

FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

YUM YUM SOLAR ENERGY CENTER FAYETTE COUNTY, TENNESSEE

The Tennessee Valley Authority (TVA) has entered into a 20-year power purchase agreement (PPA) with Yum Yum Solar, LLC (Yum Yum Solar), a subsidiary of Invenergy Solar Project Development, LLC, to purchase the electric power generated by a proposed solar photovoltaic (PV) facility in Fayette County, Tennessee. The proposed Yum Yum Solar Energy Center would be constructed and operated by Yum Yum Solar and would have up to an alternating current (AC) generating capacity of 147 megawatts (MW). In addition to purchasing the electric output under the PPA with Yum Yum Solar, TVA would construct the proposed Yum Yum 161-kilovolt (kV) Switching Station, and a 190-foot 161-kV transmission line (TL) would connect the new switching station to TVA's adjacent existing Cordova-South Jackson 161-kV TL. Under the terms of the conditional PPA, dated November 9, 2018, TVA would purchase the electric output from the solar facility for an initial term of 20 years, subject to satisfactory completion of all applicable environmental reviews.

TVA produces or obtains electricity from a diverse portfolio of energy sources, including solar, hydroelectric, wind, biomass, fossil fuel, and nuclear. In 2015, TVA completed an Integrated Resource Plan (IRP) and associated Environmental Impact Statement (EIS). The 2015 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 clean 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. TVA's 2015 IRP reinforced the continued expansion of renewable energy generating capacity, including the addition of between 175 and 800 MW AC of solar capacity by 2023. In addition, in 2017, customer demand prompted TVA to release a Request for Proposal (RFP) for renewable energy resources. The PPAs that resulted from this RFP will help TVA meet immediate needs for additional renewable generating capacity in response to customer demands and fulfill the renewable energy goals established in the 2015 IRP. The Proposed Action would provide cost-effective renewable energy consistent with the IRP and TVA goals.

In June 2019, TVA released the final 2019 IRP and the associated EIS. These documents provide further direction on how TVA can best deliver clean, reliable and affordable energy in the Valley over the next 20 years, and the associated EIS looks at the natural, cultural and socioeconomic impacts associated with the IRP. The 2019 IRP recommends a solar expansion between 1,500 and 8,000 MW AC of solar by 2028 and up to 14,000 MW AC by 2038.

The potential effects of the Proposed Action are described in an environmental assessment (EA) 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 purchase the power generated by the Project under the 20-year PPA with Yum Yum Solar (i.e., TVA would not be involved with the Project), and Yum Yum Solar would not construct or operate the Yum Yum Solar Energy Center. Existing conditions (land use, natural resources, visual resources, physical resources, and socioeconomics) in the Project Area would remain unchanged. TVA would continue to rely on other sources of generation described in the 2019 IRP to ensure an adequate energy supply and to meet its goals for increased renewable energy and low greenhouse gas-emitting generation.

Under the Proposed Action Alternative, Yum Yum Solar would construct and operate a 147 MW AC single-axis tracking PV solar power facility in Fayette County, Tennessee. The solar facility would generate approximately 191 MW direct current output that would be converted to 147 MW AC output for transmission to the electrical network. The energy generated by the Project would be sold to TVA in accordance with the terms of the PPA. The Project would occupy approximately 2,639 acres of a 4,003-acre site located immediately southwest of the Yum Yum community. The Project would connect to the TVA electrical network via TVA's adjacent existing Cordova-South Jackson 161-kV TL. Under the Proposed Action, TVA would construct the new Yum Yum 161-kV Switching Station northwest of the intersection of Wilson Road and Fowler Drive. A proposed 190-foot 161-kV TL would connect the new switching station to the Cordova-South Jackson 161-kV TL. TVA would also install approximately 0.9 mile of fiber-optic overhead ground wire on the existing Cordova-South Jackson TL and would install telecommunications connections at the Cordova 500-kV Substation and the South Jackson 161-kV Substation.

Construction of the Project would require site preparation (surveying and staking, removal of tall vegetation/small trees, light grading/clearing, installation of security fencing around components in vicinity of one another and not separated by public roads, erosion prevention and sediment control best management practices (BMPs), preparation of construction laydown areas, and site access road construction) prior to solar array assembly and construction, which includes driving steel piles for the tracker support structures, installation of tracker structures and solar panels, construction of the Project substation and operations and maintenance building, and electrical connections and testing/verification.

Construction activities would take approximately 20 months to complete using a crew that ranges from 150 to 500 workers. Work would generally occur seven days a week during daylight hours. Additional hours after dark could be necessary to make up schedule deficiencies or to complete critical construction activities. These activities would require installation and use of downward-facing, timer- and/or motion-activated lighting. Once construction is completed, the Project Site would be revegetated with low-growing vegetation and the Project components in close vicinity and not separated by public roads would be enclosed together by chain-link security fencing. The areas within the security fencing would contain blocks of solar panels and inverters, associated equipment, and infrastructure including a new Project substation, access roads, and electrical

cabling. The remaining area of the Project Site, located outside of the fenced-in areas, would be primarily undeveloped.

Once the facilities are completed, there would be minimal human activity during operation. Moving parts of the solar facility would be restricted to the east-to-west facing tracking motion of the solar modules. Otherwise, the PV modules would collect solar energy and transmit it to the TVA power grid. Maintenance activities would include fence repair, vegetation control approximately three times per year, and periodic array inspection, repairs, and maintenance performed by up to six full-time, on-site staff. Water service, sewer service, and permanent, downward-facing, timer- and/or motion-activated lighting are anticipated as on-site needs during operations.

The TVA-preferred alternative for fulfilling its purpose and need is the Proposed Action Alternative. The Proposed Action Alternative would generate renewable energy for TVA and its customers with only minor direct and indirect environmental impacts due to the implementation of BMPs and minimization and mitigation efforts. The Project would also result in some beneficial effects. Implementation of the Project would help TVA meet renewable energy goals and future energy demands on the TVA system.

Impacts Assessment

The potential impacts of the Proposed Action Alternative are described in detail in the subject EA. Approximately 1,624 acres (62 percent) of the 2,639-acre Project Site would be cleared and/or graded for the solar facility. These changes would cause minor adverse impacts to geology and soils due to slight, localized increases in erosion and sedimentation. Construction activities would cause short-term impacts to air quality, utilities, and visual resources and temporary increases in noise and traffic. Impacts to air quality are anticipated due to short-term, minor increases in vehicle emissions and fugitive dust suspension. Heightened noise during construction would primarily result from pile driving activities during daylight hours for an approximate 6-month period. There may be brief local utility outages as the solar facility is brought on-line. With the implementation of federal and state requirements and BMPs, impacts to waste management and public and occupational health and safety during the life of the Project would be minor to negligible.

Due to the implementation of BMPs, no significant impacts to groundwater and floodplains are expected. Steps taken in designing the site layout have avoided impacts to wetlands and minimized adverse impacts to floodplains and their natural and beneficial values. Therefore, the Proposed Action would be consistent with the requirements of Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands). A total of approximately 96 linear feet of jurisdictional surface stream channels would be adversely affected by the Project to facilitate up to six stream crossings. Impacts to 63 wet weather conveyances (WWCs; approximately 34,920 linear feet) could also occur for the installation of solar panels on the Project Site, and some additional impacts to WWCs could occur due to road crossings. These impacts would be subject to the conditions of the United States Army Corps of Engineers Section 404 and the Tennessee Department of Environment and Conservation Aquatic Resource Alteration permits described in the EA.

Some long-term habitat loss would occur due to the clearing of approximately 150 acres of currently forested land on the Project Site and conversion to native grasses and/or other

noninvasive vegetation. These changes would result in effects to common wildlife. Approximately 67 acres of potentially suitable summer roosting habitat for the northern long-eared bat would be removed for the construction of the proposed solar facility and electrical interconnection. TVA determined that the Proposed Action may affect but is not likely to adversely affect the northern long-eared bat. Consultation under Section 7 of the Endangered Species Act was performed with the United States Fish and Wildlife Service on June 11, 2019. Concurrence was received on June 21, 2019, on the condition that tree removal must occur between October 15 and March 31. The Project is not likely to adversely affect other federally or state-listed species or migratory bird species of concern.

The Project would have no adverse effects on any cultural resources listed or determined eligible for listing in the National Register of Historic Places (NRHP). The Project would avoid the Watkins Cemetery, located on the Project Site, by establishing an appropriate buffer in coordination with the Tennessee Historical Commission (THC; the Tennessee State Historic Preservation Office). The Project would plant vegetative screening adjacent to the west elevation of the NRHP-eligible Pleasant Grove School to minimize visual effects from the Project. On September 24, 2019, THC concurred that the Project as currently proposed would not adversely affect these historic properties.

Construction of the proposed facility could have short-term beneficial economic impacts due to the purchase of materials, equipment, and services and a temporary increase in employment, income, and population. Operations would result in positive, long-term impacts to economics, employment, and population in Fayette County and the local region as a result of permanent job creation and increase in the local tax base. While minority and low-income populations are prominent in the vicinity of the solar facility, the overall Project impacts would primarily occur during the 20-month construction period and would be minor, and off-site adverse impacts would be negligible. As such, no disproportionately high or adverse direct or indirect impacts on minority or low-income populations due to human health or environmental effects are expected to result from the Proposed Action. In addition, the Project would have minor beneficial impacts to employment and income levels in the local region that could provide additional opportunities to nearby environmental justice populations.

The completed solar facility would change land use of the approximate 2,639-acre facility site from agricultural or undeveloped to industrial and, thereby, expand industrial land use to an area where solar energy use is considered a special exception land use but is not presently occurring. These changes would result in conversion of approximately 929 acres with soils designated as prime farmland by NRCS for the life of the Project. However, with decommissioning of the Project, removal of Project components, and site reclamation, the Project Site could return to agricultural uses. Visual impacts during operation of the solar facility would be moderate in the immediate vicinity but minimal on a larger scale, due to variation of the visual attributes of the vicinity. Noise impacts would be negligible during operations due to the distance of noise receptors from the Project inverters. Offsetting beneficial effects to greenhouse gas emissions would also occur during operations, as the nearly emissions-free power generated by the solar facility would help offset power that would otherwise be generated, at least in part, by the combustion of fossil fuels.

Public and Intergovernmental Review

In February 2019, Yum Yum Solar announced the proposed Yum Yum Solar Energy Center at community meetings in the Town of Somerville in Fayette County. The shared details included the Project acreage, the Project's electrical output, an overview of tasks necessary to implement the Project, and the potential economic benefits of the Project to the local community. Yum Yum Solar held a public town hall meeting in September 2019 to give a presentation on the Project that emphasized topics of concern. Public input on the Project has also been obtained throughout the ongoing Fayette County special exception zoning approval process, per the 2017 Fayette County Zoning Resolution. The county approval process began in July 2019, when the Fayette County Planning Director notified all residents within 500 feet of the Project Site of upcoming public hearings associated with the approval process.

TVA notified government agencies, interested federally recognized Native American Tribes, elected officials, and other stakeholders that the draft EA was available for review and comment for a 30-day period. An electronic version of the document was posted on the TVA website where comments could be submitted online. Public notices have been published in local newspapers soliciting comments from other agencies, the general public, and any interested organizations.

During the 30-day public review and comment period of the draft EA, a total of 23 comments were received from the general public and interested agencies and organizations. Some of the comments warranted changes in the Final EA; any revisions are referenced by the Final EA section in the comment responses included in the appendices of the Final EA.

Mitigation

To address adverse impacts associated with the Proposed Action, Yum Yum Solar would implement minimization and mitigation measures in relation to potentially affected resources, including such measures required by permits as described in detail in the EA. To reduce noise impacts, construction would primarily occur during daylight hours. Yum Yum Solar would implement a variety of plans and programs to ensure public and occupational health and safety and proper handling of any chemicals or hazardous materials stored and utilized on site. Yum Yum Solar would comply with the terms of the site-specific Storm Water Pollution Prevention Plan coordinated with the Tennessee Department of Environment and Conservation and implement other routine BMPs, such as non-mechanical tree removal within surface water buffers, placement of silt fence and sediment traps along buffer edges, and proper vehicle maintenance to reduce the potential for adverse impacts to groundwater. Silt fencing would also be installed around areas cleared of vegetation, and efforts would be made to balance soil cut-and-fill quantities to help alleviate the transportation of soils and sediments off-site during construction. A 20-meter (approximately 66-foot) avoidance buffer surrounding Watkins Cemetery would be established, and vegetative screening would be planted adjacent to the west elevation of the Pleasant Grove School to minimize visual impacts to this NRHP-eligible resource. If substantial traffic congestion occurs during construction, Yum Yum Solar would minimize these effects by implementing staggered work shifts and posting a flag person during heavy commute periods. Yum Yum Solar would also comply with the Fayette County Floodplain Ordinance as well as permits and requirements associated with the proposed Project septic system and water well. If hauled off site for disposal, excavated material would be spoiled outside the 100-year floodway,

and construction or improvement of access roads would be done in such a manner that upstream flood elevations would not be increased by more than 1.0 foot. Construction activities would adhere to the TVA subclass review criteria for underground AC electric line location in floodplains.

Tree removal for the Project would occur between October 15 and March 31 to minimize impacts to federally listed bat species. Following grading, the Project Site would be revegetated with native and/or noninvasive vegetation to reintroduce wildlife habitat, limit the spread of invasive species, and further support on-site soils. Project personnel would be instructed on wildlife resource protection measures to further minimize impacts to biological resources. To minimize long-term Project effects to land use and visual resources, anti-reflective photovoltaic panels would be installed, and vegetative screening would be planted if and where required by Fayette County.

Conclusions and Findings

Based upon the analyses documented in the EA, TVA concludes that the Proposed Action Alternative of the construction and operation of the solar generating facility and TVA's purchase of the electric output pursuant to the PPA with Yum Yum Solar 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