

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

In the Matter of:

ELECTRONIC APPLICATION OF AEUG FLEMING)	
SOLAR, LLC FOR A CERTIFICATE OF)	
CONSTRUCTION FOR AN APPROXIMATELY 188)	
MEGAWATT MERCHANT ELECTRIC SOLAR)	CASE NO.
GENERATING FACILITY IN FLEMING COUNTY,)	2020-00206
KENTUCKY PURSUANT TO KRS 278.700 AND)	
807 KAR 5:110)	

O R D E R

On November 25, 2020, AEUG Fleming Solar, LLC (AEUG Fleming) filed an application requesting a Certificate of Construction to construct an approximately 188-megawatt alternating current (MWac) solar photovoltaic electric generating facility to be located at 3211 Old Convict Pike in Flemingsburg, Fleming County, Kentucky.¹ AEUG Fleming is a limited liability company organized under the laws of Delaware with a principal place of business in Chicago, Illinois.² The total acreage within the project boundary is 1,857 acres that has been predominantly used as pasture and agricultural.³ Of the total acreage, approximately 1,590 acres will be covered by project components.⁴ The on-site equipment will consist of 510,300 solar panels with a tracking system, 70

¹ Application at 1.

² *Id.*

³ AEUG Fleming's Response to Harvey Economics' Second Request for Information (filed Feb. 19. 2021), Item II.D. See also, Application Volume 1, Item 2, Description of Proposed Site.

⁴ AEUG Fleming's Responses to Harvey Economics' Second Request for Information (filed Feb. 19, 2021), Item II.D.

inverters, substation, warehouse, operations and maintenance building, and associated wiring and balance of system.⁵ The facility's output will be transmitted and sold in the wholesale power market through the existing transmission line that crosses the property.⁶

Pursuant to an Order issued on December 7, 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 AEUG Fleming's application, a deadline for the filing of the consultant's report, and an opportunity for AEUG Fleming to submit comments in response to the consultant's report. The December 7, 2020 Order also scheduled a hearing for the matter which resulted in extending the statutory deadline for the processing of this matter from 120 days to 180 days from the date of the filing of the application.

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 Fleming 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

⁵ Application Volume 2, Item 1.1, Project Description. See also, AEUG's Fleming's Response to Harvey Economics' Second Request for Information (filed Feb. 19, 2021), Item II, Exhibit 1, Updated Site Plan.

⁶ Application at 1.

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.

AEUG Fleming has filed responses to multiple rounds of discovery in this matter. On February 19, 2021, AEUG Fleming 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, Harvey Economics, to review AEUG Fleming'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 February 23, 2021. The Harvey Economics Report was filed on February 26, 2021. Upon approval for an extension of time, AEUG Fleming submitted its response to the Harvey Economics Report on March 17, 2021. A formal evidentiary hearing was held on April 1, 2021. AEUG Fleming filed responses to post-hearing data requests on April 20, 2021. The Siting Board received multiple public comments, both supporting and objecting to the proposed solar facility. The Siting Board also heard a significant number of public comments at the beginning of the April 1, 2021 formal evidentiary hearing. The public commenters expressed support and disapproval of the proposed solar project. The matter now stands submitted for a decision.

PROPOSED AEUG FLEMING SOLAR FACILITY

The proposed solar facility will be located at 3211 Old Convict Pike, Flemingsburg, Fleming County, Kentucky. The facility will be located between Elizaville, Flemingsburg Junction, and Flemingsburg.⁷ The solar facility site is roughly bounded by

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

Old Convict Road (Highway 559) on the north, Elizaville Road (Highway 32) on the south, Highway 11 on the east, and Nepton Road (Highway 367) on the west.⁸ The proposed site totals approximately 1,857 acres. AEUG Fleming has entered into lease agreements with 14 adjoining landowners to establish site control.⁹ AEUG Fleming anticipates using approximately 1,590 acres for the installation of the necessary solar equipment and facilities.¹⁰ AEUG Fleming states that a fence meeting the National Electrical Safety Code (NESC) requirements, which is typically a six-foot fence with razor or barbed wire at the top, will enclose the facility and that project entrance gates are anticipated to be approximately 8 feet high and 12 feet wide to allow for emergency and maintenance access.¹¹ The solar facility has a rated capacity of 188 MWac and will be connected to East Kentucky Power Cooperative, Inc.'s (EKPC) Flemingsburg – Spurlock 138 kV transmission line.¹² The 138 kV line runs in a north-south direction along the eastern portion of the proposed site.¹³ AEUG Fleming states that, to the extent needed, electric service during construction and operation will be provided by either Fleming-Mason Energy Cooperative (Fleming-Mason Energy) or Kentucky Utilities Company (KU)

⁸ *Id.*

⁹ Application Volume 2, Site Assessment Report, Appendix B, Legal Description of Site.

¹⁰ AEUG Fleming's Response to Harvey Economics' Second Request for Information (filed Feb. 19, 2021), Item II.D.

¹¹ Application Volume 1, Item 2, Description of Proposed Site. See also, Application Volume 2, Site Assessment Report, Item 1, Proposed Site Development Plan.

¹² Application Volume 1, Item 2, Description of Proposed Site. See also, Application, Volume 1, Appendix G, Economic Impact Report, page 10.

¹³ AEUG's Fleming's Response to Harvey Economics' Second Request for Information (filed Feb. 19. 2021), Item II, Exhibit 1, Updated Site Plan.

because the footprint of the proposed solar facility straddles both of those electric utilities' service territories.¹⁴

AEUG Fleming notes that the area surrounding and within the project site consists of scattered rural residential development, commercial and retail businesses, communication facilities, and vehicular transportation network.¹⁵

Pursuant to KRS 278.706(2)(c), AEUG Fleming notified 96 landowners whose property borders the proposed solar facility site via certified mail on November 19, 2020.¹⁶ AEUG Fleming also published notice of the proposed solar facility in the *Flemingsburg Gazette*, the newspaper of general circulation in Fleming County, on November 18, 2020.¹⁷

In addition, AEUG Fleming also engaged in public involvement program activities as required by KRS 278.706(2)(f) prior to the filing of its application. AEUG Fleming informs that it has been active in the project area since March 2020.¹⁸ During that time AEUG Fleming notes that it has met with landowners, stakeholders, and local government officials about the proposed 188-MW solar power project between the communities of Elizaville and Flemingsburg.¹⁹ AEUG Fleming also states that it held a public meeting on August 7, 2020, at the Fleming County Fiscal Court Meeting Room to inform the public

¹⁴ AEUG Fleming's Response to Siting Board Staff's First Request for Information (filed Jan. 22, 2021), Item 25.

¹⁵ Application Volume 1, Item 2, Description of Proposed Site.

¹⁶ Application Volume 1, Item 3, Public Notice Evidence.

¹⁷ *Id.*

¹⁸ Application Volume 1, Item 6, Public Involvement Report.

¹⁹ *Id.*

about the solar project and receive comments from the public.²⁰ AEUG Fleming published notice of the public meeting in the July 15, 2020 edition of the *Flemingsburg Gazette* and also mailed letters to all adjoining landowners notifying them of the public meeting.²¹ In addition to the public meeting, AEUG Fleming Solar held a virtual community meeting on Wednesday, July 22, 2020.²²

DISCUSSION

I. Requirements Under KRS 278.708 – Site Assessment Report

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 SAR 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

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

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, AEUG Fleming states that the area around the project site can be generally described as rural, agricultural, with rolling hills and areas of trees. AEUG Fleming further states that half of the surrounding acreage is defined as agricultural/residential, and another 37 percent of the surrounding acreage is purely agricultural.²³ The remaining 12 percent of the surrounding area is defined as purely residential.²⁴

There are 76 individual parcels of land, varying in size from less than one acre to more than 300 acres, located adjacent to the AEUG Fleming solar site. There will also be 57 homes located within 1,200 feet of the AEUG Fleming solar facility fence. Five homes are within 300 feet of the proposed solar facility's fence and four homes are within 300 feet of the nearest solar panels. Exact locations of some solar panels, the inverters, and transformer have not been finalized by AEUG Fleming. AEUG Fleming provides, however, that the transformer will be located within the substation and that the substation and the operations and maintenance building will be located in the eastern portion of the project site. AEUG Fleming also estimates that the solar panels will be about 35 feet from the boundary of the proposed solar site at the closest points. AEUG states that there will be ten access points, or access roads, which will allow entrance to different areas of the property during construction and operations. Those include three access roads from

²³ Application, Volume 2, Site Assessment Report, Item 1, Proposed Site Development Plan.

²⁴ *Id.*

Highway 32; four from Old Convict Road (Highway 559); one from Junction Road (Highway 170); and two from Nepton Road (Highway 367). The point of access nearest the substation and the operations and maintenance facility along Highway 32 will be the primary access point and the most heavily trafficked. All site entrances will be gated and locked when not in use, with the main gate to the operations and maintenance facility and the substation having a camera. Security fencing, as described above, will enclose the facility during construction and operation. The AEUG Fleming's solar facility's electric needs will be served by either Fleming-Mason Energy or KU during construction and operation.

The Harvey Economics Report concludes that AEUG Fleming has generally complied with the requirements for describing the facility and a site development plan, as required by KRS 278.708. The report recommends the following mitigation measures.

1. A final site layout plan should be submitted to the Siting Board upon completion of the final site design. Deviations from the preliminary site layout plan, which formed the basis for the instant review should be clearly indicated on the revised graphic. Those changes would include, but are not limited to, location of solar panels, inverters, transformer, the warehouse, substation, operations and maintenance building, or other project facilities or infrastructure.
2. Any change in the boundaries of the proposed solar facility 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, AEUG Fleming will support the Siting Board's effort to revise its assessment of impacts and mitigation requirements.

4. AEUG Fleming 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. AEUG Fleming's access control strategy should also include appropriate signage to warn potential trespassers. AEUG Fleming must ensure that all site entrances and boundaries have adequate signage, particularly in locations visible to the public, local residents, and business owners.

6. The security fence surrounding the property boundary must be installed prior to any electrical installation work. The substation will have its own separate security fences installed.

The Siting Board finds that AEUG Fleming'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 Harvey Economics Report are reasonable and, therefore, will require AEUG Fleming to implement the mitigation measures identified above.

Compatibility with Scenic Surroundings

AEUG Fleming states that the proposed solar site is located between Elizaville, Flemingsburg Junction, and Flemingsburg. According to AEUG Fleming, the topography in the area consists of a series of gently rolling hills and swales.²⁵ AEUG Fleming provides that land use surrounding the project area is primarily pasture and agricultural, with no

²⁵ Application, Volume 1, Item 2, Description of Proposed Site.

large forested areas. Tree lines typically occur at parcel boundaries, in riparian zones, and along roadways. Adjoining land is primarily a mix of residential and agricultural uses, which, according to AEUG Fleming is very typical of solar farm sites.²⁶ AEUG Fleming notes that there is a nearby religious facility and minimal adjoining commercial uses.²⁷

AEUG Fleming asserts 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. AEUG Fleming asserts that the height of solar panels, which are generally 6 to 10 feet off the ground, has a similar visual impact as compared to a typical greenhouse (which is similar in height) and lower than a single story residential home (which has a greater height).²⁸ AEUG Fleming 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.²⁹ AEUG Fleming further indicates that it has identified certain properties in which a vegetative buffer will be implemented in order to mitigate viewshed impacts for those properties. Lastly, AEUG Fleming states that it is fully committed to working with neighboring properties and other noise sensitive areas to address and provide reasonable mitigation measures related to viewshed or noise issues.³⁰ In particular, AEUG Fleming informs that it has developed a

²⁶ Application, Volume 2, Site Assessment Report, Appendix A, Property Value Impact Report, at 3.

²⁷ *Id.*

²⁸ *Id.* at 112.

²⁹ *Id.*

³⁰ AEUG Fleming's Response to Post-Hearing Requests for Information (filed Apr. 20. 2021), Item 8.

formal Complaint Resolution Plan to ensure that complaints to AEUG Fleming are properly addressed.³¹

The Harvey Economics Report finds that the visual setting surrounding the AEUG Fleming solar site is agricultural and residential. The report also finds that rolling hills and groups of trees help mitigate against any negative visual impacts to residents and commuters, but since the area is converted farmland, there are numerous open spaces that make the solar panels visible from many different viewpoints. Local residents indicate that they value the agrarian aesthetic in Fleming County.

The Harvey Economics Report also finds that a small portion of the solar site is visible from Highway 32, on the south end of the project site. The report determined that a majority of the northern portion of the project will be visible from Highway 559. Few native visual buffers exist along the north side of the project, making it visible to commuters and residents. A portion of the noncontiguous western parcel will also be visible to commuters and residents.

Although AEUG Fleming's glare study has not been finalized at the time of the issuance of this Order, the Harvey Economics Report points out that AEUG Fleming has committed to reducing any potential glare issue by use of anti-glare solar panels or operation of tilting the panels, either in the morning or late afternoon.

The Harvey Economics Report concludes that Fleming County residents value agricultural vistas and are concerned about being overwhelmed by solar panels. The report finds that construction vehicles and activity will be seen from numerous vantage

³¹ *Id.*

points, but these effects will be temporary as construction work moves around the site. The operational infrastructure may cause adverse visual impacts to certain residences and businesses since few vegetative buffers are currently planned. Lastly, the report notes that the substation will be hidden from nearly all viewing points.

The Harvey Economics Report recommends the following mitigation measures to address visual impacts.

1. AEUG Fleming will not remove any existing vegetation unless the existing vegetation needs to be removed for placement of solar panels.
2. Existing vegetation between the solar arrays and the residences will be left in place, to the extent practicable, to help screen the solar facility and reduce visual impacts from the adjacent homes.
3. AEUG Fleming has committed to working with homeowners and business owners to address concerns related to the visual impact of the solar facility on its neighbors.
4. AEUG Fleming should provide a visual buffer between the facility and residences and other occupied structures with a line of sight to the facility to the satisfaction of the affected property owners. If vegetation is used, plantings should reach eight feet high within four years. That vegetation should be maintained or replaced as needed.
5. AEUG Fleming will cultivate at least six acres of native pollinator-friendly species within the solar facility site, among the solar panels. At least 0.5 an acre of pollinator-friendly species will be planted in the western, noncontiguous parcel of the solar facility site.

6. AEUG Fleming has pledged to select anti-glare panels and operate the panels in such a way that all glare from the panels is eliminated. Applicant will provide proof that glare will not occur from the facility or immediately adjust solar panel operations upon any complaint from those living, working or travelling in proximity to the facility. Failing this, AEUG Fleming will cease operations until the glare is rectified.

Having reviewed the record, the Siting Board finds that the passive characteristics of the proposed solar facility combined with the existing topography of the surroundings, in general, where the solar facility will be located as well as the trees and other vegetation in the area will mitigate the effects the proposed facility will have on the scenic surroundings of the site. The physical characteristics of the solar facility also do not pose any adverse impact to the scenic surroundings given that the majority of the day the solar panels will be between six and ten feet high, which would be a lower profile than most single-family homes. The Siting Board does have concerns regarding areas identified in the Harvey Economics Report north and west of the proposed solar site which have few existing vegetative buffering and, therefore, commuters and property owners along the northern and western portion of the solar facility will have an unobstructed view of the site and will have no buffering to mitigate any noise generated by the solar facility both during construction and during operation. Although AEUG Fleming has committed to coordinating with neighboring property owners and businesses who raise concerns about the visual impact of the solar facility to provide visual buffering when it is appropriate and reasonable, the Siting Board finds that such a commitment does not provide reasonable assurance that the concerns of neighboring landowners and businesses will be adequately addressed as it leaves the decision making in the sole hands of AEUG

Fleming without any oversight. The Siting Board finds that the mitigation measures recommended in the Harvey Economics Report are reasonable and, therefore, will require AEUG Fleming to implement the mitigation measures identified above with the exception to Mitigation Measure 4 which will be modified as follows:

4. For residences and other occupied structures that are within 300 feet of the proposed solar facility's boundary and having an unobstructed line of sight of the facility, AEUG Fleming should provide a buffer to the satisfaction of the affected property owners. If vegetation is used, plantings should reach eight feet high within four years. That vegetation should be maintained or replaced as needed. To the extent an affected property owner indicates to AEUG Fleming that such a buffer is not necessary, AEUG Fleming will need to obtain that property owner's written consent and submit such consent in writing to the Siting Board.

The Siting Board notes that the mitigation measure to cultivate at least six acres of native pollinator-friendly species will further ensure that the solar facility will blend in and add to the existing surroundings. Regarding AEUG Fleming's commitment to submit a glare study that will confirm that there will be no red glare at key observation points, the Siting Board notes that such a study will not be filed until June 15, 2021, which is approximately three weeks after the issuance of this final Order. Because the Siting Board will not have an opportunity to review the glare study prior to making its decision in this case, the final decision reached in this Order will be conditioned upon the Siting Board's review and approval of the glare study once it is submitted.

Impact on Property Values

With respect to impact on property values, AEUG Fleming submitted a Property Value Impact Report from a certified real estate appraiser that 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.³² The report indicates that the solar facility would function in a harmonious manner with the nearby surroundings, which is mostly 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.

The Harvey Economics Report evaluated the impacts to property values by reviewing relevant existing literature related to solar facility impacts; prepared further analysis of the data provided in AEUG Fleming's Property Value Impact Report; and conducted interviews with two local real estate professionals. Among the literature reviewed by Harvey Economics was a 2020 study completed by economists at the University of Rhode Island, which found that in areas of high population density, houses within a one-mile radius depreciate by about 1.7 percent following construction of a solar array. However, the Harvey Economics Report states that the University of Rhode Island study performed additional analysis focused on impacts in more rural areas found that the effect in rural areas were effectively zero and that the negative externalities of solar arrays are only occurring in non-rural areas. Harvey Economics also reviewed a 2018 University of Texas study, which included a geospatial analysis and a survey of residential property assessors to determine the potential for property value impacts related to solar

³² See Application, Volume 2, Site Assessment Report, Appendix A, Property Value Impact Report.

projects. The results of the University of Texas study showed that a majority of survey respondents estimated a value impact of zero and geospatial analysis showed that relatively few homes would be impacted. Harvey Economics also reviewed a 2019 article produced by the American Planning Association, which indicates that the impact of utility-scale solar facilities is typically negligible on neighboring property values. Additional materials reviewed by Harvey Economics included several independent appraisal reports related to property value impacts for solar companies. The Harvey Economics Report states that overall conclusions of these independent appraisal reports were that solar facilities do not negatively impact property values.

Harvey Economics also interviewed the Fleming County Property Valuation Administrator and a local real estate agent both of whom were familiar with the AEUG Fleming solar project. The Fleming County Property Valuation Administrator expressed concerns about impacts to property values of nearby homes, particularly homes in the Locust Ridge subdivision which have the highest property values in the county and which are located near the southeast portion of the solar site, due to the visual aspects of a solar facility. Although the local real estate agent does not have any direct experience with a solar facility's impact on property value, the local real estate agent indicated that a solar facility could have a negative effect on property desirability and sales price and that those effects would likely be tied to visibility of a solar site.

In addition to reviewing the methodology and underlying matched pair analysis used in AEUG Fleming's Property Value Impact Report, Harvey Economics also examined more closely the data provided in the matched pair sets to determine the likelihood of a positive impact, negative impact, or no impact. Harvey Economics

determined that the outcome of the evaluation of the solar facilities greater than 70 MW, which included 11 pair data sets, indicates that over 80 percent of matched pair comparisons resulted in no sales price difference or an increase in sales price due to adjacency to the solar facility property. Due to concerns expressed by the local real estate agent regarding the potential impact to the Locust Ridge subdivision, which is a higher value area, Harvey Economics also more closely examined the data provided by AEUG Fleming's Property Value Impact Report for home sales over \$300,000. The Harvey Economics Report evaluated all 20 matched pair sets with home sales over \$300,000. The report found that only four matched pair sets indicated a negative impact to home values and those four were all associated with the same suburban New Jersey facility of 9.36 MW. The Harvey Economics Report determined that this analysis generally suggests that home prices in higher value residential areas are not negatively impacted by adjacency to a solar facility.

The Harvey Economics Report concludes that the current research indicates that the existence of solar facilities does not, in general, negatively influence property values for adjacent landowners in rural areas. The report notes that Harvey Economics' own research point to a conclusion of no discernible impacts to property values, although there is a small risk of negative impacts. The report acknowledges that local residents and governmental officials are concerned about property values, but concludes that property values in Fleming County are unlikely to be affected by the siting of the AEUG Fleming solar facility. The Harvey Economics Report notes that this finding is predicated upon close coordination by AEUG Fleming with concerned homeowners regarding all of the

mitigation measures recommended by Harvey Economics and that such coordination should be initiated immediately.

Having reviewed the record, the Siting Board finds that there is sufficient evidence to conclude that the proposed AEUG Fleming solar facility will more than likely not have 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 produces relatively minimal air, waste, or water pollution and it does not create any traffic issues during operations. Moreover, the mitigation measure imposed in the above Compatibility with Scenic Surroundings section requiring AEUG Fleming to implement a buffer for those properties located within 300 feet of the proposed solar facility's boundary and having an unobstructed line of sight of the facility will further ensure that the proposed solar facility will have minimal impact on nearby property values.

Impact on Roads, Railways, and Fugitive Dust

With respect to the impact on roads, railways, and fugitive dust, AEUG Fleming's Noise and Traffic Study as part of its SAR notes that while the proposed solar site will have ten access points, the primary access point will be located in the southeast portion of the facility at the corner of Highway 32 and Lantern Ridge Drive. The northeastern most access point on the north side will also be frequently used. The remaining eight access points will be used during construction and operations but less frequently. AEUG Fleming states that the major roads to be used to access the facility are anticipated to be Highway 32 (along the southern portion of the site), Highway 559 (along the northern portion of the site), Highway 11 (along the western portion of the site), and Highway 170

(along the northwestern portion of the site). AEUG Fleming states that it does not intend to use railways for any construction or operational activities.

It is expected that construction will take up to 15 months to complete the solar facility. AEUG Fleming's Noise and Traffic Study provides average daily traffic (ADT) data for four stations in the vicinity of the solar site. The ADT for Highway 32 near mile point 8.2, which is located 540 feet from the solar site boundary to the north, is 5,318. The ADT for Highway 11 at mile point 11.8, which is located 2,350 feet east of the solar site, is 7,927. The ADT for Highway 170 at mile point 8.2, which is 685 feet west of the solar site, is 482. The ADT for Highway 559 at mile point 0.8, which is 50 feet south of the solar site boundary, is 147.

AEUG Fleming 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. AEUG Fleming estimates, on average, 346 workers will be on site throughout this period, with a peak of 600 workers. AEUG Fleming states that it and its vendors will be required to comply with laws and regulations, which are primarily focused on federal and state highways. With respect to county roads, AEUG Fleming asserts that it will be entering into a Road Use Agreement with Fleming County, which will set forth certain obligations and expectations for any necessary county road modifications and usage. AEUG Fleming states that it will implement all necessary safety precautions, including signage and flagmen, to ensure traffic flow remains steady on the surrounding roads. AEUG Fleming does not anticipate damages to any of the existing road infrastructure but has pledged to repair any damage

to roadways resulting from construction activities. AEUG also states that it will spray down roads and lots with water, utilizing revegetation measures, covering spoil piles, and building internal road networks with compacted gravel.

During operations, AEUG Fleming states that the facility will have a maximum of eight employees to staff the solar site. Those employees will work during the week from 7 a.m. until 3:30 p.m. AEUG Fleming 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.

The Harvey Economics Report indicates that project-related traffic congestion will occur near the entrance to Fleming County High School, especially in the morning when both students, faculty, and construction workers are arriving simultaneously. The report also found that traffic congestion will be noticeable along Highway 32 near the Flemingsburg Baptist Church and that left turns entering or exiting of Lantern Ridge Drive could frustrate commuters to the point where a temporary stop light may be necessary. The report notes that traffic congestion during construction will likely be noticeable along Nepton Road (and potentially Buffalo Trace Road and Lazy Oaks Lane if AEUG Fleming utilizes these routes), which provides access to the westernmost parcel. The report further states that Highway 559 is also expected to experience substantial increases in traffic volumes during construction, especially near the primary access point.

With respect to road degradation, the Harvey Economics Report indicates that impact to roads could occur while carrying heavy loads particularly along Nepton Road and potentially Buffalo Trace Road and Lazy Oaks Lane, since these roads are only rated at 44,000 pounds. The report also points out that the delivery of the substation transformer will also be a challenge, since this vehicle is nearly seven times heavier than

the any of the roads in the vicinity are rated to handle. Road degradation is also more likely to occur near primary access points, especially the primary access point utilized in delivery of the substation transformer. The report notes that bridge degradation is possible, especially for bridge 38N, which exists along Highway 32. Bridge 38N is structurally deficient and has the potential to collapse if put under immense stress. Bridge 40N is also structurally deficient, but there are no access points off Lazy Oaks Lane.

The Harvey Economics Report finds that there should be no issue with respect to fugitive dust given the measures to be implemented by AEUG Fleming and that there should be no noticeable traffic impacts during operations.

The Harvey Economics Report recommends the following mitigation measures to ensure that impacts to roadways will be kept to a minimum.

1. AEUG Fleming should work with the Commonwealth road authorities and the Fleming County Road Department to perform a road survey, before and after construction activities, for Highway 32, Highway 11, Highway 559, Highway 170, and Nepton Road. This road survey should include any bridges along these routes.
2. AEUG Fleming has committed to fix or fully compensate the appropriate transportation authorities for any damage or degradation to roads or bridges that it causes or to which it materially contributes to.
3. AEUG Fleming should develop special plans and obtain necessary permits before bringing heavy loads, especially the substation transformer, onto state or county roads in the vicinity. Heavy loads over state-designated deficient bridges should be avoided.

4. Additional heavy truck trips along Nepton Road should be minimized or diverted, to disperse the weight of vehicles on the roadway to less than 44,000 pounds. Currently, the weight of vehicles plus loads exceeds the 44,000-pound weight limit around the western (noncontiguous) parcel of the project site.

5. AEUG Fleming should meet with the Fleming County High School and Board of Education officials to ensure proper road safety measures are designed and implemented. AEUG Fleming should utilize appropriate signage and safety equipment along Highway 32 to aid the flow of traffic in the vicinity of Fleming County High School.

6. As needed, AEUG Fleming will place a temporary stop light at the intersection of Highway 32 and Lantern Ridge Drive.

7. AEUG Fleming should avoid Lazy Oaks Lane during construction and operations. The bridge under Lazy Oaks Lane is structurally deficient and near a railroad crossing.

8. AEUG Fleming should properly maintain construction equipment and follow best management practices related to fugitive dust throughout the construction process. This should keep dust impacts off-site to a minimal level.

The Siting Board finds that the 15-month construction phase of the AEUG Fleming solar facility would have an adverse impact on traffic during the peak morning and evening periods particularly on Highway 32 and Highway 559. The Siting Board is also particularly concerned about traffic impacts to the Fleming County High School, which is situated along Highway 32, during construction period. The Siting Board, however, finds there to be very little, if any, impact to the nearby roads during the operational phase of the solar facility. The Siting Board agrees with the mitigation measures recommended in the

Harvey Economics Report, which were generally accepted by AEUG Fleming, and will require AEUG Fleming to implement those measures. To further ensure that traffic impacts during construction are kept to a minimum, the Siting Board will also require AEUG Fleming to develop a traffic management plan to minimize the impacts of any traffic increase and keep traffic safe. Any such traffic management plan should also identify any noise concerns during the construction phase and develop measures that would address those noise concerns. The Siting Board will also require AEUG Fleming to limit the construction activity, process, and deliveries to the hours of 8 a.m. and 6 p.m. Monday through Saturday. These hours represent a reasonable timeframe to ensure that nearby property owners are not too impacted by the construction activities.

Anticipated Noise Level

According to AEUG Fleming's Noise and Traffic Study,³³ the solar structures are approximately 35 feet from the project boundary at the closest points.³⁴ The closest noise receptor to any structure, a grouping of residences along Highway 559 on the northern portion of the project site, will be approximately 265 feet from the nearest solar panel and approximately 739 feet from the nearest inverter.³⁵ These residences will be within 200 feet of the property boundary.³⁶ The residential neighborhood along Nepton Road near the northwest portion of the solar site will have a house that will be located 212 feet from the nearest solar panel.³⁷ The Flemingsburg Baptist Church, located on the

³³ Application, Volume 2, Site Assessment Report, Appendix C, Noise and Traffic Study.

³⁴ *Id.* at 1.

³⁵ *Id.* at 1–2.

³⁶ *Id.* at 2.

³⁷ *Id.*

southeast portion of the project site, will be approximately 1,903 feet from the nearest solar panel and 2,533 feet from the nearest inverter or transformer.³⁸ Fleming County High School, also located on the southeast portion, will be approximately 1,800 feet from the nearest solar panel and 2,407 feet from the nearest inverter or transformer.³⁹

AEUG Fleming's Noise and Traffic Study indicates that the project area can be defined as a sparse suburban or rural area with very few (if any) near sources of sound. The background sound levels are conservatively characterized under the American National Standards Institute's Land Use Category as being very quiet suburban and rural residential.⁴⁰ According to AEUG Fleming, the majority of the analysis area would be expected to have a Day-Night Average Sound Level (L_{dn}) background noise of about 40 A-weighted decibels (dBA) or less.⁴¹ This noise level would occasionally increase due to passing vehicular traffic from Highway 559 and Highway 32.⁴² There are also temporary increases in the existing noise level from farm equipment used to grow and harvest crops and to raise cattle and other farm animals.⁴³ AEUG Fleming's Noise and Traffic Study notes that according to a U.S. Environmental Protection Agency's (EPA) 1974 study, which evaluated the effects of environmental noise with respect to health and safety, the EPA determined an L_{dn} of 55 dBA (equivalent to a continuous noise level of

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.* at 2–3.

⁴¹ *Id.* at 3.

⁴² *Id.*

⁴³ *Id.*

48.6 dBA) to be the maximum sound level that will not adversely affect public health and welfare by interfering with speech or other activities in outdoor areas.⁴⁴

AEUG Fleming provides that construction of the facility is expected to commence in September of 2021 and be completed in July of 2022.⁴⁵ The noisiest phase of construction is anticipated to be the foundations phase due to pile driver use and would last from November of 2021 to June of 2022 with planned pauses the weeks of November 29, 2021; December 27, 2021; and January 3, 2022.⁴⁶ AEUG Fleming also notes that there will be a 10-week period from March to May of 2022 when all six major construction phases will be in progress concurrently.⁴⁷ Foundations/Poles would be the loudest activity during this time, which generates a maximum noise level between 96 dBA and 101 dBA at a distance of 50 feet.⁴⁸ AEUG Fleming further notes that construction work is expected to progress across the site such that equipment and activities would only be in a single area for a short period and that the potential for adverse noise impacts at any one receptor is expected to only occur for a short period.⁴⁹

When the solar facility is operating, there will be periodic noise associated with the relatively constant noise of inverters, the solar panel tracking system, and the substation transformer. The noise produced by the 70 or so inverters will be less than 66.0 dBA measured at ten meters, which can be described as a hum and has roughly the same

⁴⁴ *Id.*

⁴⁵ *Id.* at 5.

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.*

noise output of a household air conditioning unit.⁵⁰ The 4,725 panel tracking motors on the solar panels will operate at 78 dBA (or equivalent to a sound pressure of 47 dBA measured at ten meters) no more than one minute out of every 15-minute period.⁵¹ The transformer located within the planned substation, which is anticipated to cover approximately 1.4 acres on the east side of the facility.⁵² The transformer is anticipated to be the loudest noise-generating operational equipment with noise emissions rated at 85 dBA sound power.⁵³ According to AEUG Fleming, this equates to a sound pressure level of 54 dBA at 10 meters distance.⁵⁴ AEUG Fleming also points out that the nearest noise sensitive receptor to the transformer is a residence approximately 1,600 feet south.⁵⁵

AEUG Fleming states that it did not find any relevant county or state noise ordinance or standard.⁵⁶ AEUG Fleming provides that the city of Flemingsburg Noise Regulation prohibits “excessive noise,” but does not provide specifics that pertain to this project.⁵⁷

AEUG Fleming’s “as proposed” analysis concludes that the L_{dn} value at the nearest noise sensitive area would be 54.5 dBA.⁵⁸ Since no sounds emanating from operation

⁵⁰ *Id.* at 6.

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.* at 3.

⁵⁷ *Id.*

equipment are greater than 55 dBA, AEUG Fleming concludes that the proposed solar facility complies with the EPA's noise emission recommendations.⁵⁹

The Harvey Economics Report notes that noise issues stem from construction activities and operational components of the solar facility. During construction, noise will include graders, bulldozers, excavators, dozers, dump trucks, and other equipment. During operation of the proposed solar facility, noise will be emitted from transformers, inverters, and the tracking motors which rotate the panels to track the sun. The report further notes that distance from noise emitters to noise receptors also matters, since the further a noise receptor from a noise emitter, the less noise impact overall. Lastly, the report also points out that Fleming County does not have a noise ordinance, but the city of Flemingsburg does. The report indicates that none of the city of Flemingsburg's noise ordinance's stipulations are relevant to the project, given the distance from the city to the project and the stipulations of the ordinance. The report utilizes the noise recommendations generated by the EPA and World Health Organization (WHO) to gauge acceptable levels of sound. The WHO determined that daytime noise emissions greater than 55 dBA over a 16-hour period can cause serious annoyance, and noise emissions greater than 50 dBA over a 16-hour period can cause moderate annoyance. The WHO recommends limits of 45 dBA over an 8-hour period during the night.

The Harvey Economics Report concludes that the baseline noise levels in the area are serene which would be disrupted by the construction noises resulting in an annoyance

⁵⁸ AEUG Fleming's Supplemental Responses to Siting Board Staff's Post-Hearing Requests for Information (filed May 14, 2021), Item 4, Attachment "Fleming Solar Facility Project: Baseline Sound Monitoring" at 10.

⁵⁹ *Id.*

for residents for at least the period when construction is active nearby. The report finds that the pile driving process will be particularly annoying for people living or working in the vicinity. There could be as many as 12 months of noticeable noise impacts during construction, with a peak of up to 40 weeks of potentially annoying levels of noise during construction. During construction, almost all the noise from the project site will be intermittent and will not be permanently impactful to nearby residents. The Harvey Economics Report determined that a variable construction schedule in daylight hours has the potential to confuse nearby residents who look forward to a peaceful quiet period after returning from work in the evenings. If construction noise is an issue for residents, the variable schedule has the potential to multiply the aggravation.

With respect to operational noises, the Harvey Economics Report states that the solar facility has the potential to cause a constant annoyance to a number of nearby residences. The report notes 23 residences are estimated to experience noise levels above 50 dBA, though this number could be underestimated if all homes in the Hunters Trace neighborhood are analyzed. These constant noise levels, in the range of the “moderately annoying” threshold classified by the WHO, could be an issue for numerous residences.

The Harvey Economics Report recommends the following mitigation measures to address any potential noise impacts.

1. AEUG Fleming should avoid a variable daily construction schedule and implement a consistent construction schedule, which will offer certainty and relief during the construction period. AEUG’s proposed fall schedule be adopted year round: no earlier start than 7:30 a.m. with a construction stop at 7:00 p.m.

2. AEUG Fleming should consider eliminating construction work on Sundays.

The church in the project vicinity and the residents living nearby will likely appreciate the respite from construction noise.

3. AEUG Fleming should consider notifying residents and businesses within 2,400 feet of the project boundary about the construction plan, the noise potential, and the mitigation plans at least one month prior to construction start.

4. AEUG Fleming 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 and mitigate those effects as needed.

5. AEUG Fleming should coordinate with the local school district officials about concentrating all noise-inducing construction activity in the vicinity of the Fleming County High School in the summer and during non-school periods.

6. AEUG Fleming should coordinate a plan for noise buffering as needed for at least the 23 residences (and potentially the Hunters Trace neighborhood) estimated to experience noise levels of 50 dBA or greater during facility operations. Additional vegetative buffering or fencing should be considered on an as-needed basis for residents who experience annoying and verifiable noise levels during operations.

Although AEUG Fleming contends that the noise levels during the operational phase of the proposed solar facility will not create any issues, the Siting Board notes that AEUG Fleming's Baseline Sound Monitoring study shows that an average person perceives an increase of 3 dBA or less as barely perceptible but an increase of 20 dBA is perceived as a dramatic change.⁶⁰ The same study shows that the sound level at the

⁶⁰ *Id.* at 2.

nearest noise sensitive area due to the operation of the solar facility increased the ambient noise level by 24 dBA, from 30.5 dBA to 54.5 dBA.⁶¹ In addition to the dramatic change in the baseline noise level caused by the operation of the proposed solar facility, the Siting Board also notes that AEUG Fleming's Noise and Traffic Study shows that the level of noise associated with the operations of the proposed solar facility will be 54.5 dBA which is at the margins of what EPA would consider to be an annoying level of sound to nearby property owners. According to AEUG Fleming, a noise level difference of 3 dBA is barely perceptible. A noise level difference of 0.5 dBA, or between 54.5 dBA and 55.0 dBA, would therefore not be discernable.

The Siting Board further finds that the noise levels created during the construction phase would cause adverse impacts to the nearby property owners. The Siting Board agrees with the mitigation measures recommended in the Harvey Economics Report and will require AEUG Fleming to implement those measures, except that Mitigation Measure 1 will be modified to reflect a construction time period of 8 a.m. to 6 p.m. Monday through Saturday. 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. The closest that an inverter can be located to a noise sensitive receptor should be 739 feet.
2. The closest that the substation transformer can be located to a noise sensitive receptor should be 1,600 feet.

⁶¹ *Id.* at 10.

3. The closest that a solar panel can be located to a noise sensitive receptor should be 265 feet.

4. AEUG Fleming should implement the Customer Resolution Program set forth in its Response to Siting Board Staff's Post-Hearing Requests for Information, Item 8. AEUG Fleming should also submit annually a status report associated with its Customer Resolution Program, providing, among other things, the individual complaints, how AEUG Fleming addressed those complaints, and the ultimate resolution of those complaints identifying whether or not the resolution was to the complainant's satisfaction.

5. If the pile driving activity occurs within 1,500 feet of a noise sensitive receptor, AEUG Fleming should 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).⁶²

Mitigation Measures Proposed by AEUG Fleming

AEUG Fleming's SAR contained the following mitigation measures that it plans to implement.

1. AEUG Fleming states that existing vegetation between the solar arrays and the residences will be left in place, to the extent practicable, to help screen the project and reduce visual impacts from the adjacent homes. AEUG Fleming anticipates that views of the project from surrounding places (Nepton, Elizaville, Flemingsburg Junction, Flemingsburg) would generally be screened by vegetation and structures associated with

⁶² See Case No. 2020-00280, *Electronic Application of Ashwood Solar I, LLC for a Certificate of Construction for an Approximately 86 Megawatt Merchant Electric Solar Generating Facility in Lyon County, Kentucky Pursuant to KRS 278.700 and 807 KAR 5:110* (Ashwood Solar's Response to Siting Board Staff's Post-Hearing Request for Information, Item 2) (responses anticipated to be filed May 25, 2021, pursuant to the post-hearing schedule).

development. AEUG Fleming has met with certain property owners to discuss specific view shed concerns and to provide visual buffers to address to specific concerns.

2. Other permit applications to the appropriate regulatory body will follow as the project enters the construction phase. In particular, AEUG Fleming notes that completion of a Phase I Environmental Site Assessment for the site, which was submitted with the instant application.

The Siting Board has reviewed the mitigation measures that have either been proposed by AEUG Fleming or measures that have been accepted by AEUG Fleming in response to discovery requests or recommended in the Harvey Economics Report and have modified certain of those measures. The Siting Board finds that the mitigation measures as proposed and as modified are appropriate and reasonable.

The Siting Board finds that AEUG Fleming'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 AEUG Fleming's economic impact report, 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. AEUG Fleming states that the project will pay approximately \$9.3 million in property taxes over the 30-year life of the proposed solar facility. The estimated capital cost of the facility is approximately \$190 million.

During construction, AEUG Fleming estimates that approximately 543 total full-time equivalent jobs will be created, with 245 of those jobs directly linked to Fleming County. The vast majority of these jobs will be filled by craft workers and contractors. The 543 jobs translate to a projected injection of approximately \$17 million in new wages into the local economy, which will support local businesses, and approximately \$39.4 million across the state. During operations, the proposed solar facility will create approximately 17.6 full time equivalent jobs in Fleming County and 22 full-time equivalent jobs statewide. The new local long-term earnings total over \$678,000 for Fleming County and over \$1.4 million for the Commonwealth of Kentucky.

The Harvey Economics Report determined that the construction and operation of the AEUG Fleming solar facility will provide some, limited economic benefits to the region and to the state. The report states that overall, the AEUG Fleming project will result in measurable, but temporary, positive economic effects to the region during the construction phase. Harvey Economics found that construction activity will generate

regional employment and income opportunities; those effects will be temporary, but local hires will increase employment and incomes to an area which needs it. During the operational phase, the report finds that operational benefits will be confined mostly to property taxes. Lastly, the report notes that operational employment will be minimal, and purchases of materials or supplies will be very small on an annual basis.

Having reviewed the record, the Siting Board finds that the AEUG Fleming 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 facility in the state.

Existence of Other Generating Facilities

AEUG Fleming states that it is difficult to find an existing generation site with enough land available to install a large utility-scale solar facility.⁶³ AEUG Fleming sited the project near the existing Flemingsburg-Spurlock 138 kV line. AEUG Fleming states that it would be responsible for building a new interconnection to this line.

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 AEUG Fleming 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 AEUG Fleming 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,

⁶³ Application, Volume 1, Item 7, Efforts to Locate Near Existing Electric Generation.

the generally passive characteristics of the solar facility will be compatible with the surrounding area.

Local Planning and Zoning Requirements

AEUG Fleming states that the proposed solar facility will be located entirely in Fleming County. AEUG Fleming notes that Fleming County has not enacted any zoning ordinances or setback requirements for the location of the AEUG Fleming solar facility. AEUG Fleming informs that there are no setback requirements established by a planning and zoning commission for the location of the project and no noise control ordinance applicable to the project. AEUG Fleming 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 AEUG Fleming'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

AEUG Fleming states that the proposed solar facility will be located within the PJM Interconnection LLC (PJM) footprint. AEUG Fleming 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.⁶⁴ The interconnection study process for PJM involves three study phases: Feasibility Study, System Impact Study, and Facilities Study. The purpose of the feasibility study is to

⁶⁴ Application, Volume 1, Item 9, Effect on Kentucky Electricity Generation System.

determine a plan, with ballpark cost and construction time estimates, to connect the proposed AEUG Fleming solar facility to the PJM network at a location specified by AEUG Fleming. PJM issued the Feasibility Study Reports on the AEUG Fleming project in January 2020. The Feasibility Study shows that AEUG Fleming will be responsible for total upgrade costs of approximately \$7,690,000. These upgrades consist of attachment facilities, direct connection network upgrades, and non-direct connection network upgrades.

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 AEUG Fleming solar facility in August 2020. The System Impact Study Report indicated that AEUG Fleming will be responsible for total upgrade costs of approximately \$33,238,738. These upgrades consist of attachment facilities, direct connection network upgrades, non-direct connection network upgrades, allocation for new system upgrades, and contribution to previously identified upgrades.

AEUG Fleming states that the Facilities Study was expected to be issued in April 2021. To date, AEUG Fleming has not submitted the Facilities Study. Based upon information provided by PJM, AEUG Fleming 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.

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 AEUG Fleming 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 AEUG Fleming'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 AEUG Fleming has satisfied the requirements of KRS 278.710(f).

Compliance with Setback Requirements

AEUG Fleming'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. AEUG Fleming states that there are four residential neighborhoods and one school within 2,000 feet of the proposed solar development. AEUG Fleming filed a motion, pursuant to KRS 278.704(4), seeking a deviation from the 2,000 feet setback requirement.⁶⁵ The two nearby residential neighborhoods are described as follows:

1. The first residential neighborhood to the solar facility is designated as Nepton and is located along Nepton Road and Railroad Street on the southern part of the northwestern portion of the project site. The Nepton neighborhood has approximately 30 single-family homes and directly abuts AEUG Fleming's boundary.

⁶⁵ Applicant's Motion for Deviation from Setback Requirements (filed Feb. 19, 2021).

2. The second residential neighborhood is designated by AEUG Fleming as Hunters Trace and is located in the southern part of the project site along Highway 32. Hunters Trace has approximately 18 single-family homes and directly abuts AEUG Fleming's boundary.

3. The third residential neighborhood is designated as Neighborhood A and is located east of Hunters Trace along Highway 32. Neighborhood A has approximately 8 single-family homes and directly abuts AEUG Fleming's boundary.

4. The fourth neighborhood is designated as Neighborhood B and is located east of Fleming County High School along Highway 32. Neighborhood B has approximately 60 single-family homes and is approximately 800 feet from AEUG Fleming's boundary.

5. The school is identified as Fleming County High School and it is located along Highway 32 in between Neighborhoods A and B. Fleming County High School is approximately 900 feet from AEUG Fleming's boundary.

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), KRS 278.010 (definitions), KRS 278.212 (costs of upgrading existing grid), KRS 278.214 (curtailment of service), KRS 278.216 (site assessment report), KRS 278.218 (transfer of ownership), and KRS 278.700 to KRS 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, AEUG Fleming developed a CEA for submission to the Cabinet. AEUG Fleming 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 AEUG Fleming 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 of vehicles and mowing, respectively, no air quality permit is required for these construction or ancillary activities. With respect to water evaluation, AEUG Fleming states that with the use of best management practices, operations and maintenance of the proposed solar facility are expected to result in a net, long-term beneficial effect to surface waters.

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. No special wastes as defined in KRS 224.50–760 are anticipated to be generated during construction or operations and maintenance. No existing structures would be demolished. To the extent feasible, AEUG Fleming 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

contained and managed through the development and implementation of best management practices, a Hazardous Management Plan, and a Spill Prevention Containment Countermeasures Plan.

With respect to managing water withdrawal and usage, the AEUG Fleming solar facility will primarily utilize groundwater from existing onsite wells to provide water needed for construction activities. Construction-related water use would support site preparation (including dust control, if applicable) and grading activities. Similar to other solar facilities, the AEUG Fleming solar project is not water intensive during the operational phase.

AEUG Fleming 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, AEUG Fleming states that this statutory provision sets forth the definitions to be used in conjunction with KRS 278.010 to KRS 278.450, KRS 278.541 to KRS 278.544, KRS 278.546 to KRS 278.5462, and KRS 278.990. AEUG Fleming asserts that the Siting Board's authority begins with KRS 278.700 and extends through KRS 278.716 and any applicable provision of KRS 278.990. AEUG Fleming 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. AEUG Fleming avers that it has met

the goals of KRS 278.212 because AEUG Fleming will comply with all applicable conditions relating to electrical interconnection with utilities by following the PJM interconnection process. Additionally, AEUG Fleming 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. AEUG Fleming 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. AEUG Fleming states that it is not a utility under the jurisdiction of the Kentucky Public Service Commission. However, AEUG Fleming 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. AEUG Fleming 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 AEUG Fleming, AEUG Fleming 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. AUEG Fleming states that it has met the goals set forth in these provisions as evidenced by the application in its entirety. AEUG Fleming 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 278.700–278.716.

Having reviewed the record and being otherwise sufficiently advised, the Siting Board finds that AEUG Fleming 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. The Siting Board notes that the mitigation requirements imposed in the Compatibility with Scenic Surroundings and Noise and Anticipated Noise Level sections will also provide some level of protection for persons occupying a property adjacent to the proposed solar facility with respect to noise, visual obstruction of scenic views, and traffic.

History of Environmental Compliance

AEUG Fleming states that neither it nor any entity with ownership interest in the proposed solar project has violated any state or federal environmental laws or regulations. AUEG Fleming further states that there are no pending actions against it nor any entity with ownership interest in the proposed 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 AEUG Fleming's verified statement and no evidence to the contrary, the Siting Board finds that AEUG Fleming has satisfied the requirements of KRS 278.710(1)(i).

Decommissioning

According to AEUG Fleming, the proposed solar facility would have an expected useful life of 30 years. AEUG Fleming state that a formal decommissioning plan has not been prepared, but that it will agree to develop a formal decommissioning plan and notes that it is obligated to restore the leased lands under the provisions included in individual lease agreements with participating landowners.

The Harvey Economics Report states that decommissioning the facility and returning the site to its original condition can be accomplished if all the components will be removed. After reclamation, this would return the land to its pre-project productive use and property value, and eliminate long-term project-related negative impacts, compared with simply shutting the solar facility. The report also states this process will have a modest and temporary positive economic stimulus to the region. The Harvey Economics Report recommends the following decommissioning measures.

1. As applicable to individual lease agreements, AEUG Fleming, its successors, or assigns will abide by the specific land restoration commitments agreed to by individual property owners, as described in each signed lease agreement.
2. AEUG Fleming should develop an explicit decommissioning plan. This plan should commit AEUG Fleming to removing all facility components from the project site and Fleming County at the cessation of operations.

AEUG Fleming states that it agrees to comply with the specific land restoration requirements as provided in each signed lease agreement and also agrees to develop an explicit decommissioning plan. However, AUEG Fleming contends that a requirement to remove all facility components from the project site and Fleming County at the cessation of operations is unnecessary and premature. AEUG Fleming argues that many developments may occur over the next 30 or more years, such that this type of condition would not be appropriate or reasonable and requests the Siting Board not to require such a condition.

The Siting Board finds that decommissioning is an important consideration to ensure the land used during the life of the proposed solar facility can be returned to its original use as well as ensuring that such an obligation can be properly enforced. Toward that end, the Siting Board finds that the decommissioning measures recommended by Harvey Economics to be appropriate and reasonable. In addition, the Siting Board will require the explicit or formal decommissioning plan be developed to carry out the land restoration requirements set forth in the various lease agreements. This plan should be filed with the Siting Board or its successors. AEUG Fleming should also be required to file a bond equal to the amount necessary to effectuate the explicit decommissioning plan naming Fleming County as a third-party beneficiary so that Fleming County will have the authority to draw upon the bond to effectuate the decommissioning plan. The bond amount should be reviewed every five years at AEUG Fleming's expense to determine and update the cost of removal amount.

Accordingly, the Siting Board will require AEUG Fleming to implement the decommissioning measures recommended by the Harvey Economics Report and the

additional decommissioning measures set forth above as conditions of its grant of a certificate in this matter.

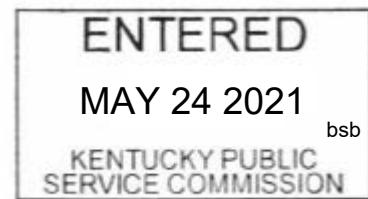
CONCLUSION

After carefully considering the criteria outlined in KRS Chapter 278, the Siting Board finds that AEUG Fleming 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.

IT IS THEREFORE ORDERED that:

1. AEUG Fleming's application for a Certificate to Construct an approximately 188 MWac merchant solar electric generating facility in Fleming County, Kentucky, is conditionally granted subject to full compliance with the mitigation measures and condition prescribed in Appendix A.
2. AEUG Fleming's motion for deviation from the 2,000 feet setback requirement is granted.
3. AEUG Fleming shall fully comply with the mitigation measures and conditions prescribed in Appendix A.

By the Kentucky State Board on Electric
Generation and Transmission Siting



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. 2020-00206 DATED MAY 24 2021

MITIGATION MEASURES AND CONDITIONS IMPOSED

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

1. A final site layout plan should be submitted to the Siting Board upon completion of the final site design. Deviations from the preliminary site layout plan, which formed the basis for the instant review should be clearly indicated on the revised graphic. Those changes would include, but are not limited to, location of solar panels, inverters, transformer, the warehouse, substation, operations and maintenance building, or other project facilities or infrastructure.
2. Any change in the boundaries of the proposed solar facility 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, AEUG Fleming will support the Siting Board's effort to revise its assessment of impacts and mitigation requirements.
4. AEUG Fleming 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. AEUG Fleming's access control strategy should also include appropriate signage to warn potential trespassers. AEUG Fleming must ensure that all site entrances and boundaries have adequate signage, particularly in locations visible to the public, local residents, and business owners.

6. The security fence surrounding the property boundary must be installed prior to any electrical installation work. The substation will have its own separate security fences installed.

7. AEUG Fleming will not remove any existing vegetation unless the existing vegetation needs to be removed for placement of solar panels.

8. Existing vegetation between the solar arrays and the residences will be left in place, to the extent practicable, to help screen the solar facility and reduce visual impacts from the adjacent homes.

9. AEUG Fleming has committed to working with homeowners and business owners to address concerns related to the visual impact of the solar facility on its neighbors.

10. For residences and other occupied structures that are within 300 feet of the proposed solar facility's boundary and having an unobstructed line of sight of the facility, AEUG Fleming should provide a buffer to the satisfaction of the affected property owners. If vegetation is used, plantings should reach eight feet high within four years. That vegetation should be maintained or replaced as needed. To the extent an affected property owner indicates to AEUG Fleming that such a buffer is not necessary, AEUG Fleming will need to obtain that property owner's written consent and submit such consent in writing to the Siting Board.

11. AEUG Fleming will cultivate at least six acres of native pollinator-friendly species within the solar facility site, among the solar panels. At least 0.5 an acre of pollinator-friendly species will be planted in the western, noncontiguous parcel of the solar facility site.

12. AEUG Fleming has pledged to select anti-glare panels and operate the panels in such a way that all glare from the panels is eliminated. Applicant will provide proof that glare will not occur from the facility or immediately adjust solar panel operations upon any complaint from those living, working or travelling in proximity to the facility. Failing this, AEUG Fleming will cease operations until the glare is rectified.

13. Regarding AEUG Fleming's commitment to submit a glare study that will confirm that there will be no red glare at key observation points, the Siting Board notes that such a study will not be filed until June 15, 2021, which is approximately three weeks after the issuance of this final Order. Because the Siting Board will not have an opportunity to review the glare study prior to making its decision in this case, the final decision reached in this Order will be conditioned upon the Siting Board's review and approval of the glare study once it is submitted.

14. AEUG Fleming should work with the Commonwealth road authorities and the Fleming County Road Department to perform a road survey, before and after construction activities, for Highway 32, Highway 11, Highway 559, Highway 170, and Nepton Road. This road survey should include any bridges along these routes.

15. AEUG Fleming has committed to fix or fully compensate the appropriate transportation authorities for any damage or degradation to roads or bridges that it causes or to which it materially contributes to.

16. AEUG Fleming should develop special plans and obtain necessary permits before bringing heavy loads, especially the substation transformer, onto state or county roads in the vicinity. Heavy loads over state-designated deficient bridges should be avoided.

17. Additional heavy truck trips along Nepton Road should be minimized or diverted, to disperse the weight of vehicles on the roadway to less than 44,000 pounds. Currently, the weight of vehicles plus loads exceeds the 44,000-pound weight limit around the western (noncontiguous) parcel of the project site.

18. AEUG Fleming should meet with the Fleming County High School and Board of Education officials to ensure proper road safety measures are designed and implemented. AEUG Fleming should utilize appropriate signage and safety equipment along Highway 32 to aid the flow of traffic in the vicinity of Fleming County High School.

19. As needed, AEUG Fleming will place a temporary stop light at the intersection of Highway 32 and Lantern Ridge Drive.

20. AEUG Fleming should avoid Lazy Oaks Lane during construction and operations. The bridge under Lazy Oaks Lane is structurally deficient and near a railroad crossing.

21. AEUG Fleming should properly maintain construction equipment and follow best management practices related to fugitive dust throughout the construction process. This should keep dust impacts off-site to a minimal level.

22. To further ensure that traffic impacts during construction are kept to a minimum, AEUG Fleming should develop a traffic management plan to minimize the impacts of any traffic increase and keep traffic safe. Any such traffic management plan

should also identify any noise concerns during the construction phase and develop measures that would address those noise concerns. The Siting Board will also require AEUG Fleming to limit the construction activity, process, and deliveries to the hours of 8 a.m. and 6 p.m. Monday through Saturday. These hours represent a reasonable timeframe to ensure that nearby property owners are not too impacted by the construction activities.

23. AEUG Fleming should avoid a variable daily construction schedule and implement a consistent construction schedule, which will offer certainty and relief during the construction period. AEUG's proposed fall schedule be adopted year round: no earlier start than 8 a.m. with a construction stop at 6 p.m. Monday through Saturday.

24. AEUG Fleming should notify residents and businesses within 2,400 feet of the project boundary about the construction plan, the noise potential, and the mitigation plans at least one month prior to construction start.

25. AEUG Fleming 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 and mitigate those effects as needed.

26. AEUG Fleming should coordinate with the local school district officials about concentrating all noise-inducing construction activity in the vicinity of the Fleming County High School in the summer and during non-school periods.

27. AEUG Fleming should coordinate a plan for noise buffering as needed for at least the 23 residences (and the Hunters Trace neighborhood) estimated to experience noise levels of 50 dBA or greater during facility operations. Additional vegetative buffering

or fencing should be considered on an as-needed basis for residents who experience annoying and verifiable noise levels during operations.

28. The closest that an inverter can be located to a noise sensitive receptor should be 739.

29. The closest that a solar panel can be located to a noise sensitive receptor should be 265 feet.

30. The closest that the substation transformer can be located to a noise sensitive receptor should be 1,600 feet.

31. AEUG Fleming should implement the Customer Resolution Program set forth in its Response to Siting Board Staff's Post-Hearing Requests for Information, Item 8. AEUG Fleming should also submit annually a status report associated with its Customer Resolution Program, providing, among other things, the individual complaints, how AEUG Fleming addressed those complaints, and the ultimate resolution of those complaints identifying whether or not the resolution was to the complainant's satisfaction.

32. If the pile driving activity occurs within 1,500 feet of a noise sensitive receptor, AEUG Fleming should 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).

33. As applicable to individual lease agreements, AEUG Fleming, its successors, or assigns will abide by the specific land restoration commitments agreed to by individual property owners, as described in each signed lease agreement.

34. AEUG Fleming should develop an explicit or formal decommissioning plan to carry out the land restoration requirements set forth in the various lease agreements.

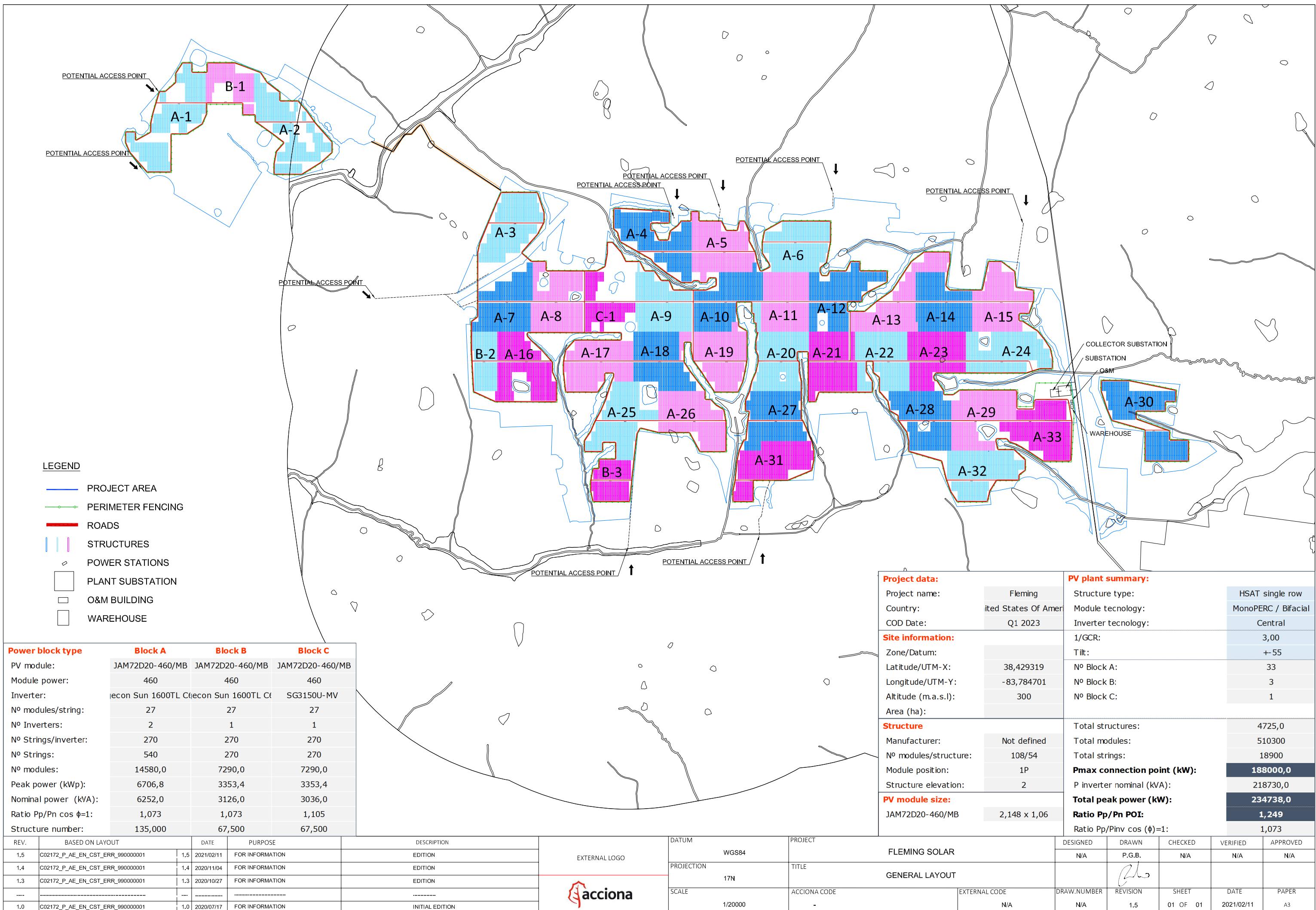
This plan shall be filed with the Siting Board or its successors. This plan should commit AEUG Fleming to removing all facility components from the project site and Fleming County at the cessation of operations.

35. AEUG Fleming should also be required to file a bond equal to the amount necessary to effectuate the explicit or formal decommissioning plan naming Fleming County as a third-party beneficiary so that Fleming County will have the authority to draw upon the bond to effectuate the decommissioning plan. The bond amount should be reviewed every five years at AEUG Fleming's expense to determine and update the cost of removal amount.

APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON
ELECTRIC GENERATION AND TRANSMISSION SITING IN CASE NO.
2020-00206 DATED MAY 24 2021

ONE PAGE TO FOLLOW



*AEUG Fleming Solar, LLC
55 East Monroe Street
Suite 1925
Chicago, ILLINOIS 60603

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

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