

CASE No. 2021-00127
RHUDES CREEK SOLAR, LLC
SUPPLEMENTAL RESPONSE TO POST-HEARING DATA REQUESTS

1. Provide a copy of the cumulative environmental assessment required to be submitted pursuant to KRS 224.10-280, or direct the Siting Board to the portions of the record that include the information required by that assessment.

Original Response: Following the January 13, 2022, hearing, Rhudes Creek Solar contacted its consultant to prepare a Cumulative Environmental Assessment. It anticipates that the Cumulative Environmental Assessment can be submitted to the Cabinet by February 11, 2022. It will file a copy of that document with the Siting Board when it submits it to the Cabinet.

Supplemental Response: Please find the attached Cumulative Environmental Assessment that has been prepared for Rhudes Creek. A copy of this Cumulative Environmental Assessment will be submitted to the Energy and Environmental Cabinet.

Witness: Jeffrey Chang

February 2022

Prepared for:
ibV Energy Partners, LLC
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Suite #500
Miami, FL 33131

Cumulative Environmental Assessment
Rhudes Creek Solar, LLC Project
Hardin County, Kentucky



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A handwritten signature in blue ink that reads "Heather Patti".

Heather Patti, PWS

Senior Project Manager

A handwritten signature in blue ink that reads "Kristian Kjos".

Kristian Kjos, P.E.

Engineering Service Line Manager

February 2022

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ACRONYM LIST

BMPs	Best Management Practices
CFC	Chlorofluorocarbons
CO	Carbon monoxide
KAR	Kentucky Administrative Regulations
KDOW	Kentucky Division of Water
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrous oxides
PM	Particulate Matter
PPE	Personal Protective Equipment
SO ₂	Sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

1 INTRODUCTION

1.1 Background

On behalf of ibV Energy Partners, LLC (ibV Energy), Montrose Environmental Group (Montrose) has conducted a Cumulative Environmental Assessment (CEA) for the proposed Rhudes Creek Solar, LLC Project (Project) at the designated project site (Study Area). The purpose of this report is to satisfy the requirements of 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.

The Rhudes Creek Solar Project (Project) is a proposed utility-scale solar photovoltaic facility in Hardin County, Kentucky. The planned capacity of the generator is 100 MWac, and will be interconnected onto the Louisville Gas & Electric and Kentucky Utilities transmission network. The proposed Rhudes Creek Solar facility is located southwest of the Hardin County seat, Elizabethtown. The project site properties are directly adjacent to a state highway route and two county roads. The state route, KY-86 (i.e. Hardinsburg Road), runs east to west along the northern boundary of the property parcels. KY-86 will be the primary routes for access to the property for the construction and subsequent operation of the facility.

To comply with KRS 224.10-280, this cumulative environmental assessment will evaluate potential project impacts to four focus areas: Air Pollutants, Water Pollutants, Wastes and Water Withdrawal. These focus areas are discussed in the following sections.

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 criteria pollutants covered are ozone (O₃), particulate matter less than 2.5 microns in diameter (PM_{2.5}), particulate matter less than 10 microns in diameter (PM₁₀), 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.

Hardin County and surrounding counties (Breckenridge, Meade, Nelson, Larue, Greyson) are in attainment for all pollutants (EPA, 2021). Bullitt County is currently designated non-attainment for the 8-hour Ozone (2015 standard). However, based on the size and air emissions from the proposed facility there would be no additional air regulatory requirements even if the facility was located within a non-attainment area.

Additionally, all counties, with the exception of Jefferson County, are protected by the Air Quality Regulations found in the Kentucky Administrative Regulations (KAR), Title 401 Chapters 50-53, 55, 57-61, 63, 65, and 68.

Increases in air pollutant emissions would occur during site preparation and construction of the facility; however, these emissions 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 site. It is estimated that up to 150 workers would be onsite at any one time during the up to 12-month construction period. Work will be conducted during daylight working hours (between 6AM-9PM, Monday – Friday), but at times it may be necessary to continue work after dark or possibly on weekends to complete critical construction activities. Construction and operation equipment would include, but not be limited to, graders, bulldozers, loaders, water trucks, and specialized mobile cranes with auger or pile drivers for installation of solar panel array posts.

The design of the Rhudes Creek solar facility retains the majority of the site's topography. Excavation and earthwork will be minimal, and the ground disturbances limited in phases so that soil can be stabilized before starting work on other areas of the site. A number of dust mitigation measures will be employed to minimize fugitive dust emissions. These include, but are not limited to:

- Retaining natural windbreaks and barriers;
- Frequent water applications to wet surfaces and prevent fugitive dust, as necessary;
- Reduced speed on site and control of vehicle access;

- Washing equipment prior to leaving the site, as necessary;
- Covering open trucks, as necessary, and
- Using gravel compacted roads for construction and maintenance.

Local emissions of PM, NO_x, CO, volatile organic compounds (VOCs), and SO₂ would be generated by both gasoline and diesel internal combustion engines. These emissions are anticipated to be relatively minor and temporary due to the limited durations of the construction phase, anticipated number of vehicles, and hours of operation. Tree clearing and associated actions are expected to be limited due to the site being primarily agricultural (e.g., pasture and row crops).

Activities related to construction at the 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 gravel roads. In order to reduce impacts to air quality, the Project will require contractors to implement best management practices (BMPs) such as wetting roadways and staging areas to reduce dust and covering loads to minimize dust emissions. In addition, temporary and permanent stabilization means and methods will be utilized during the construction process, such as seeding, sod and mulching. Overall, impacts to 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, O₃, or lead). In addition, no volatile organic compounds and hazardous air pollutants will be emitted from the facility during operation.

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 routine operations & maintenance activities. ibV Energy anticipates limited visits by personnel to the site to conduct inspections, perform equipment maintenance, and vegetation management.

3 WATER QUALITY

3.1 Surface Water

The Project is located within the Nolin River Watershed (Hydrologic Unit Code # 05110001180) and drains to the Green River. The hydrology of the area surrounding the Project is influenced by agriculture drainage, karst geology, and ditching. 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).

Construction activities may increase erosion and sedimentation impacting onsite streams and wetlands. In order to minimize impacts, the Project is utilizing the existing topography throughout a majority of the site and minimizing grading. Where grading is unavoidable, it will be completed with earthmoving machinery and will make every effort to match existing slopes. ibV Energy expects the Project to have storm water discharge during construction, and intends to comply with KDOW's Construction Storm Water Discharge General Permit for any construction activities that disturb an acre or more. A Notice of Intent will be submitted before any work begins on the site, and ibV Energy will submit a Notice of Termination once work is complete.

Contractors will be required to use silt fences, temporary sediment basins and traps, buffers around streams and wetlands, and other BMPs in order to minimize the impacts of stormwater runoff. ibV Energy has prepared 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 the Commonwealth.

All disturbed areas will be seeded using a mixture of low growing, non-invasive grass and herbaceous plant seed mix that will be certified weed-free by a reputable dealer. All plantings and other erosion control measures will be inspected and maintained until the Project Site is stable.

If necessary, only herbicides that are United States Environmental Protection Agency (US EPA) approved would be utilized for vegetation control on the site. Any herbicides used will be applied in accordance with label directions to limit any applications near waters of the U.S. or the Commonwealth. This will reduce the risk of unacceptable aquatic impacts.

A small portion of the Project Site (10-20ac) will be used as temporary office trailer, worker parking, equipment and material staging or storage, 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.

After the completion of construction activities, the Rhudes Creek solar generator will have little to no impacts on surface water during operations and maintenance. BMPs will be utilized during any activities that may cause runoff of any sediments or pollutants. It is anticipated that surface water

resources in and adjacent to the Project Site will benefit from the indirect impacts related to the reduction in chemical use related to the agricultural activities currently occurring on the site.

3.2 Groundwater

Groundwater is considered 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.

The 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.

Due to the karst geology in and in the vicinity of the Project area, contractors will be required to utilize BMPs to prevent impacts to groundwater through sinkholes, caves and other karst features.

Hazardous materials in the form of fuels, lubricants and other fluids will be stored on site during construction and leaks and spills could potentially contaminate groundwater. However, contractors will utilize BMPs to minimize the risk of leaks and spills and implement plans and procedures to immediately address spills and leaks that do 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 the manufacturer's recommendations to reduce the risk of groundwater contamination. It is anticipated that impacts to groundwater will be beneficial by removing the site from agricultural use, which will reduce the overall chemical use on the site.

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 in designated areas. Other vehicles will be refueled on on-site laydown areas. Proper storage and handling procedures for preventing spills related to machinery re-fueling 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, and janitorial supplies may be stored on site in small quantities (less than 55 gallons, 500 pounds, or 200 cubic feet). 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.

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 chemical 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 chemical toilet contractor. Due to the size of the facility, additional permanent bathroom facilities are not anticipated.

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

At the end of the Project's operational life, the Project will follow a decommissioning and site restoration plan to disconnect, remove and recycle the solar array equipment and restore the Site. All electrical components will have a retained financial value and will be sent for recycling for both the environmental and financial benefit. Non-recyclable components will be disposed of in a suitable licensed facility. Once all equipment, gravel, concrete foundations from the inverter/transformer stations etc. has been removed, the Site will be restored via topsoiling and seeding following the methodology set forth in the decommissioning and site restoration plan.

Overall, based on the review of the potential waste generation activities, adverse effects are not anticipated from general waste or wastewater treatment and disposal both during construction and during decommissioning.

5. WATER WITHDRAWAL

At this time, it is not anticipated that the Project will require external utility services during typical plant operation. If water service is required during construction, the Project will use onsite well water and will secondarily use water from Hardin County Water District #2.

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 wetting and/or grading of access roads, foundations, and equipment pads. Proper BMPs outlined in the SWPPP will be followed during any 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. While regular rainfall in the region will remove dust and other debris from the PV panels, O&M contractors may draw water on a seasonal basis for additional module cleaning. Further, water will be used for vegetation management needs, including screening vegetation installation and during prolonged periods of drought.

REFERENCES

United States Geological Survey (USGS), 1995. Groundwater: What is Groundwater? (n.d.). Retrieved January 11, 2021, from https://www.usgs.gov/special-topic/water-science-school/science/groundwater-what-groundwater?qt-science_center_objects=0#qt-science_center_objects

United States Environmental Protection Agency (EPA), 2021. Kentucky Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants (December 31, 2021). Retrieved on January 31, 2022 from https://www3.epa.gov/airquality/greenbook/anayo_ky.html.

