

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

### **POWER PURCHASE AGREEMENT – WILDBERRY SOLAR CENTER, FAYETTE COUNTY, TENNESSEE**

The Tennessee Valley Authority (TVA) proposes to execute a 20-year power purchase agreement (PPA) through its Renewable Standard Offer (RSO) program with Wildberry Solar Center, LLC, an affiliate of Coronal Development Services LLC, for the electricity generated by a proposed solar photovoltaic (PV) facility in Fayette County, Tennessee. The solar facility would have a generating capacity of 20 megawatts that would be delivered to the TVA system through an interconnection with a Chickasaw Electric Cooperative (CEC) substation.

TVA produces or obtains electricity from a diverse portfolio of energy sources including nuclear, fossil, hydro, solar, wind, and biomass. In 2011, TVA completed an Integrated Resource Plan (IRP) and associated environmental impact statement that identified the resources TVA would use to meet the energy needs of the TVA region over the 20-year planning period. Cost-effective renewable energy, including energy generated by solar PV, is one of the energy resources recommended in the IRP. Since 2011, TVA has undertaken several efforts to expand the contribution of renewable energy in its generation portfolio, including the establishment of the RSO program. The recently completed 2015 IRP reiterated the continued expansion of TVA's use of renewable energy. The proposed PPA would help meet this need and the Providence Solar Center project would provide cost-effective renewable energy consistent with TVA goals.

TVA must decide whether to execute the PPA. If TVA does execute the PPA, Wildberry Solar Center (WSC) would construct and operate the solar facility. The potential effects of TVA's proposed action, including the effects of constructing and operating the solar facility, 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 Wildberry Solar Center for the purchase of power generated by the proposed solar facility. TVA would rely on other sources of generation to meet its renewable energy goals.

Under the Proposed Action Alternative, TVA would execute the PPA and WSC would construct and operate the solar facility a short distance east of Moscow, Tennessee and adjacent to Tennessee Highway 57. WSC is considering two facility designs. Its preferred Option 1 design would utilize multiple parallel rows of PV panels on single-axis tracking structures supported by metal posts driven into the ground and occupy 99 acres. The alternative Option 2 design would utilize PV panels mounted to fixed-tilt metal racks and occupy 135 acres. For both facility designs, trees on the site would be cleared and part of the site would be lightly graded to facilitate the installation and operation of the solar arrays. Buried electrical cables would connect the arrays to direct current-to-alternating current inverters and transformers. A short on-site overhead power line would connect to a CEC 13.2-kilovolt power line. The 2.2-mile section of

CEC power line between the solar facility and the CEC substation and adjacent to Highway 57 would be rebuilt to accommodate the increased electric load. The solar facility would be enclosed by security fencing and revegetated as necessary with grass or other low-growing plants.

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 and forest to industrial. No residents would be displaced. Adjacent land uses are a mix of agricultural and forest to the east and north, residential to the south, and commercial and industrial to the west. At the request of WSC, the site zoning was changed from Fringe Residential to Light Industrial. About half 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 prime farmland would not be significant.

Impacts to groundwater would be minimal. A few streams and wetlands occur in the project area. The Option 1 design would not directly affect streams or wetlands, and is consistent with the requirements of Executive Order (EO) 11990 (Protection of Wetlands). The Option 2 design would avoid streams but require the clearing of about 2 acres of forested wetlands. No other construction activities would occur in the wetlands. The clearing of forested wetlands would likely require an Individual Aquatic Resources Alteration Permit issued by the Tennessee Department of Environment and Conservation (TDEC) and compensatory mitigation. As Option 2 is not WSC's preferred design, WSC has not applied for this permit or proposed the mitigation. Should WSC change their preference to Option 2 as a result of the impracticability of Option 1, WSC would apply for the necessary permits and the wetland mitigation would be subject to TDEC and TVA approval. TVA's approval would ensure that any such wetland mitigation for Option 2 is consistent with EO 11990. WSC, under both facility designs, would implement best management practices during construction and operation to minimize impacts to streams and wetlands. The project area is not located in a floodplain. The proposed action would be consistent with the requirements of Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands).

Most of the project site is cropland. The Option 1 design would require clearing 0.44 acres of hardwood forest and the Option 2 design would require clearing about 45 acres of planted pine and hardwood forest. No uncommon or rare plant or animal communities are present on the site, and the impacts to vegetation and wildlife would be insignificant.

Forests on the project site provide potential summer roost habitat for the endangered Indiana bat and the threatened northern long-eared bat, both of which are listed under the Endangered Species Act (ESA). Under Option 1, 0.44 acres of potential bat summer roost habitat would be cleared and under Option 2, approximately 33 acres of potential bat summer roost habitat would be cleared. No other species listed or proposed for listing under the ESA are known or likely to occur on the project site. TVA has consulted with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the ESA on the potential effects of the proposed action with the Option 1 design. In a letter dated June 13, 2016, the USFWS concurred with TVA's determination that the proposed action with the Option 1 design would not adversely affect the two listed bats

provided tree clearing does not occur between April 1 and July 31 and WSC makes a payment to Tennessee's Imperiled Bat Conservation Fund to offset the loss of forest. WSC has made this payment. Should WSC change their preference to Option 2, TVA would consult with USFWS on its effects on potential bat summer roost habitat. Negligible impacts to three state-listed species would occur from the Option 1 and 2 designs.

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 proposed solar facility. TVA has determined that there would be no effects on historic properties and the Tennessee State Historic Preservation Office concurred with this determination.

Construction activities would result in minor and short-term impacts to air quality and transportation. Once operating, the solar facility would have beneficial impacts to air quality and greenhouse gas emissions as it would offset power that would otherwise be generated, at least in part, by fossil fuel combustion. A few sensitive noise receptors including a school and several houses adjoin the project site. While construction noise may be heard at these locations, construction noise levels would be reduced due to distance and the presence of an evergreen woodland between the school and construction areas. Construction noise would be of short duration and restricted to normal weekday work hours. Consequently, anticipated noise levels would be insignificant. Overall visual impacts would be insignificant due to the low profile of the proposed facility, visual obstructions around much of its perimeter. The facility would be most visible from the adjacent Highway 57 on the south side of the site.

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 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**

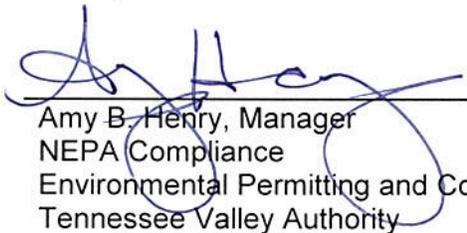
A draft of the EA was issued for public and agency review. TVA received comments on the draft EA from TDEC, USFWS, and the Southern Environmental Law Center. None of these comments opposed TVA's proposed action. TVA has carefully reviewed the comments and addressed them in the final EA. TVA has consulted with the State Historic Preservation Office and federally recognized Native American tribes on the potential effects to historic properties and with USFWS on the potential effects to endangered and threatened species.

### **Mitigation**

Wildberry Solar Center would use routine best management practices such as dust suppression, erosion controls, and maintenance of buffers to minimize impacts to air and water resources. In accordance with the terms of the endangered species consultation, no tree clearing would occur between April 1 and July 31. Should WSC change its preferred design to the Option 2 fixed-tilt system design, WSC would apply for the necessary wetland permit from TDEC and implement any necessary wetland mitigation subject to TDEC and TVA approval. TVA would also consult with USFWS under the ESA on the increased impacts to forested habitat for listed bats that would occur with the Option 2 design. TVA has not identified the need for additional mitigation measures to further reduce the anticipated environmental impacts.

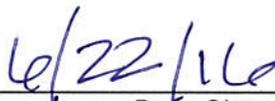
**Conclusion and Findings**

Based upon the analyses documented in the EA, TVA concludes that its proposed action of executing the PPA with Wildberry Solar Center, LLC, and the subsequent construction and operation of the solar generating facility by WSC, 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