

Setback Requirements

TAB 5 SETBACK REQUIREMENTS

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.

The Facility is not proposed to be located on the site of a former coal processing plant; rather, it will be located on the site of a former coal surface mine. Additionally, the Facility will generate electricity by the direct conversion of sunlight into electrical energy; therefore, no on-site waste coal will be used as a fuel source for the Facility and there will be no exhaust stack associated with the Facility. Further, there will be no wind turbines included as part of the Facility.

Pike County has no established setback requirements pursuant to KRS 278.704(3). Therefore, the setback requirements pursuant to KRS 278.704(2) apply, providing that electric-generating Project components shall be at least two thousand (2,000) feet from a residential neighborhood, school, hospital, or nursing home facility is applicable to this Project. Pursuant to KRS 278.704(4), a motion to deviate from the setback requirements of KRS 278.706(2)(e) is forthcoming.

The Applicant submits that with a reduced setback, the Facility will still meet the goals of KRS 224.10-280, 278.010, 278.212, 278.214, 278.216, 278.218, and 278.700 to 278.716. The Cumulative Environmental Assessment, prepared pursuant to KRS 224.10-280 and submitted as part of this application (Attachment H), establishes that impacts to the surrounding

community associated with air pollutants, water pollutants, waste products, and water withdrawals related to the construction and operation of the Facility will be minimal.

As established in this application, prepared pursuant to KRS 278.706, local adverse impacts associated with the construction and operation will be minimal. Economic impacts on the local and regional economies will be positive. As detailed in the Site Assessment Report, provided pursuant to KRS 278.708 (Tab 12), the proposed Facility is compatible with surrounding land uses. Because of its location, the Facility will have minimal visual impact (Tab 12, Exhibit G) on the surroundings. The Facility is not anticipated to have a negative impact on property values and land use (Tab 12, Exhibit B). According to the Noise Assessment included with the Site Assessment Report (Tab 12, Exhibit D), noise levels associated with operation of the Facility will be compatible with the existing neighborhoods. **Attachments:**

- Attachment H: Cumulative Environmental Assessment (7 pages)

PIKE COUNTY
SOLAR PROJECT

Attachment H
Cumulative Environmental Assessment



Cumulative Environmental Assessment

Pike County Solar Project

PREPARED FOR
Pike County Solar Project, LLC

DATE
18 April 2024

REFERENCE
0718089

1. INTRODUCTION

The purpose of this report is to satisfy the requirements of the Kentucky Revised Statutes (KRS) 224.10-280 which states no person shall commence to construct a facility to be used for the generation of electricity unless that person submits a cumulative environmental assessment (CEA) to the Kentucky Energy and Environment Cabinet with the permit application. Pike County Solar Project, LLC (Pike County Solar Project) has prepared this report to satisfy the requirements of KRS 224.10-280 as part of their application for the Pike County Solar Project (Project). The Project is situated on approximately 1,543 acres of a reclaimed mine with forested portions surrounded by steep forested hillsides located 0.5 miles northeast of the town of Meta in the north central portion of Pike County (GPS Centroid 37.595379° N, -82.413954° W; Project Site). The Project is proposed to consist of a solar photovoltaic facility of a generation capacity of up to 100-megawatts (MW) of electricity. Access to the Project Site is by US Highway 119 in the southeastern portion of the Project Site.

Pike County Solar is unaware of any regulations that have been promulgated regarding CEAs. To comply with KRS 224.10-280, this CEA will evaluate potential project impacts to four areas: air pollutants, water pollutants, wastes, and water withdrawal.

2. AIR POLLUTANTS

The emission of air pollutants is regulated through the Clean Air Act, which through its regulations has established baseline National Ambient Air Quality Standards (NAAQS) for multiple pollutants in order to protect public health and welfare. The pollutants covered are ozone, particulate matter (PM), carbon monoxide (CO), nitrous oxides (NO_x), sulfur dioxide (SO₂), and lead.

Geographic areas with ambient concentrations of these pollutants that exceed the NAAQS are designated as areas of nonattainment, and new emissions sources in or near these areas are often subjected to more stringent permitting requirements.

Pike County is located along the borders of Virginia and West Virginia. The surrounding Kentucky counties (Martin, Floyd, Knott, and Letcher), Virginia counties (Dickenson and Buchanan) and West Virginia County (Mingo) are in attainment for all pollutants (USEPA 2024).

Increases in air pollutant emissions would occur during development and construction of the facility; however, these increases would be temporary in nature. Air pollutant emissions would result from operation and staging of supplies and construction equipment, worker personnel vehicles, and equipment and supply deliveries. The amount of increase in air pollutant emissions would vary by the construction activity, work force size, and weather conditions occurring on the Project Site. It is estimated that 328 workers would be on-site at any one time during the 12 to 15-month construction period. When possible, work will be conducted during daylight hours, but at times it may be necessary to continue work after dark to complete critical construction activities. Construction and operation equipment would include, but not be limited to, bulldozers, backhoes, flatbed semi-trucks, forklifts, skid-steers and/or specialized tractors with extender or drill with auger or pile driver for installation of solar panel array posts, and concrete trucks.

Local emissions of PM, NO_x, CO, volatile organic compounds (VOCs), and SO₂ would be generated by both gasoline and diesel combustion engines. These emissions are anticipated to result in temporary minor air quality impacts due to the limited durations, numbers of vehicles, and hours of operation. Tree clearing and associated actions are expected to be limited due to the Project Site being primarily historic surface mine land. No burning of wood debris will occur on the Project Site, and trees that are felled will be managed at an off-site facility or will be chipped or mulched on the Project Site.

Activities related to construction at the Project Site will result in temporary increases in air pollutant emissions (e.g., dust and other suspended particles). Dust increases will be a result of any grading and vehicle travel on unpaved roads. To reduce impacts to air quality, the Project will require contractors to implement best management practices (BMPs) which may include activities such as wetting areas to reduce dust and covering loads to minimize dust emissions. Overall, impacts on air quality will be minor due to being localized and temporary in nature.

Solar facilities do not produce any emissions during operation, as such, the Project is not anticipated to emit any of the criteria pollutants (PM, CO, SO₂, NO_x, VOCs, or lead). In addition, no hazardous air pollutants are expected to be emitted from the facility during operation.

Solar facility equipment such as Photovoltaic Combining Switchgear (PVCS) can contain sulfur hexafluoride (SF₆) that is a greenhouse gas. Releases of this gas is not anticipated during operation of the Project and Pike County Solar would report to the U.S. Environmental Protection Agency (USEPA) regarding greenhouse gas if required under the USEPA's Mandatory Reporting of Greenhouse Gases Final Rule.

During operation the only anticipated emissions associated with the facility are those from maintenance vehicles, such as trucks used by technicians and equipment used during mowing and other vegetation control. Pike County Solar anticipates daily site visits by personnel to conduct inspections, perform equipment maintenance, and vegetation management.

3. WATER QUALITY

3.1 SURFACE WATER

The Project is in the Eastern Kentucky Coal Field physiographic region and is located within the Raccoon Creek-Johns Creek Watershed (Hydrologic Unit Code [HUC] 050702030302) and the Brushy Fork Watershed (HUC 050702030303). The Project Site, being located along a mountain ridge, the north and east portions are drained by Road Fork, Wolfpen Branch, Wolfe Branch, Pigeonroost Branch, Brushy Fork and King Camp Branch, of which flow into Brushy Creek located northern adjacent to the Project Site. The south and west sides are drained by Dry Branch, Cabin Knoll Branch, and Smith Fork, of which flow into Johns Creek located approximately 1.87 miles west of the Project Site. The waterbodies within the Project area ultimately drain to the Big Sandy (KDOW, 2024). The Project area consists mainly of reclaimed surface mine lands amongst steep forested terrain. As such, the majority of vegetation consists of forested species, and the natural hydrology flows through the ravines. None of the waterways in or immediately adjacent to the Project have any special designation (e.g., Outstanding State Resource Waters, Coldwater Aquatic Habitats, or other Special Use Waters) from the Kentucky Division of Water (KDOW 2024). Johns

Creek is the only stream near the property that has been evaluated by the state and it is considered “non-supporting” of normal aquatic life.

Construction activities may increase erosion and sedimentation, which may impact onsite streams and wetlands. To minimize impacts, the Project will utilize the existing landscape where possible to eliminate grading. Where grading is unavoidable, the process will be completed with earthmoving machinery and will make every effort to match existing slopes. Pike County Solar expects the Project to have storm water discharge during construction and intends to comply with KDOW’s Construction Storm Water Discharge General Permit (Permit Number KYR10) for any construction activities that disturb an acre or more. A Notice of Intent will be submitted before any work begins on the site; Pike County Solar will submit a Notice of Termination once work is complete.

Contractors will be required to use silt fences, temporary sediment basins and traps, buffers and other BMPs around streams, wetlands, and open waters, in order to minimize the impacts of stormwater runoff. Pike County Solar or its contractor will prepare and implement a stormwater pollution prevention plan (SWPPP) to comply with KDOW requirements. These BMPs will be used during the construction phase through final vegetative stabilization to minimize sediment runoff into Waters of the U.S. and Commonwealth.

After construction, all disturbed areas not occupied by Project infrastructure will be returned to approximate pre-construction use and capability via reclamation and revegetation. Disturbed soils inside of the Project’s fence line will be re-seeded to stabilize exposed soil and control sedimentation. All plantings and other erosion control measures will be inspected and maintained until the Project Site is stable. The soil makeup has been greatly altered due to the historic surface (strip) coal mine located within the Project Site. The Natural Resource Conservation Service Web Soil Survey describes soils within the Project Site as Myra very channery silt loam, an unstable fill (NRCS 2019). The parent material is a loamy-skeletal mine spoil or earthy fill derived from sedimentary rock.

If necessary, selective spraying of invasive and nuisance species would be utilized for vegetation control on the Project Site. Any herbicides used will be applied by state licensed commercial pesticide applicators, in accordance with label directions to limit any applications near waters of the U.S. or Commonwealth. This will reduce the risk of unacceptable aquatic impacts.

A small portion of the Project Site will be used as temporary construction mobilization and laydown area, which will contain the office trailer, worker parking, equipment and material staging or storage, above ground water and fuel tanks, and assembly areas for the duration of construction activities. Where possible, these will be placed in areas where the proposed solar array will be located. Once construction is complete, all office trailers, equipment, unused materials, and any debris will be removed from the Project Site.

Once construction is complete, operation of the Project Site will have little to no impacts on surface water. BMPs will be utilized during any maintenance activities that may cause runoff of any sediments or pollutants.

3.2 GROUNDWATER

Groundwater is any water found under the earth's surface, including geologic formations which contain sufficient saturated permeable material to produce large quantities of water to wells and springs known as aquifers (USGS 1995). Aquifers are often used as sources of drinking water and irrigation. Any adverse impacts to groundwater could have significant social and economic impacts.

Development of the Project is not anticipated to have any negative impacts to groundwater. Rainwater would run off the panels and either be absorbed into the ground and enter the aquifer or be collected by nearby surface water features.

Hazardous materials in the form of fuels, lubricants and other fluids will be stored on site during construction. Contractors will utilize BMPs to minimize the risk of leaks and spills and implement plans and procedures to immediately address spills and leaks that may occur. These efforts will limit the risk of potential impacts to groundwater. Due to the use of BMPs, there are no anticipated direct adverse impacts due to construction of the Project on groundwater.

During construction and operation, it is possible that limited use of fertilizer and herbicides will be used at the Project Site. Any chemical use will be conducted in accordance with manufacturer's recommendations.

4. WASTE

All waste generated during the construction and operation of the Project will be disposed of following all local, state and federal regulations.

Waste generated during construction activities will include wooden crates, pallets, cardboard boxes and other packaging material. Additionally, excess wiring and other random debris could be intermittently produced. No waste will be disposed of on the Project Site. Where practical, construction waste material will be recycled and any material that cannot be recycled will be disposed of offsite at a permitted facility. Construction contractors and subcontractors will be responsible for proper cleanup, disposal, and storage activities.

Primary construction materials stored on site will be liquids such as used oil, diesel fuel, gasoline, hydraulic fluid, and other lubricants. Proper disposal containers, obtained by a waste disposal contractor, will be located at onsite staging areas. Waste materials generated during the construction process will be stored in appropriate containers specific to the waste material. The storage containers will have secondary containment in case of tank or vessel failure. Safety data sheets will be available to on-site personnel for all applicable materials.

Fueling of some petroleum fueled construction related machinery, such as tractors, trucks, and semi-trucks will take place on the Project Site. Other vehicles will be refueled at on-site laydown areas. Proper storage and handling procedures for preventing spills related to machinery refueling will be implemented by the construction contractor. Additionally, spill control kits will be carried on refueling vehicles.

Paint, degreasers, pesticides, herbicides, air conditioning fluids (chlorofluorocarbons [CFC]), gasoline, propane, hydraulic fluid, welding rods, lead acid batteries, and janitorial supplies may be

stored on site in small quantities. Significant environmental impacts caused by a potential spill are not anticipated due to the small quantity of materials and the implementation of proper clean up procedures. Solar facility equipment such as transformers contain dielectric oil and used oil would be produced during maintenance of transformers.

Pike County Solar will develop and implement a Spill Prevention Control and Countermeasure Plan for the site to protect surface and ground water contamination. The plan will be kept onsite for facility staff to review and follow.

Proper personal protective equipment (PPE) will be provided to facility staff, and they will be trained in proper use of PPE and the handling, use, and cleanup procedures of hazardous materials used on site. Adequate supplies of applicable clean up materials will be stored onsite.

Designated waste management companies will manage any waste generated on site. Waste produced on site is expected to be minimal and will be mainly related to maintenance or repair of construction equipment.

Additionally, portable toilets will be placed on site for construction workers. Licensed contractors will be responsible for pumping sewage from the portable toilets. The sewage waste will be disposed of at a permitted location selected by the toilet contractor.

Once construction is complete and the Project is in the operation phase, no waste is expected to be generated from the site outside of maintenance activities. Any waste generated during maintenance activities will be removed from the site and disposed of in accordance with state and federal regulations.

Based on review of the potential waste generation activities, adverse effects are not anticipated from general waste or wastewater treatment and disposal.

5. WATER WITHDRAWAL

Water for construction-related dust control and operations will be obtained from several potential sources, including an on- or off-site groundwater well, or trucked from an offsite water purveyor.

Water use related to construction activities will include site preparation such as dust control and grading activities. The primary use of water would be for the grading of access roads, foundations, and equipment pads. Proper BMPs outlined in the SWPPP will be followed during equipment washing and potential dust control discharges. Groundwater resources are not anticipated to be adversely affected by the volume of water required during the construction process.

Solar electricity operation is not a water-intensive process. Manual washing of solar panels is not anticipated. Rainfall in the region will suffice to remove dust and other debris from the PV panels.

However, water will be used for vegetation management needs, including screening vegetation installation and during prolonged periods of drought.

6. REFERENCES

KDOW. 2024. Special Waters Viewer. Retrieved January 3, 2024, from KY Water Maps Portal.

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