

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

### **POWER PURCHASE AGREEMENT – HAYWOOD SOLAR, LLC PROJECT**

The Tennessee Valley Authority (TVA) proposes to execute a 20-year power purchase agreement (PPA) through its Renewable Standard Offer (RSO) program with Haywood Solar, LLC, an affiliate of Silicon Ranch Corporation (SRC), for electric power generated by the 3.9-megawatt (direct current) Haywood Solar Project. The proposed photovoltaic (PV) solar facility is near the town of Brownsville in Haywood County, Tennessee. It would be connected to the TVA transmission network through an interconnection at the Brownsville Energy Authority's Dupree 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 Haywood solar facility would provide cost-effective renewable energy consistent with TVA goals.

TVA must decide whether to execute the PPA with Haywood Solar, LLC. If TVA does execute the PPA, SRC 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 Haywood Solar, LLC and the solar facility would not be constructed and operated by SRC. 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 SRC would construct and operate the solar facility which would occupy approximately 28 acres of a 73.4-acre parcel located near Brownsville, Tennessee. The facility would utilize PV panels installed on ground-mounted single-axis tilt metal racks, or trackers, oriented north to south in parallel rows. Buried electrical cables would connect the north-south oriented parallel rows of PV panels to direct current-to-alternating current power inverters and pad-mounted transformers. The transformers would be connected by buried cables to an on-site switch, metering, and pole-mounted riser. A disconnect switch, recloser, and metering would also be located at that connection point. An overhead line would run east from the riser pole across US Hwy 79 to connect to the Brownsville Energy Authority's existing 12.5-kV power line parallel to the south side of US Hwy 79. The existing power line connects to the Brownsville Energy Authority 161 kV Dupree Substation located on the west side of Dupree Street approximately 0.3 mile south of the solar facility's proposed connection point. The site is a relatively flat agricultural area and only minor

grading with limited earthwork would occur. A 16-foot wide access road would be constructed from US Hwy 79 and run northwest into the central portion of the site to facilitate the installation and operation of the PV arrays. The facility would be enclosed by security fencing and revegetated as necessary with low-growing grass.

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 farmland to rural industrial. This would have little effect on the future land use of adjacent tracts and would not conflict with zoning regulations. Most of the project site is open cropland, with indications of hay and soybean agricultural harvesting. The northwestern portion of the 73.4-acre property is forested, and a small 2.5-acre forested area is located in the southwest portion of the open cropland. Approximately 69 acres of the 73.4-acre facility site are classified as prime farmland. While the construction and operation of the solar facility would remove this area from potential agricultural production, there would be little long-term impact on the soil productivity and the impacts on prime farmland would not be significant given the small area affected.

Impacts to groundwater would be minimal. Water resources on the site are located in the western, forested section of the property. These water features consist of five wetlands, a pond, and a small perennial stream, which is a tributary to Little Nixon Creek. All wetlands and water features will be avoided by the proposed action. SRC would implement best management practices described in a project-specific Stormwater Pollution Prevention Plan and therefore the impacts to surface water would be minor. The project area is located outside the 100- and 500-year floodplains. The proposed action would be consistent with the requirements of Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands).

The majority of the site is composed of herbaceous species including ryegrass, wiregrass, and soy bean. The plant and animal communities present are low in diversity and common in the surrounding areas. While construction and operation of the solar facilities would displace some of the wildlife present, the impacts to vegetation and wildlife would be insignificant. A low potential for summer roost and foraging habitat for the northern long-eared bat and Indiana bat is present at the project site, particularly in forested areas in the northwestern portion of the property. However, no trees would be removed and impacts to these bats would be further avoided by trimming trees between October 15 and April 1, outside the bat's summer roosting season. Therefore, the proposed action would not affect threatened and endangered species.

TVA identified one architectural/historic resource eligible for inclusion on the National Register of Historic Places (NRHP) occurring in the immediate vicinity of the proposed solar facility and no NRHP-eligible archaeological sites. Due to limited visibility and an approximate 600-meter (0.37 mile) buffer between the NRHP-eligible resource and the proposed solar facility site, TVA determined that there will be no adverse effect on historic properties as a result of the proposed action, 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 facilities 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. One nearby residence could experience elevated noise levels from construction activities. Construction noise would be of short duration and restricted

to normal weekday work hours. Consequently, anticipated noise levels would be insignificant. Visual impacts exist to the south and east due to the character of the site changing from farmland to a solar facility. The proposed solar field would be visible from the industrial property to the south, the nearby roadway (US Hwy 79) and one resident east of the project site. SRC will plant additional trees and shrubs along sections of the fence line to shield the residential property from the proposed solar facility and forested areas and tree lines along the northern and western property boundaries would remain. Therefore, overall visual impacts would be insignificant.

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 facility 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**

The proposed solar farm project was presented at four public meetings in the city of Brownsville in 2015 and 2016. The rezoning of the property and proposed energy project has been supported by local public officials and the community and no comments opposing them were received during this review. On January 12, 2016 ordinance #919 and resolution #885 were passed by the City of Brownsville annexing the entirety of the site and zoning it as General Industrial (G-I). TVA has consulted with the State Historic Preservation Office and federally recognized Native American tribes on the potential effects to historic properties.

### **Mitigation**

SRC would use routine best management practices such as dust suppression and erosion and sedimentation controls to minimize impacts to air and water resources. SRC would implement appropriate best management practices (BMPs), including those required by permits, during construction and operation of the facility. Tree trimming would occur during winter months (between October 15 and April 1) to avoid impacts to roosting northern long-eared bats and Indiana bats. Trees and shrubs would be planted along the eastern property boundary to shield the adjacent residence from the proposed solar facility. These plantings would address concerns of visual impacts from the homeowner and mitigate for visual impacts to the property.

### **Conclusion and Findings**

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