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FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY

SR MIDDLETON
HARDEMAN COUNTY, TENNESSEE
CEQ Tracking No. EAXX-455-00-000-1732018706

The Tennessee Valley Authority (TVA) entered into a 20-year power purchase agreement (PPA) with SR Middleton, LLC, a wholly owned subsidiary of Silicon Ranch Corporation (SRC), in December 2022, to purchase the electric power generated by a proposed solar photovoltaic (PV) facility in Hardeman County, Tennessee, subject to satisfactory completion of all applicable environmental reviews. The solar facility, known as SR Middleton, would be owned by SRC and operated by SR Middleton, LLC. The facility would have a generating capacity of 55 megawatts (MW) alternating current (AC). SRC would connect the solar facility to TVA's existing Selmer–Bolivar 161-kilovolt (kV) transmission line (TL) via a new double-circuit 25-kV dedicated TL called a generation tie (gen-tie) line from a proposed on-site Project switchgear to the existing Bolivar Energy Authority (BEA) Hebron Substation, west of the solar facility site.

TVA produces or obtains electricity from a diverse portfolio of energy sources, including solar, hydroelectric, wind, biomass, fossil fuel, and nuclear. The 2019 Integrated Resource Plan (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 with fewer environmental impacts. The 2019 IRP recommends the expansion of solar generating capacity of up to 14,000 MW by 2038. With the demand for solar energy increasing, TVA has an expansion target of 10,000 MW of solar by 2035. Customer demand for cleaner energy prompted TVA to release a request for proposal (RFP) for renewable energy resources, the 2021 Renewable RFP. In response to this RFP, TVA received multiple proposals from solar developers, including SR Middleton, LLC. The resulting PPAs, including the SR Middleton, LLC PPA, would help TVA meet immediate needs for additional renewable generating capacity in response to customer demand and contribute to the fulfillment of the 10,000 MW of solar by 2035 target. The Proposed Action would provide cost-effective renewable energy consistent with the 2019 IRP and TVA goals.

The potential effects of the Proposed Action are described in the SR Middleton Final Environmental Assessment (EA) referred to herein as the EA.

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, and the proposed solar PV facility in Hardeman County would not be constructed. Existing conditions (e.g., land use, natural resources, visual resources, physical resources, and

socioeconomics) in the Project area would not change as a result of the Proposed Action. TVA would continue to rely on other sources of generation as described in the 2019 IRP to ensure an adequate energy supply and to meet its goals for increased renewable energy and low greenhouse gas (GHG)-emitting generation.

Under the Proposed Action Alternative, TVA would execute the PPA to purchase the power generated by the proposed solar PV facility. SR Middleton, LLC would construct, operate, and maintain a 55-MW AC single-axis tracking PV solar power facility on a 944-acre site located in Hardeman County. Solar facility components would occupy approximately 348 acres of the 944-acre Project site. An additional 262 acres of the Project site are anticipated to be utilized for access roads, streamside management zones (SMZs), and a 200-foot shading buffer around solar panels. SRC would connect the solar facility to TVA's existing Selmer–Bolivar 161-kV TL via a new, approximately 2-mile-long, double-circuit 25-kV gen-tie line from a proposed Project switchgear to the existing Hebron Substation west of the Project site. TVA would also perform TL upgrade activities to approximately 30.6 miles of the existing Selmer–Bolivar and Bolivar–Hickory Valley 161-kV TLs in Hardeman and McNairy counties, Tennessee.

The solar facility site would be prepared by surveying, staking, and installing about 28,600 feet of six-foot-tall chain-link security fencing and gates topped with three strands of barbed wire around the two large blocks of facility components and Project switchgear. Additional site preparation activities include establishing construction assembly areas, SMZs, and erosion prevention and sediment control best management practices (BMPs).

Construction areas would be cleared of debris and tall vegetation, mowed, and lightly graded as needed. Solar arrays would be installed in north-south rows supported by steel piles driven into the ground. The solar arrays and inverters would be connected to transformers and the Project switchgear by buried electrical cables and a small maintenance building would be constructed onsite. SRC would connect the solar facility to the TVA transmission system via a new gen-tie line from the switchgear to the existing Hebron Substation. BEA would expand the Hebron Substation by installing a three-phase transformer and a new switch house. Associated with the interconnection, TVA would perform TL upgrades to approximately 30.6 miles of the existing Selmer–Bolivar and Bolivar–Hickory Valley 161-kV TLs.

Subject to weather, construction activities would take approximately 12 months to complete using a crew of up to 250 workers sourced locally to the greatest extent possible. Work would generally occur six days a week (Monday through Saturday) during daylight hours. Night-time construction could be necessary to make up schedule deficiencies or to complete critical construction activities. These activities would require installation and use of temporary downward-facing, timer- and/or motion-activated lighting. Once construction is completed, the Project site would be revegetated using a mixture of non-invasive grass seeds.

During operations, the facility would be monitored remotely and periodically inspected and maintained by small groups of workers. Routine maintenance would include maintaining vegetation on the developed portions of the site and within a 200-foot buffer area to a height of about 12 to 18 inches to prevent shading of the PV panels. Vegetation management would be

conducted by mowing and potentially by sheep grazing. SRC may explore using 20 acres of the Project site for agrivoltaics. If this is implemented the Project would establish and maintain approximately 20 acres of soybeans, wheat, and hay crops between rows of solar panels. If SRC does not implement agrivoltaics, the Project design would be adjusted, and the impact area of the solar panels would be slightly reduced.

Following the expiration of the 20-year PPA with TVA, SR Middleton, LLC would assess whether to cease operations at the solar facility, or to replace equipment, if needed, and attempt to enter into a new PPA with TVA or make some other arrangement to sell the power. When operations cease, the facility would be decommissioned and dismantled, and the Project site would be restored per Project decommissioning requirements in coordination with Hardeman County. Aboveground and below-ground Project components would be removed to a depth of at least three feet. Decommissioned components would be recycled to the maximum feasible extent, and other materials that cannot be recycled would be disposed of at an approved facility in accordance with federal, state, and local laws and regulations.

TVA's 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 environmental impacts due to the implementation of BMPs and minimization and mitigation efforts. The Project would also result in some beneficial impacts. Implementation of the Project would help meet TVA's renewable energy goals and would help TVA meet customer-driven 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 348 acres (37 percent) of the 944-acre Project site would be cleared and/or graded for the solar facility. An additional 262 acres would be cleared and maintained to implement a 200-foot shade reduction buffer around solar panels, access roads, and SMZs. These changes would cause minor adverse impacts to soils and surface water due to minor, localized increases in erosion and sedimentation. Construction activities would cause minor, short-term impacts to air quality, utilities, and visual resources and temporary increases in noise and traffic. No permanent adverse impacts are anticipated to geology, prime farmland, outdoor recreation areas, natural areas, waste management, and public occupational health and safety due to the nature of the Project; application of appropriate BMPs; and/or adherence to relevant local, state, and federal laws and regulations.

There may be brief local utility outages as the solar facility is brought on-line. If this or other outages on the Selmer–Bolivar 161-kV and Bolivar–Hickory Valley 161-kV TLs and or other TLs are required, TVA would work with BEA to provide alternative means of providing electrical service to the area to avoid service interruptions. TVA would also make an effort to perform these outages at low-impact times, such as overnight, in order to maintain power service to BEA.

The proposed solar facility would result in no direct impact to floodplains and their natural beneficial values. With the implementation of BMPs, indirect impacts to floodplains would be

minor. Impacts to groundwater are expected to be minimal and would only occur if wells are chosen as a method to provide water for construction needs. Minor permanent adverse impacts are anticipated to one wet weather conveyance (WWC) due to placement of Project components. Permanent impacts to 0.56 acres of one forested wetland within a 200-foot-wide area surrounding proposed panel locations would be caused by clearing to reduce solar panel shading. This wetland would be permanently impacted by conversion from a forested wetland to an emergent wetland. The gen-tie would cross several streams, 100-year floodplains, and wetlands. The permanent gen-tie easement would be subject to permanent ROW maintenance, leading to permanent impacts to 6.04 acres of forested wetlands due to conversion to emergent wetlands. Additional impacts to surface waters would vary depending on the method chosen for gen-tie installation: boring or overhead poles. If boring is chosen as the method of installation, impacts would be temporary and minor. If overhead poles are chosen as the method of installation, minor direct temporary and permanent adverse impacts to two forested wetlands would occur due to clearing and pole installation, respectively. As a part of the pole installation in these two wetlands, less than 0.01 acres would be cleared with wetland soils removed and replaced with cement infill. Access roads for the gen-tie installation could have minor temporary impacts to four emergent wetlands totaling 2.18 acres and one forested wetland totaling less than 0.01 acre if modifications to existing roads are necessary. Additionally, three perennial streams, two intermittent streams, and one ephemeral stream would experience minor impacts if modifications are needed to existing roads. Upgrades to existing TL structures including installation of an OPGW support arm at one existing TL structure within one emergent wetland and installation of OPGW support arms at nine existing TL structures within an additional emergent wetland may cause temporary impacts. Access roads for TL upgrade activities intersect four WWCs, four intermittent streams, one perennial stream, and one emergent wetland. When unavoidable, access across wetlands and streams located in the ROW would be conducted in accordance with BMPs to minimize soil compaction and erosion and ensure only temporary minor adverse impacts result. Access may require temporary stream crossings.

Long-term habitat loss would occur due to the clearing of approximately 23 acres of forests, trees, and other tall vegetation on the Project site. These areas would be converted to managed vegetation. Impacts to herbaceous vegetation communities within the TL upgrade areas would be minor and temporary. These changes would result in effects to common wildlife. While the up to 55 acres of summer foraging and roosting habitat suitable for bats listed under the Endangered Species Act made up of forested and herbaceous vegetation communities as well as open waters on the Project site would be affected, TVA has determined that the Proposed Action may affect but is not likely to adversely affect these listed species due to the relatively small amount of habitat to be removed. No other federally listed endangered or threatened species would be affected, and the U.S. Fish and Wildlife Service (USFWS) concurred with TVA's determination. The Project would result in minor and insignificant impacts to state-listed species and migratory birds.

TVA determined that the Project would have no adverse effects on any cultural resources listed or determined eligible for listing in the National Register of Historic Places. Pursuant to the National Historic Preservation Act, TVA consulted with the Tennessee Historical Commission and interested federally recognized Indian tribes regarding its determination. TVA also consulted with

federally recognized Indian tribes regarding properties of religious or cultural importance to their tribe. TVA did not receive any concerns from consulting tribes. The Tennessee Historical Commission concurred that the Project would not adversely affect any historic properties.

Construction of the proposed facility would have short-term beneficial economic impacts during the approximately 12-month construction period. These benefits would include the purchase of materials, equipment, and services and a temporary increase in employment, income, and population. Beneficial, long-term direct impacts to the local economy from Project operations would occur as the local tax base would increase from construction of the solar facility. Direct and indirect impacts that occur due to the Project could have negligible to minor impacts on minority and low-income communities with environmental justice (EJ) concerns. Temporary minor off-site impacts during the 12-month construction period from noise, traffic, and utility disruptions would be mitigated as described below in the Mitigation section. As such, no disproportionate or adverse direct or indirect impacts on communities with EJ concerns due to human health or environmental effects are expected to result from the Proposed Action Alternative. In addition, the Project would have minor beneficial impacts to employment and income levels in the local region that could benefit nearby communities with EJ concerns.

The Project would result in minor, temporary direct adverse impacts to land use due to the conversion of the Project site from agricultural to industrial during construction and operation. 508 acres of cropland would be removed from this land use during the lifetime of the Project. Some agriculture may continue to take place on 273 acres of the Project site. With decommissioning of the Project, removal of Project components, and site reclamation, the Project site could return to other agricultural uses.

Visual impacts during construction and operation of the Project components would be minor as most of the Project site is not visible from nearby viewpoints. Noise impacts would be minor to moderate during construction, particularly during the two-month period when pile driving would occur, but minimal to negligible during operations due to the distance of noise receptors from noise-producing Project components. Parks, residences, residential and nonresidential agricultural complexes, and businesses near the TL upgrade areas would temporarily experience heightened noise, primarily during the installation of OPGW by helicopter. Minor impacts to air quality would occur during construction, primarily as a result of an increase in vehicular emissions in the vicinity, and zero to minimal negative impacts to air quality or GHG emissions would occur during operations. Offsetting beneficial effects to GHG emissions would occur during operations, as the emissions-free power generated by the solar facility would help reduce the need for new power that would otherwise be generated by the combustion of fossil fuels.

Minor cumulative impacts could occur to land use, soils, prime farmland, groundwater, floodplains, threatened and endangered species, and natural areas.

Public and Agency Review

SRC has worked with the Hardeman County Commissioners through public meetings and working sessions to introduce the Project to local officials and the public. SRC has also communicated with several of the adjacent landowners.

On September 27, 2024, TVA issued the draft subject EA for public and agency review and comment. TVA notified the public of the availability of the draft EA via an advertisement in a newspaper that serves the Hardeman County area and postcards to residents within two miles of the Project site. TVA also notified appropriate local, state, and federal agencies and federally recognized tribes of the availability of the draft EA and posted the draft EA on its webpage (www.tva.gov/nepa) with information about how to submit comments. During the 30-day public review and comment period of the draft EA, a total of four comment submissions were received from two individuals, the U.S. Army Corps of Engineers (USACE), and the Tennessee Department of Environment and Conservation (TDEC).

In their comments, the Memphis District Regulatory Division of USACE requested to be a cooperating agency in preparing this EA. TVA granted this request.

Mitigation

SR Middleton, LLC and TVA would implement the following minimization and mitigation measures in relation to resources potentially affected by the construction and operation of the Project:

Standard Practices and Routine Measures

- Geology and Paleontology
  - Should paleontological resources be exposed during site construction or operation activities, a paleontological expert would be consulted to evaluate the nature of the paleontological resources, recover these resources, analyze the potential for additional impacts, and develop and implement a recovery plan/mitigation strategy.
- Soils
  - Install silt fences along the perimeter of vegetation-cleared areas;
  - Implement other soil stabilization and vegetation management measures to reduce the potential for soil erosion during site operations; and
  - Balance cut-and-fill quantities to alleviate the transportation of soil off-site during construction.
- Water resources
  - Comply with the terms of the Stormwater Pollution Prevention Plan prepared as part of the National Pollutant Discharge Elimination System permitting process;
  - Avoid and minimize long and short-term impacts associated with destruction or modification of wetlands caused by new construction where practicable (per EO 11990, Protection of Wetlands);

  - Comply with the terms of the TDEC Aquatic Resource Alteration Permit and USACE Section 401 and 404 permits, including compensatory mitigation requirements as applicable;
  - Use BMPs for controlling soil erosion and runoff, such as the use of 50-foot SMZs surrounding intermittent and perennial streams and wetlands according to their rating as defined by TVA's *A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activities*: Standard Stream Protection (Category A), Protection of Important Streams, Springs, and Sinkholes (Category B), or Protection of Unique Habitat (Category C);
  - Implement other routine BMPs as necessary, such as non-mechanical tree removal within SMZs and placement of silt fences and sediment traps along SMZ edges;
  - Use only U.S. Environmental Protection Agency-registered and TVA-approved pesticides per label directions designed to restrict applications near receiving waters and to prevent unacceptable aquatic impacts in areas requiring chemical treatment; and
  - Ensure construction and maintenance activities occur during dry periods as much as possible.
- Floodplains
  - Improve access roads within the 100-year floodplains (but not floodways) in such a manner that upstream flood elevations would not be increased by more than one foot;
  - If hauled off-site for disposal, dispose of excavated material outside the 100-year floodway;
  - When the facility is decommissioned and dismantled, deposit deconstruction debris outside the 100-year floodway; and
  - Adhere to TVA subclass review criteria for new TLs in floodplains.
- Biological resources
  - Revegetate with non-invasive grasses to reintroduce habitat, reduce erosion, and limit the spread of invasive species (per Executive Order 13112, Invasive Species);
  - Minimize direct impacts to most migratory birds and federally listed bats by clearing trees and shrubs in winter months (October 1 to March 31);
  - Follow USFWS recommendations regarding biological resources;
  - Use only U.S. Environmental Protection Agency-registered and TVA-approved pesticides in accordance with label directions designed in part to restrict applications near receiving waters and to prevent unacceptable aquatic impacts in areas requiring chemical treatment;
  - Coordinate with U.S. Department of Agriculture, Wildlife Services Division and/or USFWS if active osprey and eagle nests are identified during aerial nest surveys of the TL upgrade areas to develop avoidance and minimization measures and ensure compliance under federal law prior to commencement of construction activities; and

  - Implement Avian Power Line Interaction Committee guidelines to minimize impacts to birds during the TL upgrade activities.
- Noise
  - Limit construction activities primarily to daytime hours and ensure that heavy equipment, machinery, and vehicles utilized at the Project site meet all federal, state, and local noise requirements;
  - Pile-driving within 950 feet of the nearest residences would be scheduled during daylight hours Monday through Friday and occasionally on Saturdays when necessary to minimize impacts to the residences; and
  - Pile-driving within 3,000 feet of the nearest church would be scheduled outside of church services.
- Air quality and climate change
  - Comply with local ordinances or burn permits and avoid burning on days air quality alerts have been issued, as much as feasible, if burning of vegetative debris is required and use BMPs such as periodic watering, covering open-body trucks, establishing a speed limit to mitigate fugitive dust, and maintain equipment in good condition.
- Cultural resources
  - If a previously unknown historic property or unanticipated effects to a known property are discovered after the Section 106 process has concluded, immediately discontinue all ground disturbing activity within 200 feet of the resource and contact TVA.
- Waste management
  - Develop and implement a variety of plans and programs to ensure safe handling, storage, and use of hazardous materials.
- Public and occupational health and safety
  - Implement BMPs for site safety management to minimize potential risks to workers.
- Transportation
  - When warranted, post a flag person during heavy commute periods, prioritize access for local residents, and implement staggered work shifts during daylight hours to manage construction traffic flow near the Project site; and
  - Obtain a Tennessee Department of Transportation Commercial Driveway Permit for Project-related driveways in use during facility operations, as required..

Conclusions and Findings

Based on the findings listed above and the analyses in the EA, we conclude that the proposed action of construction and operation of the solar generating facility and TVA's purchase of the electric output pursuant to the PPA with SR Middleton, LLC would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.

December 18, 2024

Dawn Booker
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Environment & Sustainability

Date Signed

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