CRAB RUN
SOLAR PROJECT

Tab 12

Site Assessment Report

TAB 12 SITE ASSESSMENT REPORT

Requirement:

278.708 Site assessment report -- Consultant -- Mitigation measures.

(1) Any person proposing to construct a merchant electric generating facility shall file a site assessment report with the board as required under KRS 278.706(2)(l).

(2) A site assessment report shall be prepared by the applicant or its designee.

(3) A completed site assessment report shall include:

(a) A description of the proposed facility that shall include a proposed site development plan that describes:

1. Surrounding land uses for residential, commercial, agricultural, and recreational purposes;

2. The legal boundaries of the proposed site;

3. Proposed access control to the site;

4. The location of facility buildings, transmission lines, and other structures;

5. Location and use of access ways, internal roads, and railways;

6. Existing or proposed utilities to service the facility;

7. Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), (4), or (5); and

8. Evaluation of the noise levels expected to be produced by the facility;

(b) An evaluation of the compatibility of the facility with scenic surroundings;

(c) The 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;

(d) Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; and

(e) 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.

(4) The site assessment report shall also suggest any mitigating measures to be implemented by the applicant to minimize or avoid adverse effects identified in the site assessment report.

Crab Run Solar, pursuant to KRS 278.708, files this SAR in support of its Application requesting a certificate of construction for an up to 45 MW merchant electric solar generating facility pursuant to KRS 278.704.

As part of the SAR, the Applicant submits herewith Exhibits A-H:

- Exhibit A – Project Site Map
- Exhibit B – Property Value Impact Study

- Exhibit C – Legal Description
- Exhibit D – Noise Assessment Report
- Exhibit E – Visual Impact Illustrations
- Exhibit F – Landscape Plan
- Exhibit G – Glare Analysis Study
- Exhibit H – Traffic Impact Study
- Exhibit I – Decommissioning Study

The facts on which the SAR are based are contained in the attached Exhibits and other information and the statements further made by Crab Run Solar as follows:

I. Description of the Proposed Project Site

Pursuant to KRS 278.708(3)(a), the Project is situated on a 412-acre site located within an unincorporated portion of Marion County Kentucky (Exhibit A). The Project Area, in which the electric generation components will be located, is approximately 245 acres.

Requirement: ***KRS 278.708(3)(a)(1) - Surrounding land uses for residential, commercial, agricultural, and recreational purposes***

A detailed description of the surrounding land uses is identified in the Property Value Impact Study conducted by Kirkland Appraisals, LLC, attached as Exhibit B. A summary of the surrounding land use for adjoining acres and parcels is contained in the chart below:

Adjoining Use Breakdown	Acreage	Parcels
Residential	3.48%	68.42%
Agricultural	25.30%	10.53%
Agri/Res	71.22%	21.05%

Total	**100%**	**100%**

Requirement*: KRS 278.708(3)(a)(2) The legal boundaries of the proposed site*

Exhibit C to this SAR contains the legal description of the proposed site.

Requirement*: KRS 278.708(3)(a)(3) Proposed access control to the site*

A depiction of the Project's site layout is included in Exhibit A to this SAR. A fence meeting National Electric Safety Code (NESC) requirement, typically a seven-foot fence, will secure the facility.

Requirement: *KRS 278.708(3)(a)(4) The location of facility buildings, transmission lines, and other structures*

The proposed locations of all Project infrastructure (buildings, transmission lines, and other structures) are included in the Site Layout at Exhibit A.

Requirement: *KRS 278.708(3)(a)(5) Location and use of access ways, internal roads, and railways*

The proposed access points are shown in Exhibit A. The Project will have three site entrances; two located along Arthur Mattingly Road and one located near the intersection of Ben Daugherty Road and Frogtown Road. A network of internal roads will allow staff to access and maintain the Project's infrastructure. There are no railways in this Project Area.

Requirement: *KRS 278.708(3)(a)(6) Existing or proposed utilities to service the facility*

The on-site substation will connect to the existing electric grid via an EKPC installed adjacent switchyard, as shown in Exhibit A. See also Tab 2.

Requirement: *KRS 278.708(3)(a)(7) Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), (4), or (5)*

Marion County has not enacted any zoning ordinances or setback requirements for the

location of the Project; therefore, no setbacks by such a planning commission exist in the County. The Applicant will file a motion to deviate pursuant to KRS 278.704(4) from the setback requirements provided at KRS 278.704(2); thus, the Project will comply with the relevant setback requirements provided at KRS 278.704.

Requirement: ***KRS 278.708(3)(a)(8) Evaluation of the noise levels expected to be produced by the facility***

A Noise Assessment Report was completed by ERM for the Project and is included with this SAR as Exhibit D. This assessment evaluated existing noise conditions in the area as well as proposed noise from construction and operation of the Project. Existing noise in the vicinity of the Project consists of that typical of roadways, agricultural operations, and rural areas, such as tractors, trucks, and various wildlife noises. Based on the American National Standards Institute (ANSI) standard 12.9-2013/Part 3, existing ambient noise levels at NSAs in the area are conservatively estimated to fall into Category 5 land use (quiet suburban residential areas) with an estimated existing daytime equivalent sound level (L_{eq}) of 45 dBA and estimated existing nighttime L_{eq} of 39 dBA.

General construction-related noise levels will be lower than typical construction pile-driving noise levels. As noted above, the Project Area covers a large area, so the noise levels experienced at any noise sensitive area (NSA) will vary depending on what areas of the site are being constructed at any given time. It is important to note that not all listed equipment is used in all phases of construction. Further, the equipment used generally is not operated continuously, nor is the equipment always operated simultaneously or at full-load conditions.

The Noise Assessment Report indicates that during operation, intermittent noise related

to the 12 Solar Inverter Skids operating at >90% load and one 48 megavolt-amperes (MVA) main step-up transformer is expected. The increase in noise is negligible due to both the vertical and horizontal distances between the panels/inverters and the nearest noise-sensitive receptors. The nearest sensitive receptor is 340 feet (NSA 1) from any solar panel and 592 feet (NSA 4) from any inverter. During average operation, the daytime operational noise levels are shown to range from 21.8 dBA to 35.7 dBA, which is well below the estimated existing daytime ambient condition (45 dBA). Inverters will only run during the daytime when the Project is producing electricity. Nighttime operational noise levels (with only the transformers in operation), range from 13 dBA to 26 dBA, which is below the estimated existing nighttime ambient noise levels (39 dBA). According to manufacturer specifications, 93 dBA is the loudest sound power level expected for the transformer. Because the nearest receptor is 1,664 feet (NSA 7) from the substation, noise captured at that receptor would be less than typical background noise. The noise from site visits and maintenance activities, typically including single vehicular traffic and mowing, will be negligible as it is similar to the background agricultural noise characteristics.

At the nearest receptors, no prolonged noise levels above background levels are expected either during construction or operation of the Project. Intermittent, repetitive noise will occur above background noise levels during pile-driving activities during initial construction.

II. Compatibility with Scenic Surroundings

<u>Requirement</u>: ***KRS 278.708(3)(b) An evaluation of the compatibility of the facility with scenic surroundings***

The Applicant reviewed the compatibility of the Project with scenic surroundings primarily by use of visual simulations, studying the effect of existing and proposed vegetative

screening on viewshed, and completing a glare study.

Consistent with this approach, a series of Visual Impact Illustrations prepared by ERM is attached as Exhibit E. In preparing the illustrations, a representative sample of potential viewpoints was identified within a 1-mile radius of the Project. Viewpoints are defined as locations from which the Project may be visible to human receptors, such as residents, motorists, pilots, recreationists, and tourists.

The Applicant also studied the use of existing and potential supplemental vegetation to ensure compatibility with scenic surroundings, with results shown in the Visual Impact Illustrations (Exhibit E) and Landscape Plan (Exhibit F). Existing vegetation surrounding the Project Area and proposed enhanced vegetation screening buffers along segments of the east and west boundaries are expected to provide effective visual screens for numerous observation points (OPs) (and the residential areas that those OPs represent), as well as segments of Frogtown Road, North Loretto Road, and Arthur Mattingly Road.

The Applicant also determined the potential for glare caused by the PV panels at various representative viewpoints. These viewpoints, referred to as “receptors” in the Glare Analysis Memorandum results (Exhibit G), were identified through review of aerial imagery, topographic maps, and other publicly available online mapping resources. The use of existing vegetation and additional vegetative screening was taken into account in considering the potential for glare caused by the PV panels. Based on review of the Federal Aviation Administration (FAA) database, aeronautical charts, aerial photos, and a Google search, ERM identified the Lebanon Springfield Airport-George Hoerter Field (Hoerter Field), a public-use airport located approximately 6 nautical miles east of the Project. ERM evaluated 2-mile-long flight paths (FP 1 and FP 2) (one for

each direction of Runway 11/29) as part of the glare analysis. As reported by the FAA, the approach glide slope is 3.00 degrees for Runway 11 (FP 1) and 3.10 degrees at Runway 29 (FP 2). ERM assumed these glide slope values for each flight path, along with an assumed threshold crossing height of 50 feet (based on typical threshold crossing heights at comparable airfields) to define both flight paths. Hoerter Field does not have an air traffic control tower. No other public-use aircraft facilities were identified within 10 nautical miles of the Project.

In addition, by design, the single-axis tracking system reduces glare by minimizing the angle of incidence. When the angle of incidence angle is smaller, sunlight hits the panel more directly, causing reflected light to deflect upward at a steeper angle, rather than spreading out horizontally. The Glare Analysis Memorandum concluded that the two flight paths would not experience glare, due to distance and direction. The Project is predicted to generate no harmful glare at any of the evaluated receptors, including nine observation points, three route receptors, and two flight paths.

III. Property Value Impacts

<u>Requirement</u>*: KRS 278.708(3)(c) The 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*

Exhibit B is a real property appraisal and analysis report by Richard Kirkland, a certified real estate appraiser with Kirkland Appraisals, LLC, studying potential property value impacts to owners adjacent to the Project. In the report, at page 1, Mr. Kirkland concludes: "Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no impact on the value of adjoining or abutting properties and that the proposed use is in harmony with the area in which it is located."

IV. Anticipated Noise Levels at Property Boundary

Requirement: ***KRS 278.708(3)(d) Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary***

The Noise Assessment Report prepared by ERM (Exhibit D) indicates that noise will occur temporarily and intermittently during the construction phase of the Project due to increases in vehicular traffic, construction equipment, and assembly of the solar facility components. This construction noise is expected to be of short duration at any given location within the Project Area. The majority of the noise-producing activities will occur hundreds of feet from the nearest noise-sensitive receptors. The noisiest portion of the construction includes the use of pile drivers to install the solar panel supports. The worst-case maximum noise [Lmax (dBA)] expected to occur at residential receptors, located 168 feet and 221 feet from the Project boundary (NSA 1 and NSA 3, respectively), is 76.5 dBA. The model was also evaluated without the inputs of the pile driver because that is more typical of ongoing construction sound levels. The sound levels for typical construction on-site range from an air conditioner to normal conversation. Construction activities within the Project Area would move around the site and are not anticipated to be performed near any particular sensitive receptor for more than a few weeks.

The highest daytime operational noise level modeled for any location along the Project property line is 44.3 dBA, which is below the existing ambient noise level (45 dBA). This area, while the closest to an inverter, is also over 850 feet from the nearest NSA (NSA 1), where daytime operational noise is modeled to be only 32.0 dBA. All modeled noise levels assume Project sources operating at full-load conditions. There will often be times when sources are operating at lower loads, with lower noise levels at the NSAs and the property line.

According to manufacturer specifications, the loudest sound power level the transformer is expected to have is 93 dBA. Because the nearest residential receptor is more than 1,980 feet from the substation, transformers are not expected to add additional noise above background noise.

Noise from site visits and maintenance activities, including single vehicular traffic and mowing, will be negligible as they produce sound that is similar to existing area noise characteristics. At the nearest receptors, no elevated and/or prolonged noise levels above background levels are expected either during construction or operation of the Project. See Exhibit D for the full report studying the anticipated peak and average noise levels associated with the Project's construction and operation at the Project boundary.

V. Effect on Road, Railways, and Fugitive Dust

Requirement: ***KRS 278.708(3)(e) 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.***

The Crab Run Solar Project Traffic Impact Study was completed by Palmer Engineering and is included as Exhibit H. It evaluates the Project's impact on road and rail traffic, and degradation of roads. The traffic study notes that the Project, with appropriate mitigation measures in place, will not produce significant adverse traffic impacts during construction or operation, stating as follows:

> "the construction period trip generation of workers and trucks will not generate a significant number of trips on local roadways. KY-49 will continue to operate at an acceptable LOS [level of service] during the scenario of when construction traffic is added to the existing peak traffic counts and during the scenario when post-

> construction traffic is added to existing peak traffic counts. Although no significant or adverse traffic impacts are expected during project construction or operation, using mitigation measures such as ridesharing between construction workers, using appropriate traffic controls, or allowing flexible working hours outside of the peak hour could be implemented to minimize any potential for delays during the AM and PM peak hours."

Construction and land disturbance associated with the Project may temporarily contribute airborne materials. The Project will comply with the provisions of 401 KAR 63:010 applicable to controlling fugitive dust emissions. It will utilize Best Management Practices (BMPs), which may include activities such as appropriate revegetation measures, application of water, or covering of spoil piles, to minimize dust. Additionally, open-bodied trucks transporting dirt will be covered while moving. During construction activities, water may be applied to the internal road system to reduce dust generation. Water used for dust control is a non-stormwater discharge activity, which will be authorized under the required Kentucky Pollutant Discharge Elimination System (KPDES) permit.

Crab Run Solar will adhere to any posted road weight limits or bridge weight limits and observe pre- and post-construction conditions for on-site and adjacent roadways. Any unforeseen road degradation will be addressed by fixing or paying for repairs for damage to roads and bridges resulting from any vehicle transport to the Project Area. Crab Run Solar will comply with all laws and regulations regarding the use of roadways and transport of heavy loads onto state or county roads. The Kentucky Transportation Cabinet or Marion County Road Department will be consulted and any necessary permits obtained. The Project will not be using railways for

any construction or operation activities.

VI. Mitigation Measures

Requirement: ***KRS 278.708(4) The site assessment report shall also suggest any mitigating measures to be implemented by the applicant to minimize or avoid adverse effects identified in the site assessment report.***

The Project will be compatible with the existing land uses in the area. Construction methods will be implemented to minimize potential impacts on noise, dust, and traffic. Project design will also incorporate avoidance and mitigation measures for sensitive resources such as wetlands, listed plant and animal species, and sensitive cultural resources. The Project design will utilize the topography and the existing vegetation for screening, and supplemental vegetative screening will be installed on portions of the eastern and western sides of the Project (see Landscape Plan, Exhibit F). Once the Project enters the operational phase, there will be no hazardous materials, pollutant emissions, or discernible sound outside of the Project Area.

Additionally, the Applicant has implemented or intends to implement the following mitigation measures for the Project:

Minimization of viewscape impacts: According to the Property Value Impact Study (Exhibit B), general rolling terrain with some distant solar panel views show no impact on adjoining property values. A combination of existing vegetation and segments of proposed vegetation screening along the eastern and western Project boundary will provide landscape buffer (see Exhibits E and F). The Project is not expected to negatively impact public road glint and glare such that any mitigation measures are necessary. Based on the Glare Analysis Study (Exhibit G), the glare (green and yellow), and the durations predicted to be experienced at the nearby airport, flight paths, surrounding roads, residences, and buildings are considered acceptable by existing

standards and industry practice.

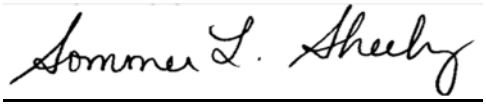
Minimization of tree clearing: The Project has been designed to minimize the amount of tree clearing required.

Minimization/coordination of impacts on water. The regulation and permitting of utility-scale solar impacts to stormwater and WOTUS will be addressed separately with the appropriate agency. The Project will be designed to avoid and/or minimize impacts to Waters of the United States (WOTUS) delineated on-site. However, if impacts to such features become necessary, then Crab Run Solar will coordinate with the U.S. Army Corps of Engineers (USACE) – Louisville District and the appropriate Clean Water Act (CWA) Section 404 permit will be obtained. If necessary, a CWA Section 401 Water Quality Certification and a Floodplain Construction permit will be obtained from the Kentucky Energy and Environment Cabinet (EEC) Division of Water (KDOW). The Project will also obtain a Kentucky Department of Environmental Protection (DEP) Stormwater Construction General Permit (KYR10) from the KDOW in compliance with the CWA.

Decommissioning: The Project has prepared a Decommissioning Plan, which is included as Exhibit I.0

Dated this 19th day of December, 2025.

Respectfully submitted,



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