110, Section 6, the Siting Board on its own motion or any party to this case may file a motion requesting an evidentiary hearing within 30 days from the date of the filing of the application. Under KRS 278.712(1), a request for a local public hearing may be requested by at least three interested persons that reside in Garrard County or from the local planning and zoning commission, mayor of the city or county fiscal court of a jurisdiction where the solar facility is proposed to be located. Lastly, pursuant to 807 KAR 5:110, Section 8, a request for a public meeting must be made within 30 days from the date of the filing of the application. There have been no requests for intervention in this matter, no requests for an evidentiary hearing, and no requests for a public meeting or a local public hearing in this matter.

Turkey Creek has filed responses to multiple rounds of discovery in this matter. On April 8, 2020, Turkey Creek filed a motion requesting deviations from certain setback requirements set forth in KRS 278.704(2). Pursuant to KRS 278.708(5), the Siting Board retained a consultant, BBC Research and Consulting (BBC), to review Turkey Creek's site assessment report (SAR) and to provide recommendations concerning the adequacy of the SAR and propose mitigation measures. A site visit was held on June 11, 2020. Also, on June 12, 2020, Turkey Creek filed notice that Carolina Solar Energy, III, LLC, (CES) a North Carolina limited liability company, transferred its membership in Turkey Creek to Silicon Ranch Corporation (Silicon Ranch), a Delaware corporation with its headquarters in Nashville, Tennessee. The application provides that Silicon Ranch was a development partner with CES on the proposed solar project and that Silicon Ranch would be the long term owner and operator of the subject solar facility. The application further provides that Silicon Ranch is a utility scale solar energy company with a diverse portfolio of more than 130 solar farms in 14 states, including the first large-scale solar projects in Georgia, Tennessee, Arkansas, and Mississippi. The BBC Report was filed on July 10, 2020. On July 24, 2020, Turkey Creek submitted its response to the BBC Report.

There were no intervention requests, no intervenors, and no public comments submitted in this matter. The matter now stands submitted for a decision.

PROPOSED TURKEY CREEK SOLAR FACILITY

According to the application, the proposed Turkey Creek solar facility will be located at 1928 Crab Orchard Road, Lancaster, Garrard County, Kentucky. The solar facility site is bounded by U.S. Highway 27 (US 27) to the west and State Route 39 (SR

39) to the east.[5] The site consists of 11 parcels. Nine of the parcels were owned by Curry Farms FLP LTD. (Curry Farms) and totaled 762 acres. The other two parcels, amounting to 0.8 acres, are owned by the Lancaster-Garrard County Industrial Development Authority and the Garrard County Fire Department.[6] Turkey Creek has purchased the nine parcels from Curry Farms and has obtained an easement from Garrard County for the two smaller parcels. Turkey Creek anticipates using up to 540 acres for the installation of the necessary solar equipment and facilities. Turkey Creek states that a fence meeting the National Electrical Safety Code (NESC) requirements, which is typically a six-foot fence with three strings of barbed wire at the top, will enclose the facility.[7] Turkey Creek further states that where there are potential visual impacts created by the solar facility, a 15-foot wide vegetative buffer will be planted consisting of two staggered rows of evergreen shrubs (such as Arborvitae Emerald Green) at least three feet in height at time of planting and growing to a maximum of 12 to 15 feet high.[8] The solar facility has a rated capacity of 50 MW and will be connected to East Kentucky Power Cooperative, Inc.'s (EKPC) Garrard County – Tommy Gooch 69 kV transmission line.[9] The proposed solar site straddles the electric service territories of Kentucky Utilities Company (KU) and Inter-County Energy Cooperative (Inter-County Energy).[10] During the

[5] Application Volume 2, Item 1, Description of Proposed Site.

[6] BBC Review and Evaluation of Turkey Creek Solar LLC Siting Assessment Report (BBC Report) (filed July 10, 2020), Section C at 7.

[7] Application Volume 1, Item 2, Description of Proposed Site.

[8] *Id.*

[9] Application Volume 1, Exhibit F at 11.

[10] Turkey Creek Solar, LLC Responses to Siting Board's Supplemental Requests for Information (filed July 20, 2020), Item 1.

construction phase, Turkey Creek states that the determination of the office trailer location will determine who will be the retail electric supplier.[11] Such a determination will not be made until the project is closer to the construction phase. If the office trailer is located on the northern end of the site, KU will most likely be the electric supplier. If the trailer is located outside the northern portion of the site, then Inter-County Energy will be the provider. When the solar facility is in operation, Turkey Creek anticipates a small amount of station power will be needed for the substation and that such power will likely be provided by Inter-County Energy.[12]

Based on acreage, the surrounding land use is agricultural/residential (51.30 percent), agricultural (35.97 percent), and residential (7.32 percent). Based on parcels, the surrounding land use is mainly comprised of residential (56.10 percent), agricultural (12.20 percent), agricultural/residential (12.20 percent), and industrial (12.20 percent).[13]

Pursuant to KRS 278.706(2)(c), Turkey Creek notified landowners whose property borders the proposed solar facility site once via U.S. regular mail and a second time via certified mail. Turkey Creek also published notice of the proposed solar facility in the *Garrard Central Record*, the newspaper of general circulation in Garrard County, on March 5, 2020.[14] In addition, Turkey Creek also engaged in public involvement program activities as required by KRS 278.706(2)(f) prior to the filing of its application. Turkey Creek states that it held a public meeting on December 10, 2019, at the Lancaster First

[11] *Id.* at Item 1b.

[12] Turkey Creek Solar, LLC Corrected Responses to Siting Board's Supplemental Request for Information(filed July 27, 2020), Item 1b and 1c.

[13] Application Volume 2, Item 1 Description of Proposed Site.

[14] Application Volume 1, Item 3, Public Notice Evidence.

Assembly Church, which is near this solar project site, to inform the public about the solar project and receive comments from the public. Turkey Creek published notice of the public meeting in the November 21, 2019 edition of the *Garrard Central Record*.[15] Turkey Creek indicates that it also mailed letters to adjoining landowners and to homeowners in the Merriwood Estates subdivision, which is the only subdivision that adjoins the solar project, notifying them of the meeting.[16] In addition to the public meeting, Turkey Creek also held a neighborhood dinner on December 6, 2020. The dinner, also held at the Lancaster First Assembly Church, was for neighboring landowners and residents of the Merriwood Estates subdivision, as well as various local public officials. Turkey Creek states that it had experts at the dinner to provide information regarding environmental health and safety of photovoltaics, the impact of solar facilities on neighboring property values, economic impact of solar projects, and the construction, operation, and maintenance of the Turkey Creek solar development.[17] Turkey Creek provided additional public involvement measures that were undertaken with respect to the proposed solar project, including, meeting with, and conducting a utility scale solar workshop for local public officials; and meeting with neighboring property owners, including the Lancaster First Assembly Church, the Garrard County District 1 Volunteer Fire Department, and Garrard County High School.[18]

DISCUSSION

I. Requirements Under KRS 278.708 – Site Assessment Report

[15] Application Volume 1, Item 6, Public Notice Report.

[16] *Id.*

[17] *Id.*

[18] *Id.*

KRS 278.704(1) states that "[n]o person shall commence to construct a merchant electric generating facility until that person has applied for and obtained a construction certificate for the facility from the [Siting] [B]oard." KRS 278.708 requires a Site Assessment Report be prepared and filed with an application. The Site Assessment Report should provide: (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 facility; (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 implemented by the applicant to minimize or avoid adverse effects identified in the site assessment report.

Detailed Site Description

In addition to the description of the proposed solar facility as described above, the Turkey Creek site is currently used for agricultural purposes and the majority of the acreage surrounding the site is also agricultural or large lot agricultural/residential. The majority of the parcels near the proposed site are residential. Parcels used for residential purposes are primarily located northeast of the proposed site, while agricultural and agricultural/residential parcels are located southeast, south, and west of the site. There are five large lot agricultural/residential parcels that range in distance from 1,120 feet to 3,125 feet from the nearest solar panel. There are 23 residential parcels that range in

distance from 240 feet to 1,125 feet from the nearest solar panel.[19] Exact locations of some solar panels and the locations of the inverters and transformer have not been finalized by Turkey Creek but will be located at least 150 feet from the property boundaries. All site entrances on US 27, SR 39, and Crab Orchard Road will be gated and locked when not in use.[20] Security fencing, as described above, will enclose the facility during construction and operation. The Turkey Creek facility's electric needs will be served by Inter-County Energy during operation and by either Inter-County or KU during construction depending upon the location of the office trailer.

The BBC Report states that the site description as provided by Turkey Creek satisfies the relevant statutory requirements. The report recommends the following mitigation measures:

1. The proposed access control measures appear to be consistent with industry standards if Turkey Creek also posts adequate signage to warn potential trespassers.[21]

2. Turkey Creek must ensure that all site entrances and boundaries have adequate signage, particularly in locations visible to the general public, local residents, and business owners.[22]

The Siting Board finds that Turkey Creek's detailed description of the proposed solar facility site complies with the requirement set forth in KRS 278.708(3)(a). The Siting Board also finds that the mitigation measures recommended in the BBC Report are

[19] BBC Report, Section B at 1.

[20] Application Volume 2, Exhibit E.

[21] BBC Report, Section B at 5.

[22] *Id.,* Section C at 8.

reasonable and, therefore, will require Turkey Creek to implement the two mitigation measures identified above relating signage. The Siting Board further finds that the following additional mitigation measures should be implemented to ensure a comprehensive, robust, and accurate site development plan for the Turkey Creek solar facility.

1. A final site layout plan should be submitted to the Siting Board upon completion of the final site design. Material deviations from the preliminary site layout plan which formed the basis for the instant review should be clearly indicated on the revised graphic. Those material changes might include substantial changes in the location of solar panels, transformer, inverters, panel motors, the substation, or other project facilities or infrastructure.

2. Any change in Turkey Creek's boundaries from the information which formed this evaluation should be submitted to the Siting Board for review.

3. The Siting Board will determine if any deviation in the boundaries or site development plan is likely to create a materially different pattern or magnitude of impacts. If not, no further action is required; but if that is the case, Turkey Creek will support the Siting Board's effort to revise its assessment of impacts and mitigation requirements.

4. Turkey Creek 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.

5. The fence surrounding the property boundary will be installed after grading of the site and before the main array installation begins. According to NESC regulations,

the security fence must be installed prior to any electrical installation work. The substation and construction staging area will also have their own separate security fences installed.

Compatibility with Scenic Surroundings

Turkey Creek states that the proposed site of the solar facility is located at a raised elevation surrounded by agricultural and residential properties. Due to the elevation difference and the existing vegetation, Turkey Creek maintains that the solar facility will be shielded from view from most of the neighboring landowners. Turkey Creek also states that its solar facility, which uses tracking panels, are a passive use of the land that would blend in with the nearby rural and residential area. Turkey Creek asserts that the height of solar panels, which are generally 6 to 10 feet off the ground but no more than 12 feet high at maximum when they are tracking the sun, is similar to the height of a typical greenhouse and lower than a single story residential home. Turkey Creek notes that, as compared to the proposed solar facility, if the subject property was developed with single family housing, that development would have a much greater visual impact on the surrounding area given that a two-story home with attic could be three to four times as high as the proposed panels. Turkey Creek further indicates that sections of the solar facility that adjoin roadways and other properties will have a vegetative buffer planted if one does not already exist. This buffer, approximately 15 feet wide, will consist of two staggered rows of evergreen shrubs, which will be at least three feet in height at time of planting, growing to approximately six feet in three years with continued growth thereafter. Turkey Creek also plans to cultivate at least two acres of native pollinator-friendly species on-site at the northern most portion of the solar site.[23]

[23] Application Volume 2, Item 1 Description of Proposed Site.

The BBC Report states that a visual impact analysis generally encompasses a description of the visual setting, visual features of the facility and its appurtenances, and the identification of places where a person might observe the facility or its appurtenances. The BBC Report informs that these factors contribute to the evaluation of visual impacts and the facility's compatibility with the existing setting. Although not a formal visual impact analysis, the BBC Report indicated that Turkey Creek's Property Value Impact Report provided an analysis of scenic compatibility based on distance between the facility and the neighboring property, topography, and harmony of use in the context of hazardous material, odor, noise, traffic, stigma, and appearance. The BBC Report points out that the Turkey Creek solar site is located on higher ground than the nearest neighborhood, Merriwood Estates, which would significantly mitigate, or possibly eliminate, any view shed issues for property owners in that neighborhood.

Based upon an examination of the materials provided by Turkey Creek and information obtained from a site visit to the solar facility location, the BBC Report concurs with Turkey Creek's position that the proposed solar facility will be compatible with its surrounding from a scenic standpoint.[24] The BBC Report notes the favorable topography of the site, the relatively low profile of the solar facility which would be similar to or lower than most single-family homes, and Turkey Creek's commitment to plant vegetative buffers to help screen the site from nearby homeowners to the east and the northeast, which locations are higher than the solar facility site. The BBC Report also agrees with the commitment from Turkey Creek to plant vegetative buffers along the perimeter of the

[24] BBC Report, Section B at 3.

solar site in adjoining roadways and other properties that do not contain vegetation.[25] The 15-foot wide vegetative buffer would be two staggered rows of evergreen shrubs, which would be at least three feet in height at the time of planting.

Having reviewed the record, the Siting Board finds that the passive characteristics of the proposed solar facility combined with existing topography of the surroundings where the solar facility will be located as well as the trees and other vegetation in the area will significantly mitigate the effects the proposed facility will have on the scenic surroundings of the site. We note that the proposed site for the Turkey Creek facility is significantly elevated and primarily surrounded by vegetation, both of which create a natural visual buffer for the facility. The physical characteristics of the solar facility also does not pose any adverse impact to the scenic surroundings given that the majority of the day the solar panels will be between 6-10 feet high and will only be at the maximum height of 12 feet, which would be a lower profile than most single-family homes. Any potential scenic impact will be further mitigated by Turkey Creek's commitment to implement a 15-foot wide vegetative buffer in areas adjacent the proposed site where there are no current vegetation.

While the Siting Board agrees with Turkey Creek's proposed mitigation measures to reduce the visual impacts of the proposed solar facility, we find that the Turkey Creek's current proposal of planting evergreen shrubs that will take at least three years to grow to full maturity does not ensure immediate mitigation of any visual or noise impacts from the solar facility. The Siting Board will modify the proposed mitigation measure to require Turkey Creek to implement one of the following modified vegetative buffering options: (1)

[25] *Id.*, Section C at 12.

if Turkey Creek elects to plant non-mature evergreen shrubs, Turkey Creek should also include additional temporary buffers that would immediately help to mitigate noise and visual impacts until the evergreen shrubs have grown to maturity or (2) Turkey Creek can elect to plant mature evergreen shrubs of at least 6 feet in height at the outset of the vegetative buffering process. Accordingly, the Siting Board will require Turkey Creek to implement the vegetative buffer, as modified herein, and the two acre native pollinator area as described in the application.

Impact on Property Values

With respect to impact on property values, Turkey Creek submitted a Property Value Impact Report from a certified real estate appraiser which found that, based upon a comparative analysis, the solar facility will have no impact on the property values of abutting or adjacent residential or agricultural properties. The report indicates that the solar facility would function in a harmonious manner with the nearby surroundings, which are primarily agricultural, and that operation of the solar facility would not generate the level of noise, odor, or traffic impacts to negatively impact the nearby surroundings as compared to a fossil fuel generating facility or other industrial facility.[26]

The BBC Report notes that the central issue with respect to property values impact is whether, and to what extent, the development and operation of the Turkey Creek solar facility will cause nearby property values to change. The BBC Report reviewed Turkey Creek's Property Value Impact Report, noting that the report contained a comparative study analyzing data from numerous solar facilities across the country of property values in proximity to such facilities with similar homes which are not in close proximity. The

[26] Application Volume 2, Item 3, Property Value Impacts.

BBC Report states that the analysis performed on behalf of Turkey Creek is similar to the approach by which appraisers commonly estimate residential property values. BBC also reviewed recent studies and articles on this subject and notes that no data or analysis has been provided to support the contention that solar developments have had an adverse impact on property values. The BBC Report points to a 2018 study conducted by the LBJ School of Public Affairs at the University of Texas, which involved a survey of public sector property appraisers in 430 counties with commercial solar facilities.[27] This study found that most assessors believed that commercial solar facilities had no impact (66 percent of all estimates) on home prices, or a positive impact (11 percent of all estimates). The study also noted that while some respondents did estimate a negative impact on home prices, assessors who had actual experience in assessing home values near solar facilities expected smaller impacts than those without such experience. Based upon a review of Turkey Creek's Site Assessment Report, discovery responses, independent research, and information collected from the site visit, the BBC Report concludes that the Turkey Creek solar facility will unlikely have any meaningful impacts on the property values of adjacent properties or other properties near the solar facility. The BBC Report recommends the implementation of a vegetative buffer identical to the measure recommended for mitigating any scenic impact. The BBC Report states that the vegetative buffer would be sufficient given the negligible visual impacts of the proposed Turkey Creek solar facility on adjoining properties or property values.

Having reviewed the record, the Siting Board finds that there is sufficient evidence to conclude that the proposed Turkey Creek solar facility will more than likely not have

[27] BBC Report, Section B at 3–4.

any adverse impact on nearby property values. As we noted earlier, the characteristics of the solar facility's operations is passive in nature in that it does not produce any air, noise, waste, or water pollution nor does it create any traffic issues during operations.

The Siting Board agrees with the BBC Report's recommendation that a vegetative buffer, as modified above, would provide sufficient protection against any potential visual impacts of the proposed Turkey Creek solar facility on adjoining property in terms of property values. The modified vegetative buffer should provide mitigation against adverse impacts to the scenic surroundings and to property values.

Impact on Roads, Railways, and Fugitive Dust

With respect to the impact on roads, railways, and fugitive dust, Turkey Creek's Noise and Traffic Assessment as part of its SAR notes that the proposed solar facility is adjacent to two major roadways, US 27 and SR 39. During construction, there will be two entrances using existing paved driveways located at the northernmost point of the tract where US 27 and SR 39 intersects. One of the driveways, which is located on the northeast corner of SR 39, will be shared with the Garrard County #1 Volunteer Fire Department. There is no rail to the site. It is expected that construction will take 8 to 12 months to complete the solar facility. Turkey Creek's Traffic Study indicates that there are three average daily traffic (ADT) monitoring stations along US 27 and SR 39, which measures vehicle traffic in both directions. The ADT for SR 39 mile point 5.9, which is located 228 feet from the solar site to the east, is 2,830. The ADT for SR 39 mile point 6.2, which is 533 feet north of the solar site boundary, is 2,706. The ADT for US 27 mile point 1.1, located 3,843 feet west of the solar site, is 8,912.[28]

[28] Application Volume 2, Exhibit C.

Turkey Creek anticipates a temporary increase in traffic near the vicinity of the solar site during construction activities. The increase in traffic will occur in the morning and evening when construction workers are entering and exiting the project site as well as periodic delivery of construction materials and equipment. At the onset of mobilization, trucks will deliver heavy machinery to the site, and after that there will be daily truck deliveries of installation materials to the site. Heavy traffic will occur for the first few weeks after mobilization, but will slow towards the end of the installation period. During the expected 8 to 12 month construction phase, between 150 and 300 workers will be employed by the project. Turkey Creek states that there will be appropriate signage and traffic direction to increase driver safety and reduce the risk of any vehicle accidents. Turkey Creek anticipates the potential of additional wear to the existing roads but no significant damages. Any damages resulting from the construction will be rectified.[29]

Turkey Creek states that water may be applied during construction to reduce any potential dust generation.[30] Turkey Creek further states that land disturbing activities associated with the proposed project may temporarily contribute to airborne materials. To reduce wind erosion of recently disturbed areas, appropriate revegetation measures, application of water, or covering of spoil piles may occur.[31] In addition, any open-bodied truck transporting dirt will be covered when the vehicle is in motion. To manage any potential traffic impact, Turkey Creek states that it will require the engineering, procurement, and construction (EPC) contractor to develop a traffic management plan to

[29] *Id.* at 3.2.

[30] *Id.* at 4.

[31] *Id.*

minimize the impacts of any traffic increase and keep traffic safe.[32] Part of this plan will be to maintain all traffic and staging on-site.

During operations, Turkey Creek states that the facility will be mostly un-manned with approximately two employees making site visits a few times a week to inspect the site, ensure proper equipment operation, and note any maintenance needs. The two construction entrances will also be used once the solar facility begins operation along with a third entrance on Crab Orchard Road on the east side of the facility. Turkey Creek further states that employees will be in mid- or full-sized trucks and will contribute less to vehicle traffic than a typical single-family home. According to Turkey Creek, vehicular traffic on the project site will be limited to typical weekday work hours and will not significantly contribute to additional traffic in the project vicinity.[33]

The BBC Report points out that the standard components of the evaluation of traffic related impacts include:

1. Identification of access methods, and a description and visual portrayal of primary access routes to the site during construction and during operation.

2. Description of baseline traffic conditions: existing traffic counts, road capacity and level of service and any major existing constraints (e.g., bridge weight limitations, etc.).

3. Identification of any special transportation requirements during construction (e.g., the need to reinforce or "ramp over" existing bridges, detours, temporary closures, etc.).

[32] Turkey Creek Solar, LLC Responses to BBC Report Research and Consulting's First Requests for Information (filed June 1, 2020), Item 8.

[33] Application Volume 2, Item 4, Anticipated Noise Levels at Property Boundary.

4. Projection of traffic volumes related to construction and operation.

5. Determination of whether the additional traffic, during construction and operation, would lead to congestion, changes in the level of service of the existing road network or additional road maintenance costs.

Regarding traffic impact, the BBC Report notes that from mobilization until start of construction, deliveries will be limited to a few trucks delivering heavy machinery. After mobilization, five to ten deliveries of materials will be made via semi container trucks each day. This heavy traffic will only occur for the first few weeks after mobilization and will taper off toward the end of the project. The BBC Report finds that based upon the number of employees during construction, the ADT on US 27 would increase between 3.4 and 6.7 percent if all of the construction workers used US 27 to commute to and from the site. Similarly, the ADT on SR 39 would increase between 11 and 22 percent if all workers used SR 39 to commute to and from the solar facility. Accordingly, the BBC Reports notes that there could be noticeable effects on traffic volumes during the beginning of the day and end of the day peak periods – particularly on SR 39. The BBC Report states that there is also some potential for conflicts with regard to the use of the driveway that will be shared by the proposed access and the fire department. The BBC Report concurs with Turkey Creek's commitment to require its EPC contractor to develop a traffic management plan to minimize the impacts of any traffic increase and keep traffic safe. The BBC Report notes that this should also include a plan that would establish protocols to make sure the fire department has immediate access to the driveway onto SR 39 when needed. The BBC Report also recommends that during the construction process,

construction activity and delivery of materials to the site should be limited to the hours between 7 a.m. and 9 p.m.

The Siting Board finds that the 8 to 12 month construction phase of the Turkey Creek solar facility would have an adverse impact on traffic during the peak morning and evening time periods particularly on SR 39. The Siting Board, however, finds there to be very little, if any, impact to the two major roadways, US 27 and SR 39, during the operational phase of the solar facility. The Siting Board agrees with Turkey Creek's mitigation proposal, which was concurred in the BBC Report, regarding Turkey Creek requiring its contractor to develop a traffic management plan to minimize the impacts of any traffic increase and keep traffic safe. The Siting Board also agrees with the BBC Reports' recommendation that any such traffic management plan should also include protocols to ensure the local fire department has immediate access to the driveway onto SR 39 when needed. In addition, the Siting Board will require that any traffic management plan should also identify any noise concerns or traffic impacts during the school year due to construction activities and develop measures that would address those noise and school traffic concerns. The Siting Board will also modify the BBC Report's recommendation limiting the construction activity, process, and deliveries to the hours of 8 a.m. and 6 p.m. Monday through Saturday. These hours represent a more reasonable timeframe to ensure that nearby property owners are not too impacted by the construction activities. To further ensure as little impact to the roadways as reasonably possible during the construction period, the Siting Board will require Turkey Creek to implement the following additional mitigation measures:

1. Turkey Creek will use appropriate signage and traffic signaling as needed to aid construction traffic and prevent severe traffic issues.

2. As needed, Turkey Creek will provide a temporary traffic signal at the intersection of US 27 and SR 39.

3. As needed, Turkey Creek will shuttle commuting construction workers.

4. Turkey Creek's contractor will apply best management practices regarding dust mitigation, including but not limited to: water applied to internal roads as needed; internal roads compacted; internal roads constructed or improved as needed; loads of dirt and other air-pollution causing particles covered while in transit; revegetation measures and covering of spoil piles.

5. Turkey Creek will inform and obtain permits from State and local road authorities as pertaining to any Class 21 vehicle transport to the site. Turkey Creek will also comply with those permit requirements and will coordinate with proper road officials prior to these trips.

6. Turkey Creek will fix or pay for damage resulting from any vehicle transport to the project site.

7. Turkey Creek should ensure that the traffic management plan to be developed by the EPC contractor should also identify any noise concerns due to construction traffic or traffic impacts during the school year due to construction activities and develop measures that would address those noise and school traffic concerns.

8. During the construction process, construction activity and delivery of materials to the site should be limited to the hours between 8 a.m. and 6 p.m. Monday through Saturday.

Anticipated Noise Level

Turkey Creek submitted a Noise and Traffic Assessment,[34] which found that noise during construction of the solar facility is expected to temporarily increase during daylight hours, and will be in the form of heavy equipment, passenger cars and trucks, and tool use during assembly of the solar facilities. Noise will be present on the project site during construction; however, due to the size of the project site and the distance to the nearest receptors, construction will not contribute to a significant noise increase when compared to noise currently occurring on site (such as the operation of farming equipment for livestock, hay production, and crop harvesting).

When the solar facility is operating, there will be periodic noise associated with the solar panel tracking system and the relatively constant noise of inverters. Turkey Creek states that the increase in noise is negligible due to the distance of noise generating solar equipment from the nearest noise receptor and the implementation of two rows of evergreen shrubbery. The noise produced by the inverters is 67.0 dB measured at 10 meters (akin to a hum), which is slightly above that of a typical person-to-person conversation (i.e., 60.0), and will not be a contributor of noise to the nearest receptor (i.e., single-family home) located at 626 feet away with a planted buffer and a strip of trees between the source and receptor. The panel tracking motors on the solar panels will operate at 78 dB (measured at 10 meters) no more than one minute out of every 15 minute period. Turkey Creek further states that site visits and maintenance activities, such as mowing, will take place during daylight hours and will not significantly contribute to noise. The noise associated with these activities is very similar to those currently

[34] Application Volume 2, Exhibit C.

generated on-site by farming activities and off-site by commercial and farm uses. Turkey Creek notes that all construction, operation, and maintenance activities will take place in daylight hours and within the 6 a.m. to 11 p.m. time requirements of the Garrard County Noise Control Ordinance.[35]

According to the BBC Report, a standard noise impact assessment focuses on several key factors: (1) identification of sensitive receptor sites; (2) existing local ambient noise levels; (3) estimated construction or operational noise intensities; (4) distances between noise sources and sensitive receptors; (5) time of day during which peak noises are anticipated; (6) noise created by transportation features such as conveyors, trucks and rail lines; and (7) calculation of the cumulative effect of the new noise sources when combined with the existing ambient noise level, recognizing that new noise sources contribute to the ambient noise level, but not in an additive way.

The BBC Report indicates that Turkey Creek submitted a noise study outlining the nature of the nearest noise receptor site, which is a residential neighborhood that abuts the northeast portion of the proposed site. Other noise receptor sites include a wrecking yard, an auto body shop, and a flower wholesaler.[36] These three businesses contribute to periodic noise within the area, including from the operation of machinery and the delivery of goods via trucks and cargo vans. Additional contributors to noise levels within the assessment area include traffic traveling on nearby roadways and the transport and

[35] Application Volume 2, Item 4, Anticipated Noise Levels at Property Boundary.

[36] Application Volume 2, Exhibit C at 2, paragraph 2.1.1.

operation of agricultural equipment. Noises in the assessment area peak during business hours and range from 80 to 120 dB.[37]

During construction and installation at the proposed site, the use of standard construction equipment and the increase in roadway traffic will elevate noise levels in the assessment area.

Based upon independent research and calculation, the BBC Report found that the maximum noise level of the facility's panel tracking motors would be between 56.3 dB and 60.7 dB at the nearest resident approximately 400 feet away.[38] The BBC Report notes that this range would be equivalent to background conversation heard at a restaurant or the noise level of a standard dishwasher. The facility's inverters would produce approximately 41 dB when measured at the nearest resident approximately 626 feet away, which would be equivalent to the background noise at a library.[39] The BBC Report further points out that its calculations do not take into account any vegetative buffers and changes in topography, both of which would further reduce the noise level of the solar facility at the nearest residences.

The BBC Report concludes that noise levels at the proposed facility during normal operations will not be a significant concern given the moderate decibel ratings of the facility's motors and equipment, the distance between the proposed facility's noise-emitting equipment and the nearest residences, and the installation of vegetative buffers

[37] Application Volume 2, Exhibit C at 2, paragraph 2.1.2.

[38] BBC Report, Section C at 18.

[39] *Id.*

that will mitigate both the visual and audible impacts of the facility.[40] However, the BBC Report notes that there is more potential for noise impacts during construction, including during the delivery of materials to the proposed site. While such noise would be an inevitable effect from the construction process, the BBC Report recommends limiting construction activity and delivery of materials to the site to the hours between 7 a.m. and 9 p.m. to reduce the potential for adverse impacts to adjacent or proximate residences.

The Siting Board finds that while the noise levels during the operational phase of the Turkey Solar facility will not create any issues, the noise levels created during the construction phase would cause adverse impacts to the nearby property owners. To further ensure as little noise impacts as reasonably possible during the construction period, the Siting Board will require the following additional mitigation measures:

1. During the construction process, construction activity and delivery of materials to the site should be limited to the hours between 8 a.m. and 6 p.m. Monday through Saturday.

2. Turkey Creek should implement the modified vegetative buffers to those properties that are within 1,500 feet of the solar facilities' boundary lines before the tamping of the racking panels and Turkey Creek should schedule the tamping process at these nearby homes so that the tamping will occur at the end of the tamping process period.

3. Residents within 1,500 feet of the property boundaries of the Turkey Creek solar facility should be notified about potential construction noises. Residents within 500 feet of the solar panels should be notified about potential operational noises.

[40] *Id.*

4. Turkey Creek should remain in contact with nearby residents to confirm that noise levels are not unduly high or annoying after the pounding and placement of the solar panel racking begins. Any noise generator that creates noise levels in excess of 120 dB should be considered unduly high or annoying.

5. If noise levels during this period are unacceptable to nearby residents or landowners (i.e., noise levels greater than 120 dB), Turkey Creek will take such steps to mitigate the noise impact.

6. Turkey Creek should contact nearby residents to confirm that noise levels are not unduly high or annoying after operations begin. Any noise generator that creates noise levels in excess of 120 dB should be considered unduly high or annoying.

7. Turkey Creek should consider, among other things, additional buffering, fencing, or revising the construction schedules or delivery patterns in those areas where noise impacts are annoying residents or will potentially annoy them.

Mitigation Measures Proposed by Turkey Creek

The following mitigation measures that Turkey Creek commits to implement either as proposed through its SAR or in response to discovery requests or the BBC Report.

1. Planting of native evergreen species as a visual buffer to mitigate view shed impacts. Plantings to primarily be in areas directly adjacent to the project without existing vegetation. In addition, Turkey Creek has met with neighbors to discuss specific view shed concerns and to provide visual buffers to address to specific concerns.

2. Cultivation of at least two acres of native pollinator-friendly species on-site.

3. Completion of an Environmental Site Assessment Phase 1 for the site, which was submitted with the instant application.

4. Turkey Creek will place "High Voltage Keep Out" or equivalent warning signs along the perimeter at approximately every 100-200 feet and at all gates/entrances.

5. Construction activity and delivery of materials to the site will be restricted to the hours between 7 a.m. and 9 p.m.

6. Development of a traffic management plan to minimize the impacts of this traffic increase and keep traffic safe. Part of this plan will be to maintain all traffic/staging on-site. The traffic management plan will also include protocols to make sure the fire department has immediate access to the driveway onto SR 39 when needed.

The Siting Board has reviewed the mitigation measures that have either been proposed by Turkey Creek or measures that have been accepted by the applicant in response to discovery requests or recommended in the BBC Report and have modified those measures associated with the implementation of the vegetative buffer, the traffic management plan, and the hours for construction activities. The Siting Board finds that the mitigation measures as proposed and as modified are appropriate and reasonable.

The Siting Board finds that Turkey Creek's SAR complies with all of the statutory requirements of KRS 278.708 subject to the mitigation measures and conditions imposed in this Order and the attached Appendix A.

II. Requirements Under KRS 278.710(1)

In addition to the evaluation of the factors contained in the Site Assessment Report, KRS 278.710(1) directs the Siting Board to consider the following additional criteria in rendering its decision:

- Economic impact on the affected region and state;
- Existence of other generation facilities;
- Local planning and zoning requirements;
- Potential impact on the electricity transmission system;

- Compliance with statutory setback requirements; and
- History of environmental compliance.

Economic Impact on Affected Region and the State

According to Turkey Creek's economic impact analysis, the proposed solar facility will generate lasting and significant positive economic and fiscal impacts on the entire affected region and the state. Such impacts includes the creation of hundreds of construction jobs, expansion of the local tax base, and the benefits of having a long-term employer and corporate citizen in the region that has a strong commitment to investing in the communities it serves. Turkey Creek states that such a commitment is reflected in the fact that, unlike most solar developers, it has purchased the land for this particular solar project enabling Turkey Creek to become a full participant in the local community where it develops, designs, funds, constructs, owns, operates, and maintains solar projects as long-term infrastructure assets. This approach also enables Silicon Ranch to implement its' proprietary Regenerative Energy land management practices; as well as, plan for future repowering efforts that will provide certainty and sustainable energy to the region well past the 40 year useful life of current technologies.[41] The Regenerative Energy process uses managed sheep grazing, with mechanical backup, as the long-term vegetation management strategy. Silicon Ranch notes that managed sheep grazing has shown to significantly improve the vegetation establishment and grassland restoration efforts post construction, as typical seeding equipment is prevented from accessing tight areas of the facility once solar modules are installed.[42] At Turkey Creek, specific

[41] Turkey Creek Solar, LLC Responses to Siting Board's First Request for Information (filed June 1, 2020), Item 9.

[42] *Id.*, Item 4.

Regenerative Energy practices will include, but not be limited to, the following: managed sheep grazing; pollinator habitat creation; carbon sequestration (and associated carbon credit generation); social impact quantification (via the Regenerative Energy EcoMetrics methodology, a quantification methodology that captures the full economic, social, and environmental value of a solar energy project).[43] Turkey Creek states that its' intention is to co-locate solar energy generation with agricultural production, in keeping with the agrarian ideals and agricultural history of this particular piece of property.[44]

During construction, Turkey Creek estimates that approximately 450 total jobs will be created, consisting of 300 direct jobs and 150 indirect jobs. The vast majority of these jobs will be filled by craft workers and contractors. The 450 jobs translate to a projected injection of approximately $16 million in new wages into the local economy, which will support local businesses, and a labor income multiplier impact of an additional $23 million. The total construction phase economic impact of the Turkey Creek facility (exclusive of capital investment and tax revenues) is projected to be approximately $39 million.[45]

Having reviewed the record, the Siting Board finds that the Turkey Creek solar facility will have a positive economic impact on the region. The Siting Board notes that the solar facility will be one of the very few utility-scale renewable generation resource in the state and will be one of the largest solar facilities in the state.

[43] *Id.*

[44] *Id.*

[45] Application Volume 1, Exhibit G.

Existence of Other Generating Facilities

Turkey Creek states that it is rare for utility-scale solar projects to be co-located with existing electricity generating infrastructure, such as a coal or natural gas fired power plant. As a result of Turkey Creek's efforts, the proposed solar project is located on land with existing transmission lines. Turkey Creek informs that the project will interconnect to an on-site, existing transmission line owned by EKPC. At the project's expense, EKPC will build a new tap line to interconnect the solar facility.[46] The proposed interconnection is to on-site, existing infrastructure owned by EKPC to be used for the sale and distribution of energy created by the Turkey Creek solar facility.

KRS 278.710(1)(d) provides that the Siting Board must consider whether a merchant plant is proposed for a site upon which facilities capable of generating 10 MW or more of electricity are currently located. Although the site upon which the Turkey Creek solar facility will be located does not contain any other generating facilities, the Siting Board notes the selected site will encompass an existing transmission line and Turkey Creek will be able to directly interconnect its solar facility to that of the existing transmission line without the need for any additional land. Also, as previously determined, the passive characteristics of the solar facility will be substantially compatible with the surrounding area.

Local Planning and Zoning Requirements

Turkey Creek states that the proposed solar facility will be located entirely in Garrard County. Turkey Creek notes that Garrard County has authorized the City of Lancaster to exercise limited extraterritorial jurisdiction for zoning purposes but neither

[46] Application Volume 1, Item 7, Efforts to locate near Existing Electric Generation.

the City of Lancaster nor the Lancaster Planning and Zoning Commission has enacted any zoning ordinances or setback requirements for the location of the Turkey Creek solar facility.[47] Turkey Creek submitted as part of its Application a certification that the proposed project will be in compliance with all local planning and zoning requirements that existed on the date the Application was filed.

The Siting Board finds that Turkey Creek's certification that the proposed facility will meet all local planning and zoning requirements that existed on the date the Application was filed, satisfies the requirements of KRS 278.710(1)(e).

Impact on Transmission System

Turkey Creek states that the proposed solar facility will be located within the PJM Interconnection LLC (PJM) footprint. Turkey Creek informs that PJM is the Regional Transmission Organization for 13 states, including parts of Kentucky, and is therefore managing the interconnection of the project in coordination with EKPC, who owns the transmission infrastructure to which the project is proposing to interconnect. The interconnection study process for PJM involves three study phases: Feasibility Study, System Impact Study, and Facilities Study.[48] The purpose of the feasibility study is to determine a plan, with ballpark cost and construction time estimates, to connect the proposed Turkey Creek solar facility to the PJM network at a location specified by Turkey Creek. PJM issued the Feasibility Study Report on the Turkey Creek project in July 2019 and identified that the proposed solar project will require approximately $5 million in upgrade costs to interconnect with EKPC's existing Tommy Gooch 69 kV transmission

[47] Application Volume 1, Item 4, Compliance with Local Ordinances and Regulations.

[48] Application Volume 1, Exhibit F.

line.[49] The upgrades consist of attachment facilities along with direct (construction of a switching station) and non-direct (relay upgrades) connection network upgrade.

The System Impact Study determines potential impacts to the regional electric grid and the need for any network upgrades to mitigate potential impacts. PJM issued the System Impact Study Report for the Turkey Creek solar facility in February 2020 and did not find any impact to the regional transmission system. Turkey Creek also requested LG&E to perform an affected system study in connection with the Turkey Creek solar facility. Turkey Creek states that LG&E's evaluation found that LG&E's system is not affected by the Turkey Creek solar facility.[50]

Turkey Creek states that the Facilities Study is currently underway and expected to be issued in September 2020.[51] Based upon information provided by PJM, Turkey Creek informs that the Facilities Study encompasses the engineering design work necessary to begin construction of required expansion plan upgrades identified by PJM to accommodate an interconnection request. Turkey Creek does not anticipate any issues resulting from this study.

Turkey Creek asserts that it will comply with all applicable conditions relating to electrical interconnection with utilities by following the PJM interconnection process. Additionally, Turkey Creek states that it will accept responsibility for appropriate costs which may result from its interconnecting with the electricity transmission grid consistent with the obligations imposed by KRS 278.212.

[49] *Id.* at 5.

[50] *Id.* at 15.

[51] Application Volume 1, Item 9, Effect on Kentucky Electricity Generation System.

KRS 278.710(f) provides that the Siting Board should consider whether the additional load imposed upon the electricity transmission system by use of the Turkey Creek solar facility will adversely affect the reliability of service for retail customers of electric utilities regulated by the Public Service Commission (PSC). Having reviewed the record, the Siting Board finds that the proposed solar facility will not adversely impact the reliability of service provided by retail electric utilities under the PSC's jurisdiction based upon Turkey Creek's commitment to the interconnection process and protocols and its acceptance of any cost obligations resulting from the interconnection process and protocols consistent with the requirements under KRS 278.212. The Siting Board finds that Turkey Creek has satisfied the requirements of KRS 278.710(f).

Compliance with Setback Requirements

Turkey Creek's Application acknowledges that KRS 278.706(2)(e) requires all proposed structures or facilities used for generation of electricity to be at least 2,000 feet from any residential neighborhood, school, hospital, or nursing home facility subject to a certain exception that is not applicable in this instance. KRS 278.700(6) defines "residential neighborhood" as a populated area of five or more acres containing at least one residential structure per acre. Turkey Creek states that there are four residential neighborhoods and the Garrard County High School within 2,000 feet of the proposed solar development. Turkey Creek filed a motion, pursuant to KRS 278.704(4), seeking a deviation from the 2,000 feet setback requirement.[52] The four nearby residential neighborhoods and the Garrard County High School are described as follows:

[52] Applicant's Motion for Deviation from Setback Requirements (Motion) (filed Apr. 8, 2020).

1. Merriwood Estates is the closest residential neighborhood and is located northeast of the project site on Industry Road, which is approximately 300 feet from the estimated boundary of the solar facility. Merriwood Estates has approximately 47 single family homes.

2. The next closest residential neighborhood is designated by Turkey Creek as Neighborhood B and is approximately 1,550 feet from the solar facility's boundary. Neighborhood B is located behind Merriwood Estates and next to the Garrard County High School and has approximately 72 single family homes.

3. Garrard County High School, on Industry Road, is approximately 1,700 feet from the Turkey Creek solar facility's boundary. The school is located behind Merriwood Estates on the other side of Industry Road and next to Neighborhood B. Turkey Creek provided a letter from the Garrard County Board of Education supporting Turkey Creek's request for a deviation in this matter as it relates to the setback requirements related to the distance between Garrard County High School and the proposed Turkey Creek solar site. The letter states that the Garrard County Board of Education is confident that the solar facility will not have any adverse effect on the health and safety of the students and staff of the high school.

4. Deer Run South subdivision is located on the northern tip of the Turkey Creek site and is approximately 1,730 feet from the site's boundary. Deer Run South has approximately 29 single family homes.

5. The fourth residential neighborhood is designated as Neighborhood A and is located on Southway Road off of US 27, which is west of the solar site. Neighborhood

A is approximately 1,780 feet from the Turkey Creek boundary and has approximately 25 single family homes.[53]

KRS 278.704(4) provides that the Siting Board may grant a deviation from the setback requirements if it is determined that the proposed facility as designed and as located would meet the goals of KRS 224.10-280 (Cumulative Environmental Assessment) 278.010 (definitions), 278.212 (costs of upgrading existing grid), 278.214 (curtailment of service), 278.216 (site assessment report), 278.218 (transfer of ownership), and 278.700 to 278.716 (Siting Board requirements) at a distance closer than the required 2,000 feet.

Subject to certain exceptions not applicable in this matter, KRS 224.10-280 requires a person to submit a cumulative environmental assessment (CEA) to the Kentucky Energy and Environment Cabinet (Cabinet) along with a fee before beginning construction of an electric power plant. Although it is unaware of any regulations that have been promulgated regarding CEAs, including any regulations that would establish a fee for the processing of a CEA, Turkey Creek developed a CEA for submission to the Cabinet. Turkey Creek states that the CEA provides an in-depth analysis of the potential air pollutants, water pollutants, wastes, and water withdrawal associated with the proposed merchant solar facility.

The CEA shows that the Turkey Creek solar facility will produce zero emissions and is not expected to emit any of the criteria pollutants such as particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxide, volatile organic contaminants, or lead. Although there will be some indirect air emissions during construction and operations from the use

[53] *Id.,* Exhibit 1.

of vehicles and mowing, respectively, no air quality permit is required for these construction or ancillary activities.[54]

With respect to water pollutants, the CEA shows that the Turkey Creek solar facility will result in the discharge of stormwater during construction. Turkey Creek states that it intends to comply with the Kentucky Division of Water's Construction (KDOW) Storm Water Discharge General Permit for those construction activities that disturb one acre or more. Turkey Creek also will submit a Notice of Intent prior to the commencement of construction and a notice of termination upon completion. Turkey Creek will use stormwater best management practices, such as silt fences, to manage stormwater during construction. Lastly, a stormwater pollution prevention plan also will be prepared and implemented to comply with KDOW requirements.[55]

With respect to waste evaluation, the CEA notes that construction activities will generate solid waste consisting of construction debris and general trash, such as wooden crates, pallets, flattened cardboard module boxes, plastic packaging, and excess electrical wiring. To the extent feasible and practicable, Turkey Creek will recycle construction waste and material that cannot be recycled will be disposed off-site at a permitted facility. The project will also generate very small amounts of hazardous waste, which will be managed off-site at a permitted facility.

With respect to managing water withdrawal and usage, the Turkey Creek solar facility will primarily utilize groundwater from existing on-site wells to provide water needed for construction activities. Construction-related water use would support site

[54] *Id.*, Exhibit 4.

[55] *Id.* at 8.

preparation (including dust control, if applicable) and grading activities. Similar to other solar facilities, the Turkey Creek project is not water intensive during the operational phase.

Turkey Creek states that, based upon the CEA submitted to the Cabinet, the goals of the requirements of KRS 224.10-280 have been met.

With respect to KRS 278.010, Turkey Creek states that this statutory provision sets forth the 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. Turkey Creek asserts that the Siting Board's authority begins with KRS 278.700 and extends through KRS 278.716 and any applicable provision of 278.990. Turkey Creek contends that in filing a complete application pursuant to the applicable statutes in this proceeding, the company has satisfied the goal of providing the required information utilizing the definition of any applicable term defined in KRS 278.010.

KRS 278.212 requires the filing of plans and specifications for electrical interconnection with merchant electric generating facility and imposes the obligation upon a merchant electric generating developer for any costs or expenses associated with upgrading the existing electricity transmission grid as a result of the additional load caused by a merchant electric generating facility. Turkey Creek avers that it has met the goals of KRS 278.212 because Turkey Creek will comply with all applicable conditions relating to electrical interconnection with utilities by following the PJM interconnection process. Additionally, Turkey Creek states that it will accept responsibility for appropriate costs which may result from its interconnecting with the electricity transmission grid.

KRS 278.214 governs the curtailment of service and establishes the progression of entities whose service may be interrupted or curtailed pursuant to an emergency or other event. Turkey Creek states that it will abide by the requirements of this provision to the extent that these requirements are applicable.

KRS 278.216 requires utilities under the jurisdiction of the Kentucky Public Service Commission to obtain a site compatibility certificate before beginning construction of an electric generating facility capable of generating more than 10 megawatts. An Application for a site compatibility certificate should include the submission of a site assessment report as prescribed in the applicable Siting Board statutes. Turkey Creek states that it is not a utility under the jurisdiction of the Kentucky Public Service Commission. However, Turkey Creek states that it has nonetheless met the requirements of KRS 278.216 by complying with the requirements of KRS 278.700 *et seq.*, including the submission of a site assessment report.

KRS 278.218 provides that no transfer of utility assets having an original book value of $1 million or more without prior approval of the Kentucky Public Service Commission if the assets are to be transferred by reasons other than obsolescence or the assets will continue to be used to provide the same or similar service to the utility or its customers. Turkey Creek states that it is not a utility as that term is defined in KRS 278.010(3). However, to the extent Siting Board approval may at some time be required for change of ownership or control of assets owned by Turkey Creek, Turkey Creek states that it will abide by the applicable rules and regulations which govern its operation.

KRS 278.700 *et seq.* governs the Siting Board's jurisdiction and process. Turkey Creek states that it has met the goals set forth in these provisions as evidenced by the

application in its entirety. Turkey Creek further states that it has provided a comprehensive application with a detailed discussion of all of the criteria applicable to its proposed facility under KRS 278.70–278.716.

Having reviewed the record and being otherwise sufficiently advised, the Siting Board finds that Turkey Creek has demonstrated the proposed facility as designed and as located would meet the goals of the various statutes set forth in KRS 278.704(4) at a distance closer than the required 2,000 feet and is therefore permitted to a deviation from the 2,000 feet setback requirement, with the exception of the location of the inverters. The Siting Board will require that the inverters be located at least 626 feet from the closest residence and the Garrard County High School given that the application provided that the location of the inverters at least at such a distance.

History of Environmental Compliance

Turkey Creek states that neither it nor any entity with ownership interest in the solar project has violated any state or federal environmental laws or regulations. Turkey Creek further states that there are no pending actions against Turkey Creek nor any entity with ownership interest in the solar project.

KRS 278.710(1)(i) directs the Siting Board to consider whether the applicant has a good environmental compliance history. In light of Turkey Creek's verified statement and no evidence to the contrary, the Siting Board finds that Turkey Creek has satisfied the requirements of KRS 278.710(1)(i).

III. Decommissioning

Turkey Creek states that its situation is unusual because, unlike most solar project developers, Turkey Creek has purchased the land for the facility site, which allows it to

become a full participant in the local community where it develops, designs, funds, constructs, owns, operates, and maintains solar projects as long-term infrastructure assets. This also allows Turkey Creek to implement its proprietary Regenerative Energy land management practices; as well as, plan for future repowering efforts that will provide certainty and sustainable energy to the region well past the 40 year useful life of current technologies. The Noise and Traffic Assessment also states that at the end of the project's useful life, the equipment and electrical infrastructure will be removed from the site, and land may return to farming or other development.[56]

The Siting Board finds that to the extent Turkey Creek or its successors retire and decommission the solar facility without any subsequent plans to repower the facility, Turkey Creek should decommission the entire site and complete reclamation to its original or a superior state after the project has served its useful life. With respect to those assets or equipment that cannot be salvaged, Turkey Creek should recycle or dispose of those assets or equipment in an environmentally appropriate and compliant manner.

CONCLUSION

After carefully considering the criteria outlined in KRS Chapter 278, the Siting Board finds that Turkey Creek has presented sufficient evidence to support the issuance of a deviation from the setback requirements of KRS 278.704(2) and a Certificate to Construct the proposed merchant solar facility. The Siting Board conditions its approval upon the full implementation of all mitigation measures described herein and listed in Appendix A to this Order. A map showing the location of the proposed solar generating facility is attached hereto as Appendix B.

[56] Application Volume 2, Exhibit C at 1, paragraph 1.1.

IT IS THEREFORE ORDERED that:

1. Turkey Creek's Application for a Certificate to Construct an approximately 50 MWac merchant solar electric generating facility in Garrard County, Kentucky is conditionally granted subject to full compliance with the mitigation measures and condition prescribed in Appendix A.

2. Turkey Creek's motion for deviation from the 2,000 feet setback requirement is granted except for the location of the inverters.

3. Turkey Creek shall fully comply with the mitigation measures and conditions prescribed in Appendix A.

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By the Kentucky State Board on Electric Generation and Transmission Siting

ATTEST:

Acting 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. 2020-00040 DATED SEP 23 2020

MITIGATION MEASURES AND CONDITIONS IMPOSED

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

1. Turkey Creek shall place "High Voltage Keep Out" or equivalent warning signs along the perimeter at approximately every 100–200 feet and at all gates or entrances.

2. Upon its completion, a final site layout plan shall be submitted to the Siting Board. Material deviations from the preliminary site layout plan which formed the basis for the instant review shall be clearly indicated on the revised graphic. Those material changes might include substantive changes in the location of solar panels, transformer, inverters, panel motors, substation, or other project facilities or infrastructure.

3. Any change in Turkey Creek's boundaries from the information that formed the basis of this evaluation shall be submitted to the Siting Board for review.

4. The Siting Board shall determine whether any deviation in the boundaries or site development plan is likely to create a materially different pattern or magnitude of impacts. If not, no further action is required; but if that is the case, Turkey Creek shall support the Siting Board's effort to revise its assessment of impacts and mitigation requirements.

5. Turkey Creek or its contractor shall control access to the site during construction and operation. All construction entrances shall be gated and locked when not in use.

6. The fence surrounding the property boundary shall be installed after grading of the site and before the main array installation begins. According NESC regulations, the security fence shall be installed prior to any electrical installation work. The substation and construction staging area shall also have their own separate security fences installed.

7. Where there are potential visual or noise impacts created by the solar facility, Turkey Creek shall plant a 15-foot wide vegetative buffer consisting of two staggered rows of evergreen shrubs. The evergreen shrubs shall be either mature at the time of planting of at least six feet in height or if Turkey Creek elects to plant non-mature evergreen shrubs of at least three feet at the time of planting, Turkey Creek shall also include additional temporary buffers that would immediately help to mitigate any potential noise and visual impacts until the evergreen shrubs have grown to maturity.

8. Turkey Creek shall implement the modified vegetative buffers to those properties that are within 1,500 feet of the solar facilities' boundary lines before the tamping of the racking panels and Turkey Creek shall schedule the tamping process at these nearby homes so that the tamping will occur at the end of the tamping process period.

9. Turkey Creek shall cultivate at least two acres of native pollinator-friendly species on-site.

10. Turkey Creek shall require its Engineering, Procurement, and Construction contractor to develop a traffic management plan to minimize the impacts of any traffic increase and keep traffic safe. Part of this traffic management plan will be to maintain all traffic and staging on-site. The traffic management plan shall also include protocols to ensure the local fire department has immediate access to the driveway onto SR 39 when needed. In addition, the traffic management plan shall also identify any noise concerns during the construction period or traffic impacts during the school year due to construction activities and develop measures that would address those noise and school traffic concerns.

11. Turkey Creek's construction activity, process, and deliveries shall be limited to the hours of 8 a.m. and 6 p.m. Monday through Saturday.

12. Turkey Creek shall use appropriate signage and traffic signaling as needed to aid construction traffic and prevent severe traffic issues.

13. As needed, Turkey Creek shall provide a temporary traffic signal at the intersection of US 27 and SR 39.

14. As needed, Turkey Creek will shuttle commuting construction workers.

15. Turkey Creek's contractor shall apply best management practices regarding dust mitigation, including but not limited to: water applied to internal roads as needed; internal roads compacted; internal roads constructed or improved as needed; loads of dirt and other air-pollution causing particles covered while in transit; revegetation measures and covering of spoil piles.

16. Turkey Creek shall inform and obtain permits from State and local road authorities as pertaining to any Class 21 vehicle transport to the site. Turkey Creek shall

also comply with those permit requirements and shall coordinate with proper road officials prior to these trips.

17. Turkey Creek shall fix or pay for damage resulting from any vehicle transport to the project site.

18. Residents within 1,500 feet of the property boundaries of the Turkey Creek solar facility shall be notified about potential construction noises. Residents within 500 feet of the solar panels shall be notified about potential operational noises.

19. Turkey Creek shall remain in contact with nearby residents to confirm that noise levels are not unduly high or annoying after the pounding and placement of the solar panel racking begins. Any noise generator that creates noise levels in excess of 120 dB shall be considered unduly high or annoying.

20. If noise levels during the construction period are unacceptable to nearby residents or landowners (i.e., noise levels greater than 120 dB), Turkey Creek shall take such steps to mitigate the noise impact.

21. Turkey Creek shall contact nearby residents to confirm that noise levels are not unduly high or annoying after operations begin. Any noise generator that creates noise levels in excess of 120 dB shall be considered unduly high or annoying.

22. Turkey Creek shall consider, among other things, additional buffering, fencing, or revising the construction schedules or delivery patterns in those areas where noise impacts are annoying residents or will potentially annoy them.

23. Turkey Creek shall comply with all applicable conditions relating to electrical interconnection with utilities by following the PJM interconnection process. Turkey Creek shall also accept responsibility for appropriate costs which may result from its

interconnecting with the electricity transmission grid consistent with the obligations imposed by KRS 278.212.

24. To the extent Turkey Creek or its successors retire and decommission the solar facility without any subsequent plans to repower the facility, Turkey Creek or its successors shall decommission the entire site and complete reclamation to its original or a superior state after the project has served its useful life. With respect to those assets or equipment that cannot be salvaged, Turkey Creek or its successors shall recycle or dispose of those assets or equipment in an environmentally appropriate and compliant manner.

APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING IN CASE NO. 2020-00040 DATED SEP 23 2020

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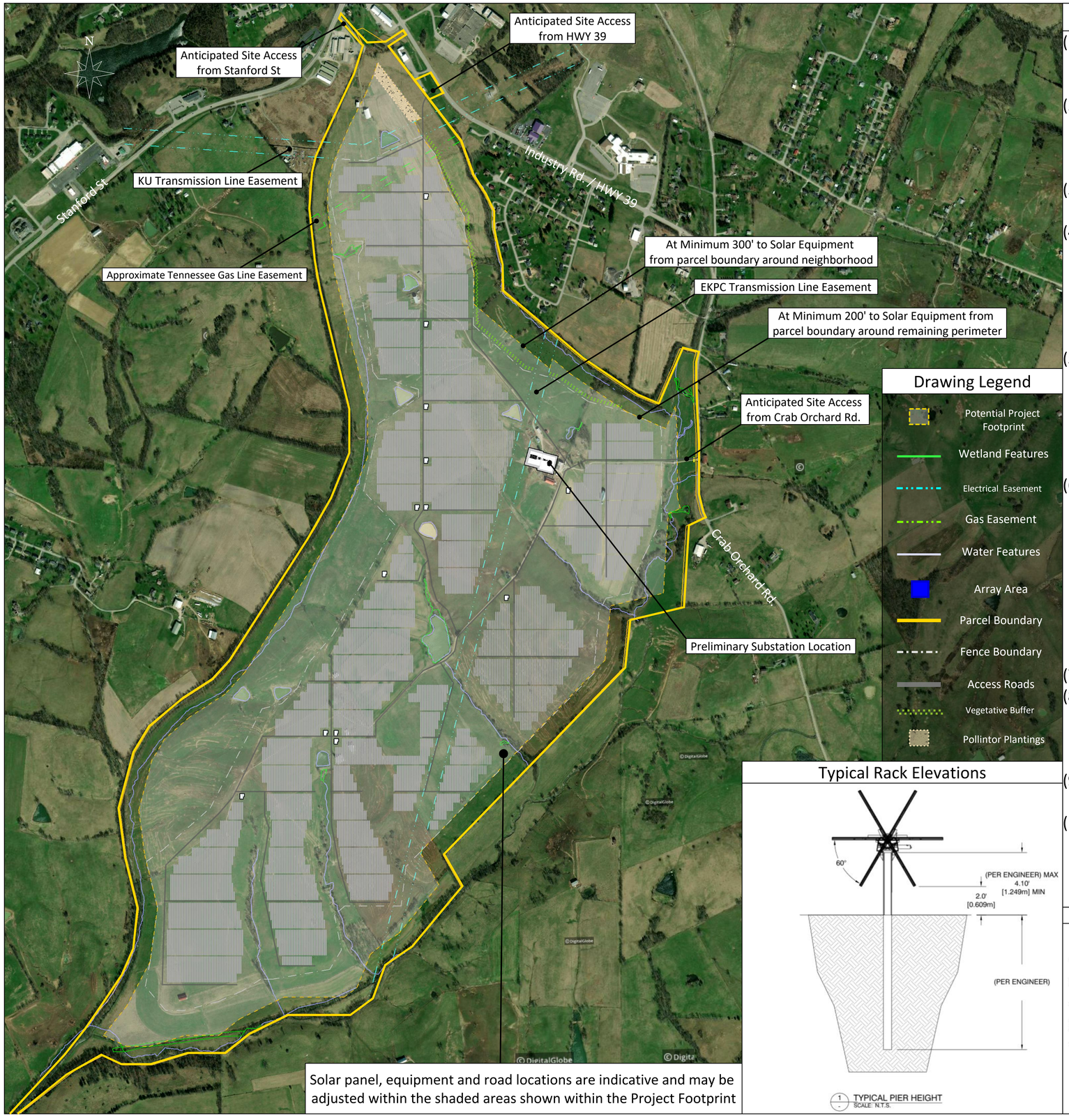


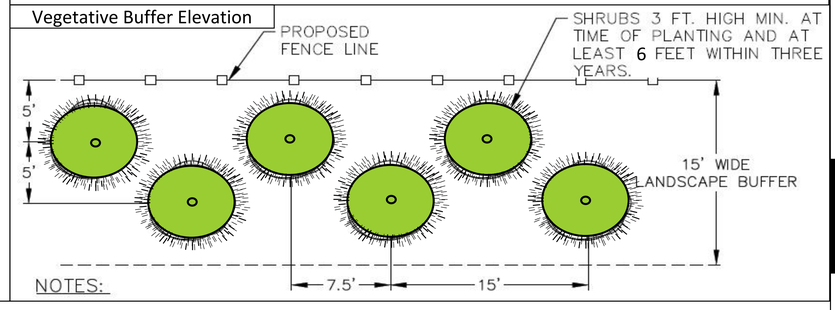
Solar panel, equipment and road locations are indicative and may be adjusted within the shaded areas shown within the Project Footprint

Typical Rack Elevations

Standard Notes

(1) The Purpose of this plan is for a Power Generation Permit for review and approval by the Kentucky State Siting Board to construct a solar energy system. All information shown is for planning purposes only.
(2) The property lines, existing improvements, and topographic data shown hereon are not based on a field survey and have been completed from ArcGIS & Google Earth Imagry. No field evidence of property markers were located with this Exhibit.
(3) Wetlands and Streams are shown representative of a delineation received by Carolina Solar Energy.
(4) Project area will be cleared and grubbed as necessary, retaining pre-development drainage patterns as much as possible. Minor grading will occur around inverter areas to divert surface drainage. Areas subject to rutting during construction will be temporarily stabilized with gravel that will remain after construction. Soil conditions and equipment loads will determine final design.
(5) Proposed construction and temporary laydown yard/construction staging area to be used during site construction. A portion of this area will be covered with gravel to allow delivery of construction materials. Prior to construction, this area will be compacted by a smooth drum or sheepsfoot roller to reduce/prevent rutting. Following construction gravel laydown yard will be removed.
(6) Access aisles shown on this plan indicate construction and maintenance access points for ingress/egress. Prior to construction, these aisles are compacted by a smooth drum or sheepsfoot roller to reduce/prevent rutting. Gravel may be placed in high traffic or poorly draining areas during construction activites to improve access. Soil access aisle will be scarified, aerated, and re-seeded after construction. Access aisles to inverters may require gravel to support delivery equipment loads. Soil conditions and final equipment selection will determine if gravel access aisles will be required to inverter locations
(7) All Right-Of-Ways are public unless noted otherwise.
(8) Utility lines and services shown hereon are approximate per aerial photography or as reported by various responsible parties. Location of underground utilities are not shown. Call appropriate authorities before digging.
(9) No lighting is proposed for the array area. The Interconnection Substation will have some lighting.
(10) 6' tall chain link fence with three strands of barbed wire or similar to meet National Electric Code requirements. The proposed access gate will be will be locked with a standard keyed or combination lock. Emergency personnel will be provided a key or combination for access.

Vegetative Buffer Elevation



CAROLINA SOLAR ENERGY

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Turkey Creek Farm
50 MWAC

ISSUE
7.8.20

PROJECT
Turkey Creek

DRAWN BY
CJ

DESCRIPTION
Array Layout

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