

Document Type: EA-Administrative Record
Index Field: Finding of No Significant Impact (FONSI)
Project Name: Muscle Shoals Solar Project
Project Number: 2019-07

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
MUSCLE SHOALS SOLAR PROJECT
COLBERT COUNTY, ALABAMA

The Tennessee Valley Authority (TVA) has entered into a power purchase agreement (PPA) with Muscle Shoals Solar, LLC (referred to herein as “Muscle Shoals Solar”), to purchase the power generated by the proposed Muscle Shoals Solar Project (Project) in Colbert County, Alabama. The solar facility and Project substation would be constructed and operated by Muscle Shoals Solar, and transmission line updates and a switching substation would be constructed and operated by TVA.

In 2015, TVA completed an Integrated Resource Plan (IRP) and associated Environmental Impact Statement (EIS) (TVA 2015). The IRP identified the various 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 cleaner energy while reducing environmental impacts. Cost-effective renewable energy, including energy generated by solar PV, is one of the energy resources recommended in the IRP. Since 2015, TVA has undertaken several efforts to increase the amount of renewable energy in its generation portfolio. The Proposed Action would provide cost-effective renewable energy consistent with the IRP and TVA goals. TVA has prepared an environmental assessment (EA) for this proposed action, which is incorporated by reference.

Alternatives

TVA evaluated two primary alternatives in the EA: the No Action Alternative and the Proposed Action – Construction of a single-axis tracking photovoltaic (PV) solar power facility and a Project substation by Muscle Shoals Solar, and construction of interconnecting transmission lines and a switching station by TVA.

Under the No Action Alternative, TVA would not purchase the power generated by the Project under the 20-year PPA with Muscle Shoals Solar, and TVA would not be involved with the Project. If TVA were to select this alternative, and Muscle Shoals Solar elected not to proceed with the Project, then Muscle Shoals Solar would not construct any facility on any tracts of land in Colbert County, Alabama, and TVA would not make the associated modifications to its transmission system. Muscle Shoals Solar would not complete the purchase of the property necessary to construct the Preferred Alternative. Existing conditions would remain unchanged (i.e., property would remain as predominantly-disturbed agricultural land) and agricultural activities would likely continue. In addition, TVA would continue to rely on other sources of generation described in the 2015 IRP (TVA 2015) to ensure an adequate energy supply and to meet its goals for increased renewable and low greenhouse gas (GHG)-emitting generation. Under the No Action Alternative, there would be no project-related changes to land use, natural resources, or socioeconomics in the immediate future.

This alternative does not further the overall TVA goal to deliver reliable, low-cost, and cleaner energy while reducing environmental impacts. The No Action Alternative provides a baseline for describing the anticipated environmental effects of the Proposed Action, as required in regulations issued by the Council on Environmental Quality (CEQ) for implementing the National Environmental Policy Act (NEPA).

Document Type: EA-Administrative Record
Index Field: Finding of No Significant Impact (FONSI)
Project Name: Muscle Shoals Solar Project
Project Number: 2019-07

Under the Proposed Action, Muscle Shoals Solar would acquire approximately 2,432 acres of land in Colbert County, Alabama and construct, operate, and maintain a single-axis tracking PV solar power facility with up to 227 MW AC generating capacity. The energy generated by the Project would be sold to TVA in accordance with the terms of the PPA. The Project would be located on 17 contiguous parcels of agricultural land in Colbert County, Alabama. These parcels total approximately 2,432 acres and comprise the Project Site, which is located approximately 15 miles west of the City of Florence, Alabama. Muscle Shoals Solar would construct a Project Substation (the Muscle Shoals Project Substation) at the Project Site. The Project would interconnect to TVA's existing Colbert Fossil Plant (FP)-Cherokee-Burnsville 161-kV transmission line, which traverses the Project Site at its northeast corner. TVA would construct a line-tap into the existing transmission line to connect a proposed new TVA switching station (the Mulberry Creek Switching Station) also located on the Project Site. The EA assesses the impact of TVA's action of entering into the PPA with Muscle Shoals Solar, the associated impacts of the construction and operation of the proposed solar facility by Muscle Shoals Solar, and the associated impacts of the construction and operation of transmission interconnections and switching station by TVA.

In addition to the Proposed Action, TVA considered other potential locations and used multiple factors to screen those locations and ultimately eliminate those sites that did not provide the necessary attributes. This process of review and refinement ultimately led to the consideration of the current Project Site. The alternative site screening process consisted of several iterations, such as landscape and ability to avoid/minimize impacts, capability of existing electrical transmission system, and cost of land, prior to arriving at the proposed site.

TVA's preferred alternative is the Proposed Action, construction of a single-axis tracking PV solar power facility, a Project substation, interconnecting transmission lines, and a switching station. TVA prefers the Proposed Action because it would provide cost-effective renewable energy consistent with the IRP and TVA goals, and it would help TVA meet customer demand for renewable energy. TVA would implement its preferred alternative (i.e., Proposed Action) starting with construction of a solar facility and Project substation by Muscle Shoals Solar. Then, TVA would implement a transmission line connection in two phases, starting with a temporary tap connection in phase one and construction of a new, permanent switching station in phase two. Finally, structural upgrades would be made on a portion of the nearby existing transmission line approximately 3.8 miles long and 100 feet wide.

Impacts Assessment

Based on the analyses in the EA, TVA concludes that the implementation of the Proposed Action would have minor, or no, impacts to land use, geology, soils and prime farmland, groundwater, surface water, floodplains, wetlands, vegetation, wildlife, threatened and endangered species, visual resources, noise, air quality, cultural resources, natural areas and recreation, utilities, waste management, health and safety, transportation, socioeconomics, and environmental justice. Land use on the Project Site would change from residential/agricultural to commercial. The surrounding area, however, is largely agricultural and undeveloped with some low-density residential and industrial areas, which would not change. There would be minor and mostly temporary construction-related impacts to air quality, vegetation, visual resources, noise, natural areas, solid and hazardous waste, and local transportation networks.

Document Type:	EA-Administrative Record
Index Field:	Finding of No Significant Impact (FONSI)
Project Name:	Muscle Shoals Solar Project
Project Number:	2019-07

Potential impacts to wetlands would be minimized as the Project Site layout was designed to specifically avoid jurisdictional aquatic features, permanent waterbodies, and other sensitive biological areas. A solar facility would be constructed on the Project Site, and an approximately 3.8-mile segment of existing transmission line would be upgraded, which would have direct impacts on vegetation in the right-of-way (ROW); however, the impacts of converting approximately 1,481 acres of cropland would be relatively small and potentially beneficial with respect to the diversity and abundance of native grasses and other herbaceous vegetation that would be planted and maintained in the Project Area. Construction of the Proposed Action would result in the generation of hazardous and nonhazardous solid and liquid waste in the form of construction debris, grading spoils, wastewater, packaging materials, and general construction waste. Under the Proposed Action, every effort will be made to minimize the amount of solid and liquid waste generated during and after construction of the Project, including upgrades to the existing transmission ROW.

Muscle Shoals Solar has identified archaeological resources within the Project area of potential effect (APE), some of which are potentially eligible and others that are not eligible for the National Register of Historic Places (NRHP). All sites within the Project Area that were identified as potentially eligible would be avoided during the construction and operation of the Muscle Shoals Solar Project. Muscle Shoals Solar and TVA would execute an agreement documenting the avoidance of potentially eligible sites 1Ct459, 1Ct644, 1Ct645, 1Ct646, and 1Ct648 during the term of the power purchase agreement. Therefore, there would be no direct or indirect impacts to archaeological or historic resources potentially eligible for the NRHP. TVA has initiated consultation with the Alabama State Historic Preservation Officer (SHPO) and federally recognized Native American tribes with an interest in the area with respect to these findings of both the archaeological and architectural surveys. In a letter dated November 4, 2019, the SHPO concurred with TVA's finding that there are no NRHP listed or eligible properties affected by this undertaking.

Implementation of the Proposed Action would not result in disproportionate adverse impacts to minority or low income populations. Construction and operation of the solar facility would have a very small positive effect on the local economy with the short-term employment of workers during construction and long-term positions created by operation of the facility.

Public and Intergovernmental Review

The Draft EA was released for public review and comment for 30 days beginning on July 15, 2019. The availability of the Draft EA was announced in one local newspaper and was posted on the TVA website. TVA's agency involvement includes circulation of the Draft EA to local, state, and federal agencies for review. TVA received no comments on the Draft EA through the TVA comment portal, and TVA received no substantive comments in any format. Federally recognized Native American tribes were consulted concerning the proposed undertaking and did not object to TVA's recommendation to proceed with the Proposed Action. Further, implementation of the Proposed Action would be consistent with Executive Order (EO) 11988 (Floodplains Management) and EO 11990 (Protection of Wetlands).

Mitigation

TVA would implement operating permit requirements and the routine best management practices described in the EA to avoid or reduce minor adverse environmental effects from the construction of the solar facility, project substation, upgrades to existing transmission lines, and

Document Type: EA-Administrative Record
Index Field: Finding of No Significant Impact (FONSI)
Project Name: Muscle Shoals Solar Project
Project Number: 2019-07

a switching station. TVA has not identified the need for any non-routine mitigation measures to further reduce potential impacts.

Conclusion and Findings

Based on the findings in the EA, TVA concludes that implementing the Proposed Action would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required to implement either of these action alternatives. TVA's preferred alternative and the one it is inclined to implement is the Proposed Action.



Dawn Booker
Manager, NEPA Program
Tennessee Valley Authority

11/21/2019

Date Signed