

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

### **SKYHAWK SOLAR PROJECT OBION COUNTY, TENNESSEE**

The Tennessee Valley Authority (TVA) has entered into a power purchase agreement (PPA) with TN Solar 1, LLC (referred to herein as “TN Solar”), to purchase the power and environmental attributes generated by the proposed Skyhawk Solar Facility (Solar Facility) in Obion County, Tennessee. The Skyhawk Solar Project (the Project) would include a Solar Facility, which would be constructed and operated by TN Solar and include up to approximately 100 megawatts (MW) of alternating current (AC) generating capacity, a new Skyhawk Substation, a new permanent switching station, and structural upgrades along TVA’s existing 16-mile Weakley to Union City 161-kilovolt (kV) transmission line (TL). Under the terms of the conditional PPA between TVA and TN Solar, dated December 23, 2019, TVA would purchase the electric output and environmental attributes generated by the Solar Facility for an initial term of 15 years, subject to satisfactory completion of all applicable environmental requirements.

TVA produces or obtains electricity from a diverse portfolio of energy sources, including solar, hydroelectric, wind, biomass, fossil fuel, and nuclear. In 2019, TVA completed an Integrated Resource Plan (IRP) and associated Environmental Impact Statement (EIS) that identified the 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 clean energy while reducing environmental impacts. The IRP reinforced the need for continued expansion of renewable energy generating capacity, including the addition of between 1,500 and 8,000 MW AC of solar capacity by 2028 and up to 14,000 MW AC by 2038.

In 2019, 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 and fulfill the renewable energy goals established in the IRP. The Proposed Action would provide cost-effective renewable energy consistent with the IRP and TVA goals. The potential effects of TVA’s proposed action, including the effects of constructing and operating the solar facility and associated TL upgrades, are described in an environmental assessment (EA) which is 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 execute the PPA with TN Solar for the purchase of power generated by the proposed solar facility and would rely on other sources of generation to meet its renewable energy goals.

Under the Proposed Action Alternative, TVA would execute the PPA and TN Solar would construct and operate the proposed Solar Facility. The facility would occupy approximately 690 acres of a Project Site consisting of four individual parcels of predominantly agricultural land. The Project Site, which includes the solar array footprints, collection lines, Skyhawk Substation, and Skyhawk Switching Station, is approximately 3.5 miles southeast of Union City, Tennessee.

The Solar Facility would consist of multiple parallel rows of photovoltaic (PV) panels on single-axis tracking structures, along with direct current (DC) and AC inverters and transformers. Site preparation is generally required prior to construction of the Solar Facility and assembly of the solar arrays. Site preparation typically includes: surveying and staking; removal of vegetation/trimming tree branches; light grading, clearing, and grubbing; installation of security fencing around components near one another and not separated by public roads; erosion prevention and sediment control Best Management Practices (BMPs); and preparation of construction laydown areas. Solar array assembly and construction includes driving steel piles into the ground for the tracker support structures, installation of solar panels, and electrical connections and testing/verification. Construction materials would be transported by truck and/or rail to the Project Site, where materials would be staged, assembled, and moved into place. Temporary construction laydown areas for materials, equipment, and parking would be required within the Project Site. With the exception of fence repair, vegetation control, and periodic array inspection, repairs, and maintenance, the Solar Facility would have relatively little human activity during operation.

TVA would construct the Skyhawk 161-kV Switching Station (Switching Station) adjacent to the Skyhawk Substation, resulting in a 675-foot-long gen-tie line, and connect to TVA's existing TL. Additionally, TVA proposes to replace the existing overhead groundwire (OHGW) with new fiber-optic overhead groundwire (OPGW) (Fiber) along the existing 16-mile Weakley – Union City 161-kV TL from the Weakley 500-kV Substation to the Union City 161-kV Substation. The new Fiber would be installed by helicopter. To support the new Fiber, modifications to the existing TL would be required, which would include approximately 83 pole replacements and six new pole installations along the length of the TL. Existing access roads would be used for the pull point locations and TL modifications. Each work location would occur within TVA's existing maintained easement. TVA has established a 50-foot-wide radius around each work location in order to identify and address potential construction impacts. Modifications and upgrades along TVA's existing TL right-of-way (herein referred to as the "Transmission ROW") and 675-foot-long interconnection (gen-tie) would add another approximately 70 acres of temporary impacts to the Proposed Action. The entire Project would affect approximately 760 acres.

TVA's preferred alternative is the Proposed Action Alternative. This alternative would fulfill the purpose and need for the action by providing TVA and its customers with additional renewable generating capacity with minor direct and indirect impacts.

### **Impacts Assessment**

The potential impacts of the proposed action are described in detail in the EA. Implementation of the proposed action would change the land use of the proposed solar facility site from agricultural to industrial. Adjacent land uses are similar with few nearby residents. Most of the site is classified as prime farmland. While the construction and operation of the solar facility would remove the site from agricultural production, there would be little long-term impact on the soil productivity and the impacts on soils would be offset by the beneficial effects to soil health with the use of native and noninvasive vegetation.

Impacts to groundwater, due to the use of a new water well during operation of Solar Facility and construction of new transmission line poles 10 – 15 feet below ground, would be minimal. Direct impacts to federally jurisdictional surface water features and jurisdictional wetlands would be avoided entirely at the solar facility, with only minor indirect impacts from soil erosion and sedimentation during construction. Temporary, short-term impacts on palustrine emergent and palustrine forested wetlands and surface waters are expected during the construction of transmission line upgrades. Vegetative buffers would be maintained along streams and wetlands, and BMPs would be used during all construction and maintenance activities in

accordance with permit requirements. Impacts to water quality, streams, wetlands, and aquatic life would be minor and insignificant, consistent with the requirements of Executive Order 11990 (Protection of Wetlands). Impacts to floodplains are unavoidable, as approximately 56 percent of the Project Site would be located within designated floodplain areas. The Project layout has been designed to minimize the number of PV panels installed within floodplains with high base flood elevations, and the Skyhawk Substation and Skyhawk Switching Station would be located outside of the 100-year floodplain. Consistent with Executive Order 11988 (Floodplain Management), the installation of underground electric lines and fencing are considered to be repetitive actions in the 100-year floodplain, which would result in minor impacts.<sup>1</sup>

Most of the proposed solar facility site is cropland, and no clearing of mature trees is anticipated. No uncommon or rare plant or animal communities are present on the site, and the impacts to vegetation and wildlife would be insignificant. Habitat at the Project Site would be improved for small mammals, songbirds, reptiles and amphibians, and pollinating insects through introduction of native vegetation. No plants or animals listed under the Endangered Species Act, or habitat suitable for these listed species, are present on the solar facility site and the requirements under Section 7 of that Act have been met. No state-listed endangered or threatened species would be significantly affected.

No archaeological or architectural/historic resources eligible for inclusion on the National Register of Historic Places occur on or in the immediate vicinity of the Project. TVA has determined that there would be no effects on historic properties, The Tennessee State Historic Preservation Office and Cherokee Nation concurred with this determination. Accordingly, the requirements of Section 106 of the National Historic Preservation Act have been met.

Construction activities would result in minor and short-term impacts to air quality and transportation. Once operational, the solar facility would generate beneficial impacts to air quality and greenhouse gas emissions, by offsetting power that would otherwise be generated in part by fossil fuel combustion, that would more than offset the short-term emissions from construction equipment during the construction phase. Few sensitive noise receptors occur near the proposed facility, and any noise impacts would be minor and short-term. After commercial operation of the Solar Facility, if there are locations near inverters where noise levels exceed 55 A-weighted decibel (dBA), TN Solar would install sound buffers (walls, fences with screening, or vegetation) in order to minimize the noise levels from operating equipment. Overall visual impacts would be insignificant due to the low profile of the proposed facility, visual obstructions around part of its perimeter, and limited viewing locations accessible to the public. Installation of natural or man-made visual screening to minimize these impacts is being evaluated to address moderate adverse impacts to the viewshed from six residential structures in the immediate Project vicinity.

Construction, operation and decommissioning of the proposed action would result in the generation of hazardous and nonhazardous solid waste in the form of construction debris, grading spoils, packaging materials, and general construction waste. Every effort would be made to minimize the amount of waste generated during and after construction of the Project..

The proposed action would result in beneficial, socioeconomic impacts during construction due to the short-term increase in employment and purchase of materials, equipment, and services. The increase in the local property tax base resulting from the construction of the facilities would

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<sup>1</sup> Tennessee Valley Authority (TVA). 1981. *Class Review of Repetitive Actions in 100-Year Floodplain*. Federal Register. Vol. 46, No. 76 (22845 – 22846). 21 April 1981.

result in a small, long-term, beneficial effect. There would be no disproportionate adverse effects on minority or low-income populations.

### **Public and Intergovernmental Review**

A draft of the EA was issued for public and agency review. TVA has consulted with the State Historic Preservation Office and federally recognized Native American tribes on the potential effects to historic properties.

TVA received comments on the draft EA from one federal agency, one state agency, and one individual. Comments can be found in Appendix G of the Final EA. None of these comments opposed TVA's proposed action. TVA has carefully reviewed the comments and addressed them in the final EA.

### **Mitigation**

TN Solar would use routine best management practices such as dust suppression, erosion controls, and maintenance of buffers to minimize impacts to air and water resources. Other mitigation measures would include preservation of topsoil during construction, and revegetation with native and/or noninvasive vegetation to reintroduce habitat, reduce erosion, and limit the spread of invasive species and utilize pollinator vegetation where possible.

TN Solar would coordinate with the homeowners, construction contractors, and the array layout designers to determine the most suitable type of buffer to be used in each location where the visual environment for residents has undergone a long-term change due to the Project. For residences that are within 500 feet of an inverter, a pre-construction sound study including an ambient survey would be conducted to quantify the existing ambient environment. After the project reaches commercial operation, TN Solar would measure the sound levels at residential property lines and identify any equipment that generates a day-night average (Ldn) sound level that exceeds 55 dBA at the property line. If there are locations where noise levels exceed that threshold, TN Solar would install sound buffers (walls, fences with screening, or vegetation) in order to minimize the noise levels from operating equipment.

Should tree removal be needed, TVA would be contacted first to evaluate the need for additional consultations or clearances. If traffic flow were to become a problem, TN Solar would consider implementation of staggered work shifts during construction and a flag person along the roadside during heavy commute times to manage the flow of traffic near the Project Site.

### **Conclusion and Findings**

Based upon the analyses documented in the EA, TVA concludes that its proposed action of executing the PPA with TN Solar 1, LLC, and the subsequent construction and operation of the solar generating facility by TN Solar, as well as the new gen-tie and upgrades to TVA's existing TL, 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