MANTLE ROCK SOLAR, LLC

APPLICATION

ATLANTICA DEVELOPMENT COMPANY LLC
117 4th Street, N.E.
Charlottesville VA 22902

August 2025

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Attachments

1. Applicant Information

REQUIREMENT: per KRS 278.706(2)(a); *The name, address, and telephone number of the person proposing to construct and own the merchant electric generating facility*

COMPLIANCE: Mantle Rock Solar, LLC is a Delaware limited liability company formed on August 15, 2022. Mantle Rock Solar, LLC is authorized to do business in Kentucky as of February 14, 2024. Mantle Rock Solar, LLC is owned by Atlantica Development Company LLC (Atlantica). The principal contact person, name, address, and telephone number for this application are provided below.

- Name: Mantle Rock Solar, LLC
  Attn: Jade Cessna, Project Developer
  Atlantica
- Address: 117 4th Street, N.E.
  Charlottesville VA 22902
- Phone: (740) 497-7148

Mantle Rock Solar, LLC is a wholly-owned affiliate of Atlantica Development Corporation LLC. Atlantica is actively developing solar projects in the central and eastern parts of the U.S. It provides full-service project development from greenfield efforts and early-stage acquisitions, through construction and long-term ownership and operations. Mantle Rock Solar, LLC previously was owned by Enerfin Renewables LLC and the Project was acquired by Atlantica during development.

Person Responsible:

Jade Cessna

Project Developer

Atlantica

2. Description of Proposed Site

REQUIREMENT: per KRS 278.706(2)(b); *A full description of the proposed site, including a map showing the distance of the proposed site from residential neighborhoods, the nearest residential structures, schools, and public and private parks that are located within a two (2) mile radius of the proposed facility*

COMPLIANCE:

Mantle Rock Solar, LLC ("Mantle Rock Solar") is a proposed 42-megawatt (MW) solar facility ("Project") that would be located near the intersection of Carrsville Road (KY 135) and Maxfield Road (KY 1608), between the communities of Hampton and Joy in Livingston County, Kentucky. The Project would be constructed on a portion of a 562-acre area. The proposed Project Site is currently a mix of agricultural fields, grassed fields, and forest/wooded areas. Mantle Rock plans to develop, construct, and operate the Project over its entire operating life. The Project would generate electricity through the use of photovoltaic solar panels. The Project includes approximately 103,488 photovoltaic solar panels, 1,232 associated tracking systems, 11,088 trackers, 11 inverters, overhead and underground electrical conveyance lines, and a utility substation transformer that will interconnect with the Buma Tap – Joy 69kV transmission line owned by the Big Rivers Electric Corporation (BREC) (Attachment A).

A 4-hour battery electric storage system (BESS) is part of the Project and will be located on approximately 2.36 acres of the Project Site (Attachment A). It will contain approximately 84 BESS equipment enclosures/battery packs. Each enclosure is similar to a shipping container in size and approximately 8 feet tall. The enclosures are mainly comprised of materials such as Lithium-ion (Li-ion) batteries, silicon, steel, copper, plastic, and epoxies. Storage capacity is estimated to be 168 megawatt hours (Mwh), An additional 24 BESS equipment enclosures could augment capacity in the future. See Attachment A for further detail about the proposed BESS technical specifications, safety specifications, and certifications, The BESS will comply with the National Fire Protection Association Standard 855. The BESS containers to be installed at this Project will be procured from a manufacturer meeting all required industry standard safety and quality requirements. The BESS will utilize a cooling system to maintain the battery cells within its nominal operating range.

The BESS containers are equipped with an automatic fire alarm, combustible gas detection and alarm system and an exhaust system. The BESS container is equipped with combustible gas detectors, smoke detectors, and temperature detectors. If any abnormality is detected, the battery management system (BMS) transmits an alarm to the energy management system (EMS) and, as necessary, activates the corresponding controls and even remote shutdown of the BESS. Each cell compartment will help keep a fire from spreading to neighboring cells or neighboring containers.

Each BESS container includes sensors for every cell. The operating parameters of the cells are continuously monitored by an on board electronic system, the Battery Management System (BMS). The BMS monitors individual battery cells, tracking voltage, current, temperature, and estimating state of charge and health. The BMS not only monitors the status of the battery, but it also prevents overcharging, over-discharging, overheating, and short-circuiting based on the status of the cells, equalizes the voltage and state of charge (SOC) across all cells, and controls temperature to prevent overheating and potential thermal runaway. The BMS communicates with the overall Energy Management System (EMS) and the Supervisory Control and Data Acquisition (SCADA) of the Project.

The systems are monitored remotely 24/7. All systems are routinely supervised to ensure they are operating as expected. These systems provide remote alarms and alerts out of standard parameters. The remote monitoring system and/or plant operators will notify the fire department in case of a fire event. The status of BESS is continuously monitored and maintained with the remote management systems and also by the O&M staff.

The BESS facility will be designed in accordance with all applicable standards to withstand environmental hazards that may arise within the area.

Perimeter fencing will enclose the modules and associated infrastructure and a separate fence will enclose the substation. The Project will comply with the National Electric Safety Code ("NESC") and American National Standards Institute ("ANSI") Z535 Safety Sign Standards for Electric Utility Power Plants and Substations to guide the placement of safety signage around the facility. In addition, Mantle Rock Solar, or its contractor, will control access to the site during construction and operation. All construction entrances will be gated and locked when not in use.

A map showing the location of residential structures, schools, and public and private parks within two miles of Project is submitted as Attachment B. No parks, schools, or nursing homes were located within the two-mile buffer.

Person Responsible:

Jade Cessna

Project Developer

Atlantica

3. Public Notice Evidence

REQUIREMENT: per KRS 278.706(2)(c); *Evidence of public notice that shall include the location of the proposed site and a general description of the project, state that the proposed construction is subject to approval by the board, and provide the telephone number and address of the Public Service Commission. Public notice shall be given within thirty (30) days immediately preceding the application filing to:*

1. Landowners whose property borders the proposed site; and

2. The general public in a newspaper of general circulation in the county or municipality in which the facility is proposed to be located

COMPLIANCE: Copies of August 21, 2025 notice of application letters that were sent to landowners whose property borders the proposed site are contained in Attachment C. A copy of this notice was mailed to each landowner via USPS Certified Mail. Please see Attachment C for certified mail receipts.

Also contained in Attachment C is the affidavit and copy of the notice published in the *Livingston Ledger* on August 22, 2025, which is the newspaper of general circulation in Livingston County.

Person Responsible:

Jade Cessna

Project Developer

Atlantica

4. Compliance with Local Ordinances and Regulations

REQUIREMENT: per KRS 278.706(2)(d); *A statement certifying that the proposed plant will be in compliance with all local ordinances and regulations concerning noise control and with any local planning and zoning ordinances. The statement shall also disclose setback requirements established by the planning and zoning commission as provided under KRS 278.704(3).*

COMPLIANCE: The Project is located in Livingston County, which has not enacted any planning, zoning for the Project location. Livingston County has not established a Planning Commission. There are no setback requirements established by a planning and zoning commission for the Project location and no noise control ordinance applicable to the project.

Mantle Rock Solar, LLC certifies that the Project will follow all local ordinances and regulations concerning noise control, and with any applicable local planning and zoning ordinances in existence at the time of filing of the application. A statement certifying these facts is submitted as Attachment D.

Person Responsible:

Jade Cessna

Project Developer

Atlantica

5. Setback Requirements

REQUIREMENT: per KRS 278.706(2)(e); *If the facility is not proposed to be located on a site of a former coal processing plant and the facility will use on-site waste coal as a fuel source or in an area where a planning and zoning commission has established a setback requirement pursuant to KRS 278.704(3), a statement that the exhaust stack of the proposed facility and any wind turbine is at least one thousand (1,000) feet from the property boundary of any adjoining property owner and all proposed structures or facilities used for generation of electricity are two thousand (2,000) feet from any residential neighborhood, school, hospital, or nursing home facility, unless facilities capable of generating ten megawatts (10MW) or more currently exist on the site. If the facility is proposed to be located on a site of a former coal processing plant and the facility will use on-site waste coal as a fuel source, a statement that the proposed site is compatible with the setback requirements provided under KRS 278.704(5). If the facility is proposed to be located in a jurisdiction that has established setback requirements pursuant to KRS 278.704(3), a statement that the proposed site is in compliance with those established setback requirements:*

COMPLIANCE: The Project is not proposed to be located on the site of a former coal processing plant, nor will it use any waste coal as a fuel source. No existing electricity generating facilities are on-site at the Project location.

The Project will not include any exhaust stacks or wind turbines as part of the facility, and therefore there is no established 1,000-foot setback requirements from the property boundary of any adjoining property owner to the energy generating facilities.

In addition, the Project does not have any residential neighborhood, school, hospital, or nursing home facility within 2,000 feet from facilities to be used for generation of electricity. Specifically, there are no populated areas within 2,000 feet of five (5) or more acres in relevant parcels containing at least one (1) residential structure per acre. Therefore, no deviation from the statutory setbacks is required to be obtained.

Person Responsible:

Jade Cessna

Project Developer

Atlantica

6. Public Notice Report

REQUIREMENT: per KRS 278.706(2)(f); *A complete report of the applicant's public involvement program activities undertaken prior to the filing of the application, including:*

> *1. The scheduling and conducting of a public meeting in the county or counties in which the proposed facility will be constructed at least ninety (90) days prior to the filing of an application, for the purpose of informing the public of the project being considered and receiving comment on it;*
>
> *2. Evidence that notice of the time, subject, and location of the meeting was published in the newspaper of general circulation in the county, and that individual notice was mailed to all owners of property adjoining the proposed project at least two (2) weeks prior to the meeting; and*
>
> *3. Any use of media coverage, direct mailing, fliers, newsletters, additional public meetings, establishment of a community advisory group, and any other efforts to obtain local involvement in the siting process*

COMPLIANCE: Atlantica has made efforts to engage the public and local officials in multiple ways regarding the Project. An account of those efforts is provided below.

A public meeting was held on September 28, 2023, at 6:00 pm CDT to inform the public about the Project (Attachment E). This meeting was held at the Deer Lake Golf Course in Salem, Kentucky. A notice announcing the public meeting was published in the Livingston Ledger, the local newspaper, on Friday, September 8, 2023. Proof of the newspaper advertisement is contained in Attachment E). Letters also were sent to adjacent landowners (Attachment E).

The Applicant conducted a public information meeting in the form of an open house. Project representatives and subject matter experts provided information in the development, permitting, construction, and operation of the proposed Project. Attendees were able to view Project maps, displays, ask questions, and provide comments. Please see Attachment E for copies of the display materials provided at the public information meeting.

In the public meeting, attendees were invited to examine various posterboard stations on topics including Applicant company information, a Project map and design overview, permitting process and timeline, environmental studies, Project equipment, local economic benefits, and visual renderings.

A second public meeting was held on November 2, 2023, at 6:00 pm to provide another opportunity to inform the public about the Project (Attachment E). This meeting was held at the Deer Lake Golf Course in Salem, Kentucky. Letters also were sent to adjacent landowners (Attachment E).

The following is a brief list of various outreach activities/meetings with local government representatives, stakeholders, and other interested parties undertaken prior to the submission of this Application:

Local Officials and Agencies

Mr. Michael Williams - Livingston County Judge Executive

Mr. Garrett Gruber – Former Livingston County Judge Executive

Ms. Chelsea Day - Smithland Water Clerk (Smithland City Hall)

Ms. Amy Ramage - Livingston County School Superintendent

Mr. David Meinscheim – Former Livingston County School Superintendent

Mr. Jimmy Lamb - Hampton Fire Chief

Mr. Scott - Hampton Fire/EMT

Kentucky Transportation Cabinet District 1

Interested Parties and Nearby Landowners

Mr. Bill Summers - Good Hope Church Pastor

Ms. Ellie - Good Hope Pastor's Wife

Miss Peggy - Good Hope Cemetery Maintenance and Good Hope Church Member

Ms. Becky Dunning - Good Hope Church Member

Ms. Mary Dunning - Good Hope Church Member

Ms. Debbie - Good Hope Church Member

Mr. Barry Chittenden

Mrs. Angela Chittenden

Person Responsible:

Jade Cessna

Project Developer

Atlantica

7. Efforts to locate near Existing Electric Generation

REQUIREMENT: per KRS 278.706(2)(g); *A summary of the efforts made by the applicant to locate the proposed facility on a site where existing electric generating facilities are located;*

COMPLIANCE: It is rare for utility-scale solar projects to be co-located with existing electricity generating infrastructure, such as a coal or natural gas fired power plant. Efforts were made to site the Project where there is existing electricity transmission infrastructure and capacity.

The project will interconnect to an on-site, existing Buma Tap – Joy 69 kV transmission line owned by the Big Rivers Electric Corporation.

Person Responsible:

Jade Cessna

Project Developer

Atlantica

8. Proof of Service to County and Municipality Officials

REQUIREMENT: per KRS 278.706(2)(h); *Proof of service of a copy of the application upon the chief executive officer of each county and municipal corporation in which the proposed facility is to be located, and upon the chief officer of each public agency charged with the duty of planning land use in the jurisdiction in which the facility is proposed to be located;*

COMPLIANCE: A copy of the Siting Board application for Mantle Rock Solar, LLC will be electronically transmitted to the Livingston County Judge/Executive on the date of electronic filing of this application.

Person Responsible:

Legal

9. Effect on Kentucky Electricity Generation System

REQUIREMENT: *per KRS 278.706(2)(i); An analysis of the proposed facility's projected effect on the electricity transmission system in Kentucky;*

COMPLIANCE: An analysis of the proposed facility's projected effect on the electricity transmission system in Kentucky. To interconnect new generation facilities to the electric transmission grid, a facility owner must obtain approval from Midcontinent Independent System Operator (MISO), which is a regional transmission organization that coordinates the movement of wholesale electricity in the eastern half of Kentucky and all or parts of nearby states. The interconnection process includes completion of studies by MISO that determine the transmission upgrades required for a project to reliably interconnect to the MISO grid. This study combines multiple interconnection requests (group or cluster studies) in the analysis. Seven hundred seventy-eight interconnection requests were analyzed together.

The MISO interconnection process provides developers with increasingly refined information regarding the scope of required upgrades, completion deadlines, and implementation costs. The Facility will be capable of generating up to 42 MW of renewable energy and will interconnect with the BREC transmission system. An approximately 4-acre, 4-hour BESS is part of the Project. It will contain approximately 84 BESS equipment enclosures. Storage capacity is estimated to be 168 megawatt hours (Mwh), An additional 24 BESS equipment closure could augment capacity in the future.

The Project initiated a queue position with MISO on October 20, 2022, and was assigned the queue number J2756. On July 8, 2025, MISO completed the Definitive Planning Phase (DPP) 2022 Phase 1 Study which can be found in Attachment F.

MISO is projecting that the DPP Phase 2 results will be completed by November 8, 2025. Transmission line upgrades and cost estimates will be refined in later phases with Transmission Owner coordination. The DPP Phase 2 will be provided upon MISO completion.

Person Responsible:

Jade Cessna

Project Developer

Atlantica

10. Effect on Local and Regional Economies

REQUIREMENT: per KRS 278.706(2)(j); *An analysis of the proposed facility's economic impact on the affected region and the state;*

COMPLIANCE: See Attachment G for a report on the projected impact of the Project on local and regional economies, written by Paul A. Coomes, Ph.D., an Emeritus Professor of Economics from the University of Louisville.

On pages 1 and 2 of the report, it states:

"There are two primary impacts expected from the project. First, there will be a spike in construction and linked jobs as the site is built out over approximately one year. Using estimates of the construction payroll, I estimate that there will be a total (direct and spinoff) of 185 new jobs in the County in year one, with new labor compensation of $10.3 million. Livingston County levies a one percent occupational tax on wages, salaries and other compensation. Thus, assuming this construction projection materializes, the County would receive about $103,000 in one-time tax revenues.

Second, there will be three or four decades of new property-related tax payments to state and local jurisdictions in Livingston County due to the increased value of real, personal, and manufacturing property. The company projects a total of $2.7 million in property tax payments to local jurisdictions over the first thirty years, of which $1.8 million would flow to the County school system. The three land parcels currently generated about $2,250 in property tax revenues for local jurisdictions in 2023. This can be compared to an average of $89,000 likely to be generated per year by the solar project over the first thirty years of the project.

The ongoing annual economic impacts from operating the solar farm involve the positive effects of several operational and maintenance jobs plus the effects of the new lease payments to owners of the land. In Appendix B, these are compared to the negative effects of lost agribusiness activity, revealing net annual gain in jobs and labor income over the operating period. Looking out over three decades, and including the impacts of construction, I estimate there is a net gain of 462 job-years and $22.8 million in labor income to Livingston County."

Person Responsible:

Paul Coomes

Consulting Economist

11. Record of Environmental Violations

REQUIREMENT: per KRS 278.706(2)(k); *A detailed listing of all violations by it, or any person with an ownership interest, of federal or state environmental laws, rules, or administrative regulations, whether judicial or administrative, where violations have resulted in criminal convictions or civil or administrative fines exceeding five thousand dollars ($5,000). The status of any pending action, whether judicial or administrative, shall also be submitted;*

COMPLIANCE: Neither Mantle Rock Solar, LLC nor any entity with direct ownership interest in the Project, has violated any state or federal environmental laws or regulations. There are no pending actions against Mantle Rock Solar, LLC nor any entity with ownership interest in the Project.

Person Responsible:

Jade Cessna

Development Manager

Atlantica

12. Site Assessment Report

REQUIREMENT: per KRS 278.706(2)(l); *A site assessment report as specified in KRS 278.708. The applicant may submit and the board may accept documentation of compliance with the National Environmental Policy Act (NEPA) rather than a site assessment report*

COMPLIANCE: The Site Assessment report is being contemporaneously filed herewith; please see the separately filed document titled "Mantle Rock Solar, LLC: Site Assessment Report."

Person Responsible:

Marty Marchaterre

Senior Environmental Planner

Copperhead Environmental Consulting, Inc.

13. Decommissioning Plan

REQUIREMENT: *A decommissioning plan that shall describe how the merchant electric generating facility will be decommissioned and dismantled following the end of its useful life. The decommissioning plan shall, at a minimum, include plans to:*

1. Unless otherwise requested by the landowner, remove all above-ground facilities;

2. Unless otherwise requested by the landowner, remove any underground components and foundations of above-ground facilities. Facilities removed under this subparagraph shall be removed to a depth of three (3) feet below the surface grade of the land in or on which the component was installed, unless the landowner and the applicant otherwise agree to a different depth;

3. Return the land to a substantially similar state as it was prior to the commencement of construction;

4. Unless otherwise requested by the landowner, leave any interconnection or other facilities in place for future use at the completion of the decommissioning process;

5. Secure a bond or other similar security for the project to assure financial performance of the decommissioning obligation, provided that:

a. The amount of the proposed bond or similar security shall be determined by an independent, licensed engineer who is experienced in the decommissioning of solar electric generating facilities and has no financial interest in either the merchant electric generating facility or any parcel of land upon which the merchant electric generating facility is located. The proposed amount of the bond or similar security shall be either:

i. The net present value of the total estimated cost of completing the decommissioning plan, less the current net salvage value of the merchant electric generating facility's components; or

ii. The bond amount required by a county or municipal government that has established a decommissioning bond requirement or similar security obligation in the county or municipality where the merchant electric generating facility will be located. If the facility will be located in more than one (1) county or municipality that has established a decommissioning bond or similar security obligation, then the higher amount shall be required for the facility;

b. The bond or other similar security names:

i. For property that is leased by the applicant, each landowner from whom the applicant leases land and the Energy and Environment Cabinet as the primary co-beneficiaries; or

ii. For property that is owned by the applicant, the Energy and Environment Cabinet as the primary beneficiary;

c. If the merchant electric generating facility is to be located in a county or municipality that has not established a decommissioning bond or other similar security obligation, the bond or other similar security shall name the county or municipality as a secondary beneficiary with the county's or municipality's consent;

d. The bond or other similar security shall be provided by an insurance company or surety that shall at all times maintain at least an "Excellent" rating as measured by the AM Best rating agency or an investment grade credit rating by any national credit rating agency and, if available, shall be noncancelable by the provider or the customer until completion of the decommissioning plan or until a replacement bond is secured; and

e. The bond or other similar security shall provide that at least thirty (30) days prior to its cancellation or lapse, the surety shall notify the applicant, its successor or assign, each landowner, the Energy and Environment Cabinet, and the county or city in which the facility is located of the impending cancellation or lapse. The notice shall specify the reason for the cancellation or lapse and provide any of the parties, either jointly or separately, the opportunity to cure the cancellation or lapse prior to it becoming effective. The applicant, its successor, or its assign, shall be responsible for all costs incurred by all parties to cure the cancellation or lapse of the bond. Each landowner, or the Energy and Environment Cabinet with the prior approval of each landowner, may make a demand on the bond and initiate and complete the decommissioning plan.

6. Communicate with each affected landowner at the end of the merchant electric generating facility's useful life so that any requests of the landowner that are in addition to the minimum requirements set forth in this paragraph and in addition to any other requirements specified in the lease with the landowner may, in the sole discretion of the applicant or its successor or assign, be accommodated; and

7. Incorporate the requirements of paragraphs (m)1. to 6. of this subsection into the applicant's leases with landowners.

COMPLIANCE: Mantle Rock Solar has prepared a decommissioning plan that is consistent with these requirements and covers the solar facility's equipment, infrastructure, and BESS, see Attachment H.

Person Responsible:

Jade Cessna

Project Developer

Atlantica

14. Cumulative Environmental Assessment Summary

REQUIREMENT: per KRS 224.10-280; *Cumulative environmental assessment and fee required before construction of facility for generating electricity -- Conditions imposed by cabinet -- Administrative regulations.*

(1) Except for a person that commenced construction of a facility prior to April 15, 2002, or that has received a certificate of public convenience and necessity from the Public Service Commission prior to April 15, 2002, no person shall commence to construct a facility to be used for the generation of electricity unless the person:

(a) Submits a cumulative environmental assessment to the cabinet with the permit application; and

(b) Remits a fee set pursuant to KRS 224.10-100(20) by the cabinet to defray the cost of processing the cumulative environmental assessment.

(2) The person may submit and the cabinet may accept documentation of compliance with the National Environmental Policy Act (NEPA) as satisfying the requirements to file a cumulative environmental assessment under subsection (1) of this section.

(3) The cumulative environmental assessment shall contain a description, with appropriate analytical support, of:

(a) For air pollutants:

1. Types and quantities of air pollutants that will be emitted from the facility; and

2. A description of the methods to be used to control those emissions;

(b) For water pollutants:

1. Types and quantities of water pollutants that will be discharged from the facility into the waters of the Commonwealth; and

2. A description of the methods to be used to control those discharges;

(c) For wastes:

1. Types and quantities of wastes that will be generated by the facility; and

2. A description of the methods to be used to manage and dispose of such wastes; and

(d) For water withdrawal:

1. Identification of the source and volume of anticipated water withdrawal needed to support facility construction and operations; and

2. A description of the methods to be used for managing water usage and withdrawal.

(4) The cabinet may impose such conditions regarding the timing, volume, duration, or type of pollutants on a permit, registration, general permit, or permit-by-rule for a facility subject to this section as are necessary to comply with applicable standards.

(5) The cabinet may promulgate administrative regulations to implement the provisions of this section.

COMPLIANCE: The Applicant's Cumulative Environmental Assessment is attached as Attachment I.

a) Air Pollutants

The Project will generate transient air pollutant emissions during construction and operation activities. Air quality impacts will primarily result from the staging and operation of construction vehicles, equipment, supply deliveries, and worker personnel vehicles. The daily workforce for the Project during construction will vary depending on specific construction activities occurring on individual days. It is estimated that the work force will comprise up to 150 to 200 construction workers onsite at any time during the 8- to 12-month construction period. Construction and operation equipment will include, but not be limited to, bulldozers, backhoes, forklifts, bobcats, generators, pile drivers, semi-trucks, and flatbed trucks. Weather conditions may also affect air pollutant emissions. No air quality permit is required for construction or operation activities.

Construction activities will result in temporary fugitive air pollutant emissions (e.g., small particles suspended in the air or dust). Vehicles and construction equipment traveling over unpaved roads and the construction site will result in the emission of fugitive dust. Most fugitive emissions from vehicle traffic in unpaved areas will be deposited near the unpaved areas. To minimize fugitive dust impacts, the Project will require all contractors to keep construction equipment properly maintained and to use BMPs, such as covered loads and wet dust suppression if needed, which can reduce fugitive dust emissions by as much as 95 percent. Re-vegetation of disturbed areas in compliance with Kentucky Division of Water (KDOW) Construction Storm Water Discharge General Permit will also help minimize emission of fugitive dust.

Air quality impacts from construction activities will be temporary and will depend on both man-made factors (intensity of activity, control measures, etc.) and natural factors such as wind speed and direction, soil moisture, and other factors. However, even under unusually adverse conditions, emissions will have, at most, a minor transient impact on off-site air quality and will be well below the applicable NAAQS. Overall, the potential impacts to air quality from construction activities for the Project will be minor.

Once constructed, the solar panels will produce zero emissions during operation. Therefore, the solar facility is not expected to emit any of the following criteria pollutants: PM, CO, SO2, NOx, VOCs, or lead. Similarly, the facility is also not expected to emit Hazardous Air Pollutants (HAPs).

During operation, the solar facility will only generate air emissions from worker vehicles and equipment for maintenance activities, such as mowers to control growth of vegetation. Project operations are expected to require 2 to 3 workers on site intermittently. These workers primarily

will drive in and out, Monday through Friday during business hours. Employees are anticipated to use mid- or full-sized trucks. The Project will be monitored offsite 24/7, and maintenance workers will be sent to the site if any changes in production or equipment errors are detected remotely. Inspections will include identifying any physical damage to panels, wiring, inverters, pad mount transformers, interconnection equipment, battery storage, and security fencing that would need repairs or replacement.

Additionally, grounds maintenance will be performed through an integrated land management approach, to include potentially biological (sheep for regenerative agriculture) and mechanical control of vegetation, with herbicide applications as appropriate to control regulated noxious weeds per local, state, and federal regulations. It is anticipated that using sheep grazing to control vegetation and/or trimming and mowing will likely be performed periodically, approximately 20-30 times per year depending on growth rate, to maintain a maximum height of 10 inches to avoid shading the panels and comply with county regulations.

It is anticipated that there will also be benefits to air quality because, compared to fossil fuel sources that produce emissions, the solar panels produce zero emissions while generating electricity. This benefit to local and regional air quality will occur over the life of the Project.

b) Water Pollutants

The Applicant expects the Project to result in the discharge of stormwater during construction. The Applicant intends to comply with the KDOW's Construction Storm Water Discharge General Permit for those construction activities that disturb one acre or more. The Applicant will submit a Notice of Intent to KDOW at least seven days prior to the commencement of construction and KDOW will review the notice of intent and provide notification of authorization to discharge. When construction is completed, the Applicant will provide a notice of termination upon completion.

To manage stormwater, use of BMPs, including silt fences, on-site temporary sediment basins, sediment traps, and/or buffer zones (e.g., 25 feet) surrounding jurisdictional streams and wetlands will be implemented. A site-specific stormwater pollution prevention plan (SWPPP) will be prepared and a copy will be kept on site. These stormwater BMPs will minimize sediment from entering Waters of the Commonwealth and sediment migration off site during construction, prior to achievement of final vegetative stabilization.

Disturbed areas will be seeded after construction using a mixture of low-growing grass and herbaceous plant seed per the project planting plan. Erosion control measures will be inspected and maintained until vegetation in the disturbed areas has returned to similar to the preconstruction conditions or the Project Site is stable. Water may be used for soil compaction and dust control during construction.

Additionally, the Project will not generate wastewater during construction or operation. The primary sources of waste during Project operation are expected to be the maintenance of equipment, vehicles, and machinery and the replacement of damaged materials and materials that

have reached the end of their serviceable life. Maintenance machinery and vehicles will include semi-trucks, work trucks, and other equipment that uses gasoline, diesel, engine oil, and other petroleum-based products. The risk of spills will be limited through the use of safe refueling practices and in the event of spill the appropriate measures will be taken to remediate. The use of a spill prevention, control and countermeasure (SPCC) plan will reduce leaks and spills and minimize the potential for adverse impacts to surface and groundwater.

Following the establishment of vegetation on disturbed areas and to minimize potential for water impacts, most vegetation control may be performed biologically (i.e., sheep) with mechanically (i.e., mowing) as appropriate; however, limited amounts of herbicides will be used around posts or in areas that are not able to be grazed or mowed. Only EPA-registered and approved herbicides will be used in accordance with label directions designed in part to restrict applications near receiving waters and to prevent unacceptable aquatic impacts. All herbicides will be applied by Kentucky licensed and certified commercial pesticide applicators.

Approximately 10-15 acres of the Project Site will be used as construction assembly areas (also called staging or laydown areas) for worker assembly, vehicle parking, and material storage during construction. Some of these areas will be staged within the areas proposed for the solar arrays. The laydown areas will be on site for the duration of construction. Temporary construction trailers intended for material storage and office space will be parked on site. Following completion of construction activities, trailers, unused materials, and construction debris will be removed from the Project Site.

Once construction is complete, the operations and maintenance of the solar facility will have little to no impacts on surface water, and BMPs will be used during any maintenance activities that have the potential to cause runoff of sediment and pollutants. Beneficial indirect impacts to surface water are anticipated due to reduction in fertilizer and pesticide use compared with current agricultural use.

The Kentucky Geological Survey (KGS) Oil and Gas Search Database identified no gas or water wells on the Project Site (see Attachment J).

No direct adverse impacts to groundwater are anticipated. The solar panels will have a relatively minor effect on groundwater infiltration and surface water runoff because the panels will not include a runoff collection system. Rainwater will drain off the panels to the adjacent vegetated ground.

Portable chemical toilets will be provided on site for construction workers during Project development. Sewage will be pumped out by a licensed contractor and the sewage waste will be disposed of at the Marion Sewage Treatment Plant or other regulated wastewater treatment plant. No adverse effects are anticipated from wastewater treatment and disposal.

c) Wastes

Waste will be generated during Project construction and operation and will be handled and disposed of in accordance with local, state, and federal regulations. Construction activities will generate solid waste consisting of construction debris and general trash, including wooden crates, pallets, flattened cardboard module boxes, plastic packaging, and excess electrical wiring. To the extent feasible and practicable, construction waste will be recycled and material that cannot be recycled will be disposed of offsite at a permitted facility to be determined by the designated contractor(s). No waste will be disposed of on the Project Site. Designated construction contractor and subcontractor personnel will be responsible for daily inspection, cleanup, and proper labeling, storage, and disposal of all refuse and debris produced. Disposal containers such as dumpsters or roll-off containers will be obtained from a proper waste disposal contractor and will be located in the on-site staging area or other areas, as appropriate. Records of the amounts generated will be maintained by the Applicant.

During Project construction, materials will be stored on site in storage tanks, vessels, or other appropriate containers specifically designed for the characteristics of these materials. The storage facilities will include secondary containment in case of tank or vessel failure. Construction-related materials stored on site will primarily be liquids such as used oil, diesel fuel, gasoline, hydraulic fluid, and other lubricants associated with construction equipment. Safety Data Sheets for all applicable materials present on site will be made readily available to on-site personnel.

Construction activities will involve the use of machinery (e.g., backhoes, generators, pile drivers, and flatbed trucks) fueled by petroleum products. Fueling of construction-related equipment and vehicles will occur in designated areas. Other mobile equipment will return to the on-site laydown areas for refueling. Construction contractors will be responsible for preventing spills by implementing the SPCC including proper storage and handling procedures. The SPCC will include special procedures to minimize the potential for fuel spills, and spill control kits will be carried on all refueling vehicles for activities such as refueling, vehicle or equipment maintenance, waste removal, and tank clean-out.

Small quantities (less than 55 gallons, 500 pounds or 200 cubic feet) of janitorial supplies, paint, degreasers, herbicides, pesticides, air conditioning fluids (chlorofluorocarbons [CFCs]), gasoline, hydraulic fluid, propane, and welding rods typical of those purchased from retail outlets may also be stored and used at the facility. Due to the small quantities involved, the controlled environment, and implementation of proper cleanup procedures, significant environmental impacts caused by a potential spill are not anticipated.

Facility personnel will be supplied with appropriate personal protective equipment (PPE) and will be properly trained in the use of PPE as well as the handling, use, and cleanup of hazardous materials used at the facility and the procedures to be followed in the event of a leak or spill. Adequate supplies of appropriate cleanup materials will be stored on site.

Waste generation during operation will be minimal and will mainly result from the maintenance and/or replacement of worn or broken equipment and defective or broken electrical materials. All

wastes will be managed by a licensed waste management company(ies) and disposed of in accordance with applicable federal and state requirements to minimize health and safety effects.

Based on a review of potential waste generation activities, no adverse effects from general waste management are anticipated.

d) Water Withdrawal

No water supply well was identified on the Project Site. Aquifers beneath the Project have sufficient permeability to conduct groundwater and to allow economically significant quantities of water to be produced by man-made water wells. Water needed for construction and operation will be brought in, obtained from nearby existing wells, or provided by developing a new water supply well.

Construction-related water use will support site preparation (including dust control) and grading activities. During earthwork for the grading of access roads, foundations, equipment pads, and other components, the primary use of water will be for compaction and dust control. Smaller quantities will be required for preparation of the equipment pads, equipment washing, and other minor uses. BMPs outlined in the SWPPP will be followed for using water to clean equipment and appropriately disposing of this wastewater. The expected water volume needed for construction activities is not expected to adversely affect local or regional water resources.

The internal access roads will not be heavily traveled during normal operation, and consequently, water use for dust control is not expected. Equipment washing and any potential dust control discharges will be handled in accordance with BMPs described in the fugitive dust control plan and SWPPP for water-only cleaning.

Operation of solar electricity generating facilities is not water-intensive. Precipitation in the region is typically adequate to remove dust and other debris from the solar panels while maintaining energy production; therefore, manual panel washing with water or any other substance is likely not part of regular maintenance. Additionally, rain will contribute to ongoing vegetation management. Some water may be needed for vegetation management, including during screening vegetation installation and during prolonged times of drought.

Person Responsible:

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