

## FINDING OF NO SIGNIFICANT IMPACT

### TENNESSEE VALLEY AUTHORITY

#### POWER PURCHASE AGREEMENT – RIVER BEND SOLAR PROJECT, LAUDERDALE COUNTY, ALABAMA

The Tennessee Valley Authority (TVA) proposes to execute a 20-year power purchase agreement (PPA) with River Bend Solar, LLC, for the electricity generated by a proposed solar photovoltaic (PV) facility in Lauderdale County, Alabama. The solar facility would have a generating capacity of up to 80 megawatts that would be delivered to the TVA system through an interconnection with a TVA transmission line.

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. 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 River Bend Solar 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, River Bend Solar would construct and operate the solar facility and TVA would construct and operate a transmission interconnection. 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 River Bend Solar for the purchase of power generated by the proposed solar facility, and the solar facility and associated transmission system interconnection would not be built and operated.

Under the Proposed Action Alternative, TVA would execute the PPA and River Bend Solar would construct and operate the solar facility. The facility would occupy approximately 645 acres of farmland five miles west-northwest of Florence, Alabama. It would consist of multiple parallel rows of PV panels on single-axis tracking structures supported by metal posts driven into the ground. Buried electrical cables would connect the arrays to multiple direct current-to-alternating current inverters and transformers. These would be connected by buried electrical cables to a new substation at the northeast corner of the site.

TVA would use standard practices to construct and operate a short (less than 0.25 mile) 161-kV transmission line and switches to connect the solar facility to TVA's nearby Colbert Fossil Plant-Selmer transmission line. The likely line route is within an agricultural area under lease by River Bend Solar and little right-of-way clearing would be required. TVA would also install fiber-optic overhead ground wire on about 2 miles of the Colbert transmission line at the interconnection

point, install telecommunications connections at its Selmer Tennessee Substation and Colbert Fossil Plant and Wilson Hydro Plant switchyards, and modify system map boards to include the new transmission connection and the River Bend Solar substation.

The solar facility would be constructed in about 12 months using a crew of 30 to 162 workers. The project site is farmland and few trees would be removed. River Bend Solar would construct on-site stormwater detention basins and maintain buffers around on-site streams and wetlands. The site would be enclosed by security fencing and temporary construction yards would be located on-site. About 160 acres of the site would require grading and cut and fill quantities would be balanced on-site. Construction water needs would be supplied by delivery via water trucks or new on-site wells. A permanent 2,500-square foot operation and maintenance building would be constructed on-site. Potable water for the building would likely be provided by an on-site well and sanitary wastewater would be collected in a holding tank and transported to an off-site treatment facility. The site would be revegetated with low-growing grasses.

The facility would be operated by up to three full-time employees, with additional contract employees brought on-site as necessary. Standard maintenance activities include maintaining low vegetation growth by mowing or sheep grazing and selective herbicide use. The solar panels would be washed approximately twice a year using purified water from an off-site source.

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. No residents would be displaced. Adjacent land uses are primarily agricultural and undeveloped 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. Ephemeral streams and wetlands occur on the project site 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. Direct disturbance to streams would be limited to the installations of culverts for road crossings. 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 and grassland. A few small stands of trees are present; some of these are within the stream buffer areas. 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. The site provides suitable habitat for a few state-listed species of conservation concern. This habitat is of low to moderate quality and suitable habitat is common in the surrounding area. Any impacts to state-listed species, therefore, would be insignificant.

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 Alabama State Historic Preservation Office concurred with this determination in a letter dated June 18, 2015.

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 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 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 a few comments on the draft EA from individuals and non-governmental organizations. Most of these comments supported TVA's proposed action. TVA has carefully reviewed the comments and addressed them in the final EA. TVA has coordinated with the U.S. Fish and Wildlife Service on the potential effects to endangered and threatened species and consulted with the State Historic Preservation Office and federally recognized Native American tribes on the potential effects to historic properties.

### **Mitigation**

River Bend Solar and TVA would use routine best management practices such as dust suppression, erosion controls, and maintenance of buffers to minimize impacts to air and water quality. 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 River Bend Solar, LLC, and the subsequent construction and operation of the solar generating facility by River Bend Solar and the transmission interconnection by TVA, 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