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Project Name: Bellefonte Solar Energy Center  
Project Number: 2019-10

## **FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY**

### **BELLEFONTE SOLAR ENERGY CENTER JACKSON COUNTY, ALABAMA**

Tennessee Valley Authority (TVA) entered into a power purchase agreement (PPA) with Bellefonte Solar, LLC (Bellefonte Solar), an affiliate of NextEra Energy Resources, LLC, to purchase the power generated by the proposed Bellefonte Solar Energy Center. The proposed solar photovoltaic (PV) facility would be located in Jackson County, Alabama. The proposed facility would be constructed and operated by Bellefonte Solar and would have alternating current (AC) generating capacity of up to 150 megawatts (MW). To interconnect to TVA's existing electrical grid, TVA would construct a new Hollywood 161-kV (kV) switching station adjacent and connected to its existing Hollywood-Scottsboro 161-kV transmission line (TL). Bellefonte Solar would construct the Bellefonte Solar 161-kV substation adjacent and connected to the new TVA Hollywood 161-kV switching station, resulting in a 0.1-mile generation tie (gen-tie) line between the substation and switching station. TVA would also replace existing groundwire with fiber-optic overhead groundwire (OPGW) on 5.2 miles of the Hollywood-Scottsboro 161-kV TL. Under the terms of the conditional PPA between TVA and Bellefonte Solar, dated November 9, 2018, TVA would purchase the electric output generated by the proposed solar facility for an initial term of 20 years, subject to satisfactory completion of all applicable environmental reviews. Together, the proposed solar facility, the interconnection facilities, and the PPA between Bellefonte Solar and TVA are herein referred to as the "Project" or the "Proposed Action."

TVA produces or obtains electricity from a diverse portfolio of energy sources, including solar, hydroelectric, wind, biomass, fossil fuel, and nuclear. In 2015, TVA completed an Integrated Resource Plan (IRP) and associated Environmental Impact Statement (EIS). The 2015 IRP identified the various resources that TVA intends to use to meet the energy needs of the TVA region over the 20-year planning period while achieving TVA's objectives to deliver reliable, low-cost, and cleaner energy while reducing environmental impacts. Cost-effective renewable energy, including energy generated by solar PV facilities, is one of the energy resources recommended in the IRP. Since 2015, TVA has undertaken several efforts to increase the amount of renewable energy in its generation portfolio. TVA's 2015 IRP reinforced the continued expansion of renewable energy generating capacity, including the addition of between 175 and 800 MW (AC) of solar capacity by 2023. In addition, in 2017, customer demand prompted TVA to release a Request for Proposal (RFP) for renewable energy resources. The PPAs that resulted from this RFP will help TVA meet immediate needs for additional renewable generating capacity in response to customer demands and fulfill the renewable energy goals established in the 2015

IRP. The Proposed Action would provide cost-effective renewable energy consistent with the IRP and TVA goals.

In June 2019, TVA released the final 2019 IRP and the associated EIS. This updated IRP provides further direction on how TVA can best deliver clean, reliable, and affordable energy in the Valley over the next 20 years, and the associated EIS looks at the natural, cultural, and socioeconomic impacts associated with the IRP. The 2019 IRP recommends a solar expansion between 1,500 and 8,000 MW of solar by 2028 and up to 14,000 MW by 2038. While the Proposed Action was initiated in accordance with the 2015 IRP, it is consistent with the 2019 IRP.

The potential effects of the Proposed Action are described in an environmental assessment (EA) incorporated herein by reference.

## **Alternatives**

The subject EA evaluates two alternatives: the No Action Alternative and the Proposed Action Alternative. Under the No Action Alternative, TVA would not purchase the power generated by the Proposed Action under the 20-year PPA with Bellefonte Solar (i.e., TVA would not be involved with the Project), and Bellefonte Solar would not construct or operate the Bellefonte Solar Energy Center. Existing conditions (land use, natural resources, visual resources, physical resources, and socioeconomics) in the Project area would remain unchanged. TVA would continue to rely on other sources of generation described in the 2019 IRP to ensure an adequate energy supply and to meet its goals for increased renewable energy and low greenhouse gas-emitting generation.

Under the Proposed Action Alternative, Bellefonte Solar would construct and operate a 150-MW AC single-axis tracking PV solar facility in Jackson County, Alabama, and TVA would purchase renewable energy from the facility under the 20-year PPA with Bellefonte Solar. The solar facility would generate up to 150-MW AC output for transmission to the TVA transmission network. The Project would occupy approximately 1,850 acres of land located on 14 individual parcels partially within the incorporated limits of the Town of Hollywood and partially in an unincorporated portion of southern Jackson County, approximately three miles northeast of the City of Scottsboro. The entire 150-MW output of the solar facility would be sold to TVA under the terms of the PPA. The Project would connect to the existing TVA electrical network via the proposed Bellefonte Solar 161-kV project substation, Hollywood 161-kV switching station, and approximately 0.1 mile of new gen-tie line.

Construction of the Project would require site preparation (surveying and staking, removal of tall vegetation/small trees, light grading/clearing, installation of security fencing around components near one another and not separated by public roads, erosion prevention and sediment control best management practices [BMPs], preparation of construction laydown areas, and site access road construction) prior to solar array assembly and construction, which includes driving steel piles for the tracker support structures, installation of tracker structures and solar panels, construction of the Project substation, switching station, and operations and maintenance building, and electrical connections and testing/verification. Construction would be sequenced to minimize the time that bare soil on the disturbed areas is exposed.

Construction activities would take approximately 20 months to complete using a crew that ranges from 150 to 500 workers. Work would generally occur seven days a week during daylight hours. Additional hours after dark could be necessary to make up schedule deficiencies or to complete critical construction activities. Night-time construction, if determined necessary, would require lighting in some areas of the Project site. Any additional night-time lighting would be downward-facing and timer- and/or motion-activated to minimize impacts to wildlife and any surrounding receptors, including nearby households. Once construction is completed, the Project Site would be revegetated with low-growing native and/or noninvasive grasses and herbaceous plants. The Project components would be enclosed together by chain-link security fencing. The areas within the security fencing would contain blocks of solar panels and inverters, associated equipment, and infrastructure including a new Project substation, switching station, access roads, and electrical cabling.

Once the facilities are completed, there would be minimal human activity during operation. Moving parts of the solar facility would be restricted to the east-to-west facing tracking motion of the solar modules. Otherwise, the PV modules would collect solar energy and transmit it to the TVA power grid. Maintenance activities would include fence repair, vegetation control, and periodic array inspection, repairs, and maintenance performed by up to six full-time, on-site staff. Water service, sewer service, septic service, and permanent, downward-facing, timer- and/or motion-activated lighting are anticipated as on-site needs during operations.

The TVA-preferred alternative for fulfilling its purpose and need is the Proposed Action Alternative. The Proposed Action Alternative would generate renewable energy for TVA and its customers with only minor direct and indirect environmental impacts due to the implementation of BMPs and minimization and mitigation efforts. The Project would also result in some beneficial effects. Implementation of the Project would help TVA meet renewable energy goals and future energy demands on the TVA system.

## **Impacts Assessment**

The potential impacts of the Proposed Action Alternative are described in detail in the subject EA. Approximately 997 acres (54 percent) of the approximate 1,850-acre Project Site would be cleared and/or graded for the solar facility. These changes would cause minor adverse impacts to geology and soils due to slight, localized increases in erosion and sedimentation. Construction activities would cause short-term impacts to air quality, utilities, and visual resources and temporary increases in noise and traffic. Impacts to air quality are anticipated due to short-term, minor increases in vehicle emissions and fugitive dust suspension. Offsetting beneficial effects to greenhouse gas emissions would occur during operations, as the nearly emissions-free power generated by the solar facility would help offset power that would otherwise be generated by the combustion of fossil fuels.

Heightened noise during construction would primarily result from pile driving activities during daylight hours for an approximate six-month period. There may be brief local utility outages as the solar facility is brought on-line. With the implementation of federal and state requirements and BMPs, impacts to waste management and public and occupational health and safety during the life of the Project would be minor to negligible.

Due to the implementation of BMPs, no significant impacts to groundwater and floodplains are expected. Steps taken in designing the site layout have avoided impacts to wetlands to the extent practicable and minimized adverse impacts to floodplains and their natural and beneficial values. Therefore, the Proposed Action would be consistent with the requirements of Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands). Complete avoidance of water features was not feasible, and the construction and operation of the Project would permanently affect one wetland (0.05 acre) due to the construction of the Hollywood Switching Station and its location requirements. With the implementation of BMPs, impacts to the wetland would be minimized. Impacts to jurisdictional water features would not be expected from the installation of buried cables due to the use of boring to install these Project elements. Additionally, access roads and all other project elements have been routed to avoid impacts to jurisdictional water features.

An uncommon limestone cedar glade plant community occurs on just over 2 acres within the proposed project footprint. Cedar glade habitat is sporadic and uncommon in northeastern Alabama. This plant community supports a unique assemblage of plants and has standalone conservation value. The vast majority of the cedar glade habitat present within the action area is not located in areas where panels would be installed and would not need to be disturbed during construction and operation of the facility. Temporary fencing would be installed during construction to exclude vehicles and construction equipment from the majority of the delineated cedar glade habitat. Post-construction, this portion of the habitat would remain undeveloped to protect the plant communities present. This commitment would be recorded on the engineering drawing for the site. With implementation of the above commitment, impacts to cedar glade habitats resulting from the Proposed Action Alternative would be long-term, but minor and insignificant.

Some long-term habitat loss would occur due to the clearing of approximately 434 acres of currently forested land on the Project Site and conversion to native grasses and/or other noninvasive vegetation. These changes would result in effects to common wildlife. Potentially suitable summer roosting habitat for the Indiana bat and northern long-eared bat would be removed for the construction of the proposed solar facility and electrical interconnection. TVA determined that the Proposed Action may affect but is not likely to adversely affect the northern long-eared bat and the Indiana bat. Consultation under Section 7 of the Endangered Species Act was performed with the United States Fish and Wildlife Service on December 23, 2019. Concurrence was received on January 30, 2020, on the condition that suitable habitat removal must occur between November 15 and March 31. The Project is not anticipated to impact federally or state-listed species or migratory bird species of concern.

TVA determined that the Project would impact three archaeological sites (1JA1243, 1JA1254, and 1JA1256) determined eligible for listing in the National Register of Historic Places. Pursuant to 36 Code of Federal Regulations Part 800.6(c), TVA is developing a Memorandum of Agreement (MOA) in consultation with the Alabama State Historic Preservation Officer (SHPO) to minimize and/or mitigate the effects of this undertaking. TVA enacted, in consultation, a phased process in addressing effects to historic properties. This phased process allows for the FONSI to be signed and construction to begin in certain areas outside the affected areas prior to execution of the

MOA. Pursuant to the National Historic Preservation Act, TVA consulted with the Alabama SHPO and interested federally recognized Indian tribes regarding this agency determination. In a letter, dated March 9, 2020, the Alabama SHPO concurred that the Project as currently proposed would adversely affect resources 1JA1243, 1JA1254, and 1JA1256. Bellefonte Solar and TVA are preparing a Memorandum of Agreement with Alabama SHPO and Advisory Council of Historic Preservation to mitigate the adverse effect to these resources. TVA received no objections to the project from federally recognized Indian tribes.

Construction of the proposed facility could have short-term beneficial economic impacts due to the purchase of materials, equipment, and services and a temporary increase in employment, income, and population. Operations would result in positive, long-term impacts to economics, employment, and the population in Jackson County and the local region as a result of permanent job creation and increase in the local tax base. Low-income populations in the vicinity of the solar facility are lower than the county and state. The Project impacts, as described in the subject EA, would primarily occur during the 20-month construction period and would be minor, and off-site adverse impacts would be negligible. As such, no disproportionately high or adverse direct or indirect impacts are expected to result from the Proposed Action on low-income populations or other environmental justice populations due to human health or environmental effects. In addition, the Project would have minor beneficial impacts to employment and income levels in the local region that could provide additional opportunities to nearby environmental justice populations.

The completed solar facility would change land use of the 997-acre limits of disturbance within the Project Site from agricultural and undeveloped, forested to solar. Because the Project Site is considered rural with no zoning restrictions, the development of the Project Site as a solar facility is compatible with current land uses. The change from agricultural and undeveloped, forested land uses to solar land use would result in conversion of approximately 421 acres of land with soils designated as prime farmland by the U.S. Department of Agriculture Natural Resource Conservation Service for the life of the Project. However, with decommissioning of the Project, removal of Project components, and site reclamation, the Project Site could return to agricultural uses. Visual impacts during operation of the solar facility would be minor to moderate in the immediate vicinity but minimal on a larger scale, due to variation of the visual attributes of the vicinity.

## **Public and Intergovernmental Review**

In June 2019, Bellefonte Solar announced the proposed Bellefonte Solar Energy Center in the *Jackson County Sentinel*.

On January 29, 2020, TVA issued the draft subject EA for public review and comment. TVA announced the review period via a media advisory, a notice in *Jackson County Sentinel*, and outreach to key stakeholders, government agencies, elected officials, and interested federally recognized Indian tribes. TVA posted the draft EA on its webpage ([www.tva.gov/nepa](http://www.tva.gov/nepa)) with information about how to submit comments. During the 30-day public review and comment period of the draft EA, a total of two comments were received from the general public, neither of which warranted changes in the Final EA.

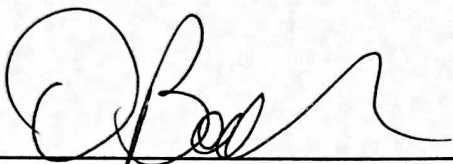
## Mitigation

To address adverse impacts associated with the Proposed Action, Bellefonte Solar and TVA would implement minimization and mitigation measures in relation to potentially affected resources, including such measures required by permits, as described in detail in the EA. To minimize adverse impacts on natural and beneficial floodplain values, construction and maintenance activities would occur during dry periods as much as possible; the transmission line rights-of-way would be revegetated where natural vegetation is removed; BMPs would be implemented during construction, as described in more detail below; construction would adhere to the TVA subclass review criteria for transmission line location in floodplains; and construction and access road improvements would be conducted such that upstream flood elevations would not increase by more than one foot. To reduce noise impacts, construction would primarily occur during daylight hours. Bellefonte Solar would implement a variety of plans and programs to minimize risks to public and occupational health and safety and to ensure proper handling of any chemicals or hazardous materials stored and utilized on site. Bellefonte Solar would comply with the terms of the site-specific Construction Best Management Practices Plan coordinated with the Alabama Department of Environmental Management and implement other routine BMPs, such as non-mechanical tree removal within surface water buffers, placement of silt fence and sediment traps along buffer edges, and proper vehicle maintenance to reduce the potential for adverse impacts to groundwater. Silt fencing would also be installed around areas cleared of vegetation, and efforts would be made to balance soil cut-and-fill quantities to help alleviate the transportation of soils and sediments off-site during construction. If substantial traffic congestion occurs during construction, Bellefonte Solar would minimize these effects by implementing staggered work shifts during daylight hours.

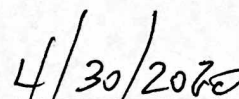
Tree removal for the Project would occur between November 15 and March 31 to minimize impacts to federally listed bat species. Following this schedule would also minimize impacts to nesting birds as tree removal would occur outside of nesting season for many migratory bird species. Impacts to ospreys or herons would be minimized by conducting transmission line work outside of nesting season and coordinating with U.S. Department of Agriculture Animal and Plant Health Inspection Service to develop a mitigation plan if construction activities may occur within 660 feet of active osprey or heron nests. Impacts to birds would further be minimized by implementing Avian Power Line Interaction Committee guidelines in finalizing the design of the Bellefonte Solar transmission line. Following grading, the Project Site would be revegetated with native and/or noninvasive vegetation to reintroduce wildlife habitat, limit the spread of invasive species, and further support on-site soils. In right-of-way areas, only U.S. Environmental Protection Agency-approved herbicides would be used, where needed, and these would be applied in a manner that minimizes aquatic impacts. Downward facing and timer- and/or motion-activated lighting would be installed to limit attracting wildlife, and Project personnel would be instructed on wildlife resource protection measures to further minimize impacts to biological resources. Temporary fencing would be installed during construction to exclude vehicles and construction equipment from the main portion of the delineated cedar glade habitat. Post-construction, this portion of the habitat would remain undeveloped to protect the plant communities present. To minimize long-term Project effects to land use and visual resources, anti-reflective photovoltaic panels would be installed.

**Conclusions and Findings**

Based upon the analyses documented in the EA, TVA concludes that the Proposed Action Alternative of construction and operation of the solar generating facility and TVA's purchase of the electric output pursuant to the PPA with Bellefonte Solar would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



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Date Signed