

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
SR MILLINGTON II SOLAR
SHELBY COUNTY, TENNESSEE

The Tennessee Valley Authority (TVA) has entered into a 20-year power purchase agreement (PPA) with SR Millington II, LLC (SR Millington II), a wholly owned subsidiary of Silicon Ranch Corporation (SRC) in Shelby County, Tennessee (TN) to purchase the power generated by the proposed SR Millington II Solar Facility (the Project) in Shelby County, Tennessee, subject to satisfactory completion of all applicable environmental reviews.

The proposed project would generate approximately 74.9 megawatts (MW) alternating current (AC) and would occupy approximately 472 acres on a 957-acre tract east of Bethuel Road, west of Big Creek Drainage Canal, south of Kerrville-Rosemark Road, and north of Millington Arlington Road in Shelby County, Tennessee.

While the design is in the process of being finalized, the conceptual plan includes monofacial solar modules (horizontal single axis) comprising approximately 227,682 individual monocrystalline PV modules photovoltaic (PV) panels. The Proposed Action alternative would connect to the existing Millington Solar, TN 161-kV substation tap line on the Shelby-Drummonds 161-kV TL (L5852). TVA would construct and maintain a short line to serve Millington II at the determined interchange point using a 954,000 ACSR conductor or equivalent. TVA would install a new three-pole dead-end structure between Structures 542 and 541 in the existing Millington tap line.

TVA produces or obtains electricity from a diverse portfolio of energy sources, including solar, hydroelectric, wind, biomass, fossil fuel, and nuclear. In June 2019, TVA released the final 2019 IRP and the associated Environmental Impact Statement (EIS) that provides further direction on how TVA will deliver clean, reliable and affordable energy in the Valley over the next 20 years, and the associated EIS describes the natural, cultural and socioeconomic impacts associated with the IRP. The 2019 IRP recommends solar expansion and anticipates growth in all scenarios analyzed, with most scenarios anticipating 5,000-8,000 MW and one anticipating up to 14,000 MW by 2038.

In 2020, customer demand prompted TVA to release a Request for Proposal (RFP) for renewable energy resources. The resulting PPAs, including the SR Millington II PPA, will help TVA meet immediate needs for additional renewable energy-generating capacity in response to customer demands and fulfill the renewable energy goals established in the 2019 IRP. The Proposed Action would provide cost-effective renewable energy consistent with the 2019 IRP and TVA goals.

Alternatives

The subject Environmental Assessment (EA) evaluates two alternatives: The No Action Alternative and the Proposed Action Alternative. Under the No Action Alternative, TVA would not purchase power through a 20-year PPA with SR Millington II. The solar facility would not be constructed and operated by SR Millington II. Existing conditions would remain unchanged within

the project site. The identified land would not be developed into a solar facility, and TVA would rely on other energy sources to meet energy supply needs and to meet TVA's renewable energy goal described in the 2019 IRP.

Under the Proposed Action Alternative, SR Millington II would construct and operate the proposed 74.9 MW AC solar facility, as well as its connection to the TVA power system. The solar panels would be mounted on single-axis tracking structures supported by steel pilings and connected with underground cables. SR Millington II would install a 161-kV substation with one 3 winding transformer to connect approximately 74.9 MW of solar generation to the TVA system. TVA proposes to tap the existing Millington Solar, TN 161-kV substation tap line on the Shelby – Drummonds 161-kV TL (L5852). TVA would construct an approximately 210-foot line to serve Millington II to connect the substation to the Shelby – Drummonds 161-kV TL (L5852).

The arrays would contain 119 inverters and approximately 2,675 13-string trackers and 316 10-string trackers. Buried electrical cables would connect the rows of PV panels to 1,500V power inverters, each connecting to a pad-mounted 4.00 MVA transformer on site. Site preparation would involve surveying and staking, removal of tall vegetation and small trees, light grading and clearing, installation of security fencing, installation of erosion control Best Management Practices (BMPs), and preparation of construction laydown areas prior to solar array assembly and construction which includes driving steel piles for the tracker support structures, installing solar panels and electrical connections, and system testing and verification. Tree removal would occur from October 15 to March 31.

Under the Proposed Action Alternative, up to 250 workers would be employed during construction of the solar facility, lasting approximately 12 months. Work would generally occur six (6) days a week (Monday through Saturday) from 7:00 am to 5:00 pm. Additional hours could be necessary to make up schedule deficiencies or to complete critical construction activities. Once construction is complete, staff presence at the site would be minimal. The Proposed Action Alternative would implement an integrated vegetation management plan, including biological (i.e., managed sheep grazing), mechanical and chemical controls as needed. Traditional trimming and mowing would be performed periodically (about four times per year) to maintain vegetation

The preferred alternative for fulfilling the TVA purpose and need is the Proposed Action Alternative. TVA would purchase energy generated by the solar panels under a 20-year PPA with SR Millington II. Renewable energy would be generated for TVA and its customers with only minor direct and indirect environmental impacts due to the implementation of BMPs and minimization and mitigation efforts with the Proposed Action Alternative. Additionally, beneficial effects, such as meeting renewable energy goals and future energy demands on the TVA system would result from this development.

Impacts Assessment

The SR Millington II Solar Facility EA describes the potential impacts and mitigation of the Proposed Action Alternative in detail. The proposed facility would occupy approximately 472 acres of the 957-acre property to be owned by SRC and leased to SR Millington II for the project. Since the TVA TL connection would occur within the previously cleared TL corridor from the Millington I solar facility, and the TVA substation modifications would occur within the footprint of the existing substation, the work performed in these areas may have some minor, temporary impacts during

construction but would not result in any long-term or permanent adverse impacts to any of the resources described below.

Land Use

No significant impacts to land use are anticipated. The solar farm would temporarily change the land use in the area from agricultural and undeveloped to industrial during the length of the PPA. Land use would be affected when the solar panels are installed as the land would no longer be used for agricultural purposes and as undeveloped land. However, if the panels were removed and the site decommissioned, the land would be useable for other purposes as the panels do not have a permanent impact on the land use.

Geology, Soils and Prime Farmland

During construction there would be minor direct impacts to geology resulting from placement of the steel piles that support the solar arrays. Due to the small amount of the subsurface disturbances, only minor direct impacts to potential subsurface geological resources are anticipated.

Minor disturbance to soils would occur during operation of the Proposed Action Alternative. The creation of new impervious surfaces, in the form of panel footings and the foundations for the inverter stations and substation, would result in a minor increase in stormwater runoff and potentially increase soil erosion. The use of BMPs such as soil erosion and sediment control measures would minimize the potential for increased soil erosion and runoff. Following construction, implementation of soil stabilization and vegetation management measures would reduce the potential for erosion impacts during site operations. While in operation, adverse impacts to soils would be offset by beneficial effects of vegetation management.

No permanent or irreversible conversion of prime farmland would occur. While agricultural production would cease on the project site, the site could be readily returned to agricultural production should the solar farm be dismantled. Adhering to BMPs during construction and operation of the solar facility, including installing erosion control devices (ECDs) during stockpiling events, would preserve topsoil and limit erosion, resulting in negligible impacts to prime farmland.

Water Resources

Groundwater

No direct adverse impacts are anticipated to groundwater. During construction, hazardous materials would be on site that could potentially contaminate groundwater resources, including petroleum products for fuel and lubrication of construction equipment, hydraulic fluids, and a variety of other chemicals commonly used for general construction projects. A Spill Prevention, Control, and Countermeasure (SPCC) Plan would minimize the potential for leaks or spills from construction equipment and outline procedures and protocols to quickly address potential spills that may occur. Appropriate BMPs would be followed, and all proposed project activities would be conducted in a manner to ensure waste materials are contained and the introduction of pollution materials to the receiving waters would be minimized.

Surface Water and Wetlands

Approximately 0.08 acres of wetlands would be permanently impacted to accommodate the access road to the proposed substation. One potential permanent impact may be required to modify an existing culverted perennial stream crossing to accommodate an interior access road. Four temporary stream crossings would be required to install the proposed feeder lines. These impacts would be subject to the terms and conditions of a General Aquatic Resource Alterations Permit (ARAP) from the Tennessee Department of Environment and Conservation (TDEC) pursuant to Section 401 of the Clean Water Act (CWA), and a U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP) pursuant to Section 404 of the CWA. SR Millington II will comply with compensatory mitigation measures if required by TDEC and USACE.

Floodplains

No significant impact on floodplains and their natural and beneficial values are anticipated with implementation of qualified mitigation measures. As a federal agency, TVA adheres to the requirements of EO 11988, Floodplain Management. The objective of EO 11988 is "...to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative" The substation and tie line from the TVA TL to the Millington II substation and the laydown area, construction trailer, and portable toilets would be outside of the 100-year floodplain which would be consistent with EO 11988.

Approximately 27 acres of the 472-acre total developed area would be occupied by solar panels, located within the Casper Creek 100-year floodplain. Some of the access roads and portions of the site fencing would be located within the 100-year floodplains of Casper Creek. To minimize adverse impacts, the panels would be mounted on steel pilings and, at their lowest point, would be a minimum of one foot above the 100-year flood elevation. With implementation of mitigation measures, there would be no significant impact on floodplains and their natural and beneficial values. Some tree clearing would occur in the floodplains; however, tree clearing would have a slight beneficial impact on the floodplains because more space would be available to store floodwater.

Biological Resources

Vegetation

Approximately 14 acres of the wooded area would be removed for the development of the site. Taking into consideration the large amount of similar vegetation types in the area both regionally and locally, clearing the existing vegetation, removing cropland and light grading would be considered minimal and insignificant impacts. Disturbed areas would be seeded post-construction using a mixture of certified weed-free, low-growing native grass seed obtained from a reputable seed dealer and in compliance with the requirements established by the local office of the NRCS. Pollinator-friendly seed mix would be placed in designated disturbed areas, which may provide more flowering plants than previously occurred on site. With revegetation of native and noninvasive species, impacts would not be expected to be significant.

Wildlife

Displacement of wildlife would occur during clearing and construction. Immobile species would be directly impacted. This is lessened by proposed clearing and construction outside of breeding/nesting or winter hibernation periods. Due to the amount of similarly suitable habitat in areas immediately adjacent to the project site, populations of common wildlife species likely would not be impacted significantly by the proposed actions. Upon completion of construction, the site would be revegetated using a mixture of certified weed-free, low-growing native grass seed. Those animals able to use early successional habitats could return to the site upon completion of the project. Approximately 485 acres of habitat is not proposed for development and would be available for wildlife use.

Threatened and Endangered Species

The federally listed Indiana bat and northern long-eared bat would have potential loss of summer roosting habitat. Of the approximate 14 acres of forest proposed for clearing, approximately six acres identified as marginal quality habitat and eight acres of poor-quality habitat would be cleared. Four of the five observed potential bat roost trees would require removal. Since no known hibernacula for these federally listed bat species were within five miles of the project study area and the quantity of forested woodland removal is relatively small, removal of these potential roost trees can be performed during the non-roost season (October 15 to March 31) with little to no impact to the species. Also, no suitable winter roosting habitat exists for the two bat species. With the minimization measures proposed, TVA determined the impacts are not expected to be significant. Section 7 consultation determined that proposed actions may affect but are not likely to adversely affect (NLAA) Indiana bat and northern long-eared bat.

Visual Resources

Temporary, minor direct impacts on visual resources would be anticipated during the construction phase due to increased traffic and alteration of the project site. During the project's operational phase, some of the project would be visible from nearby roads and highways. Revegetation, both planting and natural regrowth would decrease visual impacts. SR Millington II would maintain existing landscape buffers where possible. If additional buffers are required by Shelby County, SR Millington II would install landscape buffers along the project site boundary to minimize visual impacts from the proposed solar facility.

The glint and glare analysis considered the potential for glare impacts on Millington-Memphis Airport approach paths, the personnel at the airport's air traffic control tower (ATCT), persons living in nearby residences and traveling along roads in the project area. The results of the glint and glare analysis do not predict glare occurrences for the airport or nearby development.

Noise

Overall, implementation of the solar facility would result in minor and temporary impacts to the ambient noise environment in and near the project site during construction and minimal to negligible impacts during operation and maintenance phases. Nearby residents could experience elevated noise levels caused by construction equipment. Construction equipment typically results in a maximum noise level of 80-90 dBA, dropping to 71-81 dBA at 300 feet, and 50-60 dBA at 1,000 feet. Most of the proposed equipment would not be operating on the site for the entire

construction period and at one time but would be phased in and out based on project progress. The construction work associated with pile driving would be the loudest and occur intermittently during daylight hours. Other construction-related noise such as delivery trucks, dump trucks, water trucks, service trucks, bulldozers, chain saws, bush hogs and other large mowers for tree clearing would remain under 65 dBA for nearby residences. Construction workers would wear appropriate hearing protection in accordance with the Occupational Safety and Health Administration (OSHA) regulations. Project operations and maintenance activities would result in noise periodically; however, noise from maintenance activities would be similar to existing noises surrounding the site and would be minimal to negligible.

Air Quality

Under the Proposed Action Alternative, minor impacts to air quality would occur during the construction of the solar facility. Only minimal air impacts would be expected, as construction might result in localized dust and fumes from equipment. The construction would involve using diesel-powered machinery and thereby create small amounts of airborne dust and debris. Internal combustion engines' emissions associated with diesel fuels would generate local emissions, including carbon monoxide, nitric oxide, and sulfur dioxide during construction (an increase of GHG during construction). Also, during clearing, trees may be burned and result in a minor increase in GHG emissions. The impacts on air quality would be expected to be minimal and short-term.

The operation of the solar facility would result in minimal impacts due to maintenance activities such as facility inspections and periodic mowing. However, a minor reduction in GHG emissions is expected as the carbon dioxide-free power generated by the solar facility would displace the need for power which would otherwise be generated in part by fossil fuels. This reduction would result in minor beneficial impacts to air quality.

Cultural Resources

The development of the solar facility would have no adverse effects on cultural resources listed or recommended for listing in the National Register of Historic Places (NRHP). The solar facility would avoid The St. James Cemetery and three sites (40SY427, 40SY908 and 40SY917) that may be eligible for NRHP listing. Per the May 3, 2022 Letter Agreement between TVA and SR Millington II, SR Millington II agrees that no disturbance of these Sites will occur for the entire 20-year term of the PPA without TVA's prior review and consultation with the SHPO and federally recognized Indian tribes in accordance with applicable federal regulations. On March 21, 2022, the Tennessee State Historic Preservation Office (SHPO) concurred with TVA's determination of eligibility and effects. Accordingly, the requirements of Section 106 of the National Historic Preservation Act have been met.

Solid and Hazardous Wastes

Minor adverse impacts due to solid and hazardous waste would be anticipated from development of the solar facility. Construction waste generated during construction activities would be directed to local landfills. Hazardous wastes would be handled, stored and disposed of in accordance with the Stormwater Pollution Prevention Plan (SWPPP) and applicable federal, state, and local laws and regulations. Additionally, applicable federal, state and local regulatory requirements

concerning disposal of solid waste and hazardous waste would be followed. Impacts during system operation would be negligible through implementation of a recycling program. No adverse effects to waste management are anticipated with the use of BMPs.

Upon expiration of the 20-year PPA or an amended or alternative PPA for the sale of power after the 20-year period, SR Millington II would develop a decommissioning plan to document the recycling and/or disposal of solar facility components in accordance with applicable local, state and federal laws and regulations. Impacts from the generation of hazardous waste during the construction and operation of the proposed facility would be insignificant.

Public and Occupational Health and Safety

No adverse effects to public and occupational health and safety are anticipated during construction with the use of BMPs. No public health or safety hazards are anticipated from operation of the solar facility. Under the Proposed Action Alternative, workers on the project site would have an increased safety risk during construction. However, standard construction site practice includes the establishment and maintenance of health and safety plans to comply with OSHA regulations. A Spill Prevention Control and Countermeasure plan would be developed and implemented to minimize the potential of a spill and to provide detailed instructions for onsite personnel on how to contain and clean up any potential spills.

Transportation

No long-term or permanent impacts to transportation are anticipated from the proposed project. Traffic flow around the work site would be heaviest at the beginning of the workday, at lunch, and at the end of the workday resulting in minor temporary impacts. Should traffic flow be a problem for local developments, SR Millington II would consider staggered work shifts to space out the flow of traffic to and from the project site.

Socioeconomics and Environmental Justice

The proposed project is in Shelby County, Tennessee. Census Tracts (CT) 202.1 and 207 comprise the north central portion of Shelby County. Both CTs are rural areas. Based on EPA's Environmental Justice Screen (EJScreen), all regional percentiles for environmental justice indices near the project are less than the state and US percentiles. For socioeconomic indicators, the EJScreen shows the regional percentiles near the project comparable to the state and US percentiles. Further analysis using data from the U.S. Census Bureau's website found that there are no minority populations based on race or income compared to the total population of Shelby County. Consequently, there would be no disproportionately adverse impacts to minority and low-income populations.

Cumulative Impacts

Based on the information above, the proposed Millington II Solar Facility project is unlikely to result in significant cumulative impacts to the resources described above. No projects within the vicinity of the proposed solar facility were identified in the Memphis Metropolitan Planning Organization 2020-2023 Transportation Improvement Program, TDOT's Transportation Improvement Plan for 2022-2024 or the Shelby County Comprehensive Plan. Based on a review of available Shelby County planning and zoning information, Land Bank- Properties for Sale, and

the Millington Industrial Development Board, no known recent or planned state and local projects are in the project site vicinity.

The proposed project has the potential to contribute to cumulative impacts on land use in the area. The solar farm would temporarily change the land use in the area from agricultural and undeveloped to industrial during the length of the PPA. Given the high proportion of the county in agricultural and forestry land use and small proportion in industrial land use, this cumulative impact would be small.

A portion of the identified Millington II property boundary may be developed for a future solar facility. This potential future solar facility project is reasonably foreseeable and would affect land use, water resources, geological resources and farmlands, visual resources, noise and air quality, as well as threatened and endangered species and other resources.

Public and Intergovernmental Review

SR Millington II announced the proposed SR Millington II Solar project through various means, providing opportunity for public comment. Federal, state, and local agencies interested federally recognized Native American Tribes, elected officials and other stakeholders were sent notification announcing the availability of the draft EA for review and comment for a 30-day period.

During the 30-day public review and comment period of the draft EA, a total of six responses from the public and TDEC were received. The comments and responses are included as Appendix A of the EA. In addition, SR Millington II plans on speaking with the local community about the proposed solar farm but has not yet begun that process.

Mitigation Measures

SR Millington II would implement the following routine minimization and mitigation measures in relation to resources potentially affected by the proposed project:

- Install anti-reflective, PV panel surfaces to minimize potential for visual impacts such as glare and reflection
- Maintain existing landscape buffers where possible. If additional buffers are required by Shelby County, SR Millington II would install landscape buffers along the project site boundary to minimize visual impacts from the proposed solar facility
- Comply with the terms of the SWPPP prepared as part of the NPDES permitting process and implement other routine BMPs, such as non-mechanical tree removal within surface waters and the 30- and 60-foot buffers, placement of silt fences and sediment traps along buffer edges and proper vehicle maintenance to reduce the potential for adverse impacts to groundwater
- Design of the final layout would minimize direct impacts to aquatic features
- Comply with the conditions of the TDEC ARAP permit (Section 401 of CWA) and USACE 404 of the CWA (33 U.S.C. § 1251 et seq.) permits, as applicable. If mitigation is required for surface water or wetland impacts, it would be applied for and obtained from TDEC.
- Limit tree clearing to October 15 through March 31, when federally listed bat species are not present on the landscape in Tennessee in accordance with commitments outlined in

the April 25,2022 Endangered Species Act Section 7(a)(2) concurrence letter from the U.S. Fish and Wildlife Service (USFWS)

- Should traffic flow be a problem for local developments, SR Millington II would consider staggered work shifts to space out the flow of traffic to and from the project site. Use of such mitigation measure would minimize potential adverse impacts to traffic and transportation to less than significant levels
- Maintain a 20-meter buffer around identified cultural resource sites
- Standard BMPs would be used
- Any road crossings within the 100-year floodplain would be done in such a manner that upstream flood elevations would not be increased by more than 1 foot
- If hauled offsite for disposal, excavated material and debris when the facility is decommissioned and dismantled would be spoiled outside the 100-year floodway
- Every effort would be made to keep stockpiled soil from eroding into streams
- The solar panels would be elevated at least one foot above the 100-year flood elevation

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 SR Millington II would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



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Federally Mandated Environmental Compliance

Date Signed