

FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

POWER PURCHASE AGREEMENT – PROVIDENCE SOLAR CENTER, MADISON 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 Providence Solar Center, LLC, a subsidiary of Silicon Ranch Corporation, for the electricity generated by a proposed solar photovoltaic (PV) facility in Madison 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 Southwest Tennessee Electric Membership Corporation 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, Providence Solar Center 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 Providence 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 Providence Solar Center would construct and operate the solar facility. The facility would occupy approximately 118 acres of farmland near Denmark, Tennessee. It would consist of multiple parallel rows of PV panels on single-axis tracking structures supported by metal posts driven into the ground. Woodlands 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 new 12.47-kilovolt power line approximately 0.5 miles long would connect the facility to the existing substation southeast of the solar facility site.

The solar facility would be enclosed by security fencing and re-vegetated as necessary with grass or other low-growing plants. In accordance with zoning requirements, Providence would plant and maintain a buffer of Leyland cypress trees along the western site boundary. Once the facility is operating, maintenance activities would consist of periodic mowing and necessary repairs.

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 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 prime farmland would not be significant.

Impacts to groundwater would be minimal. Streams, wetlands, and a pond occur in the project area and the facility has been designed to avoid impacting them. Vegetative buffers would be maintained along streams and wetlands, and best management practices 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. Floodplains would not be impacted. 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. No uncommon or rare plant or animal communities are present on the site, and the impacts to vegetation and wildlife would be insignificant. No plants or animals listed under the Endangered Species Act, or habitat suitable for these listed species, are present on site. Consequently, there would be no effects on species listed under the Endangered Species Act and the requirements under Section 7 of that Act have been met. No state-listed endangered or threatened species would be 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 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. 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 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. Few sensitive noise receptors occur near the proposed facility, and any noise impacts would be minor and short-term. 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. The facility would be most visible from the adjacent Highway 138 on the west side of the site. In accordance with county zoning requirements, an evergreen tree buffer would be planted and maintained along the western site boundary.

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 a state agency, an individual, and non-governmental organizations. 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.

Mitigation

Providence 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. Providence would also plant and maintain the evergreen tree buffer along the west boundary of the solar site. 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 Providence Solar Center, LLC, and the subsequent construction and operation of the solar generating facility by Providence, would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



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Amy B. Henry, Manager
NEPA Compliance
Environmental Permitting and Compliance
Tennessee Valley Authority

Date Signed