

FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

SR MAGNOLIA SOLAR MONROE COUNTY, MISSISSIPPI

SR Magnolia, LLC, a wholly owned subsidiary of Silicon Ranch Corporation (SRC), proposes to construct a solar photovoltaic (PV) facility in Monroe County, Mississippi. The proposed solar facility, known as SR Magnolia Solar, would be constructed and owned by SRC and operated by SR Magnolia, LLC. Under the terms of a contractual agreement, the Tennessee Valley Authority (TVA) would purchase the electricity generated by the solar facility for an initial term of 20 years, subject to satisfactory completion of all applicable environmental reviews. SR Magnolia Solar would have a generating capacity of up to 160 megawatts (MW) alternating current (AC) and a potential battery energy storage system (BESS) capable of providing 30–50 MW AC over a 4-hour period with a storage capacity of 120–200 MW hours (MWh). The solar facility would connect to TVA's adjacent existing West Point–Stateline 161-kilovolt (kV) transmission line (TL) through a new on-site substation. TVA would also perform network upgrades on approximately 14.3 and 31.5 miles of its existing West Point–Stateline and Stateline–Tupelo 161-kV TLs. TVA's network upgrades would occur in the following Mississippi counties: Monroe, Lee, Itawamba, and Clay.

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 while reducing 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. In 2020, TVA began providing a flexibility option to local power companies (LPCs) that enter into a long-term partnership agreement. The flexibility option, named Generation Flexibility, allows these LPCs to locally generate or purchase up to approximately 5 percent of their average total hourly energy sales to meet their individual customers' needs. Revised Flexibility Agreements, made available to LPCs in August 2023, allow projects to be located anywhere in TVA's Power Service Area, either connected to the LPC distribution system or TVA's transmission system, and make it easier for LPCs to partner in projects. TVA would seek to purchase the electricity generated by the proposed project either directly, or through a flexibility arrangement. 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 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, and the proposed solar PV facility in Monroe 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 could acquire the electricity produced by the proposed solar PV facility. SR Magnolia, LLC would construct, operate, and maintain up to a 160-MW AC single-axis tracking PV solar power facility and potentially a 30- to 50-MW AC, 120- to 200-MWh BESS. These facilities would occupy approximately 1,094 acres of the 1,457-acre site located in Monroe County. The facility would connect to TVA's adjacent existing West Point–Stateline 161-kV TL. TVA would also perform network upgrades to portions of its existing West Point–Stateline and Stateline–Tupelo 161-kV TLs.

The solar facility site would be prepared by surveying, staking, and installing about 55,000 feet of six-foot-tall security fencing topped with three strands of barbed wire around the two large blocks of facility components, substation, switchyard, and potential BESS. Additional site preparation activities include establishing construction assembly areas, streamside management zones (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 facility would connect to TVA's existing West Point–Stateline 161-kV TL through a new Project substation and switchyard (SR Magnolia, MS Solar 161-kV substation and TVA Watkins Lane, MS 161-kV switchyard, respectively). Associated with the interconnection, TVA would install fiber-optic overhead ground wire (OPGW) on 14.3 miles of the West Point–Stateline 161-kV TL and 31.5 miles of OPGW on the Stateline–Tupelo 161-kV TL. Fiber upgrade on the Stateline–Tupelo 161-kV TL would require installation of five new ground wire poles and modifications (e.g., splice cases, strain plates) to several existing structures.

Subject to weather, construction activities would take approximately 24 months to complete using a crew of up to 450 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.

Following the expiration of the 20-year term with TVA, SR Magnolia, LLC would assess whether to cease operations at the solar facility or to replace equipment, if needed, and attempt to enter into a new agreement 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 Monroe 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 1,094 acres (84 percent) of the 1,457-acre Project site would be cleared and/or graded for the solar facility and 200-foot solar panel shading buffer. These changes would cause minor adverse impacts to geology and soils due to minor, localized increases in erosion and sedimentation. Construction activities would cause minor short-term impacts to air quality, utilities, visual aesthetics, and outdoor recreation areas and temporary increases in noise and traffic. No permanent adverse impacts are anticipated to prime farmland, 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. The additional electric system modifications to existing TVA substations may also require a temporary electric service outage of the West Point–Stateline and Stateline–Tupelo 161-kV TLs. If this or other outages on the TVA system are required, TVA would work with the local power company, Okolona Electric Department, to provide alternative means of providing electrical service to the area in order 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 Okolona Electric Department. 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.

With 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 to the extent

practicable. SR Magnolia, LLC would implement mitigation measures to minimize adverse impacts on floodplains and their natural and beneficial values. Therefore, the Proposed Action would be consistent with the requirements of Executive Orders (EOs) 11988 (Floodplain Management) and 11990 (Protection of Wetlands). Complete avoidance of surface water was not feasible, and the construction and operation of the Project would permanently affect approximately 21 linear feet (LF) of one wet weather conveyance (WWC) due to the proposed construction of a road crossing using a culvert, and 13 WWCs, totaling 5,768 LF due to the proposed installation of solar arrays. TVA and SR Magnolia, LLC would obtain the necessary permit(s) before construction begins and would follow the permit requirements, and necessary mitigation, to minimize impacts to wetlands and/or streams. Additionally, with the implementation of appropriate BMPs in accordance with the site Stormwater Pollution Prevention Plan (SWPPP), indirect impacts to wetlands and streams would be further minimized during construction. TL upgrade activities along the Stateline–Tupelo 161-kV TL would have minor, temporary impacts on two streams (50 LF), one pond, and nine wetlands due to proximity to work areas and limited access road alternatives. The Project would obtain Clean Water Act Section 404/401 Individual Permits as necessary and would adhere to required compensatory mitigation. Access across wetlands located in the right-of-way would be conducted in accordance with wetland BMPs to minimize soil compaction and ensure only temporary impacts result. TVA and SR Magnolia, LLC would obtain the necessary permit(s) before construction begins and follow the permit requirements, and necessary mitigation, to minimize impacts to wetlands. Additionally, with the implementation of appropriate BMPs, impacts to wetlands would be further minimized during construction.

Long-term habitat loss would occur due to the clearing of approximately 41 acres of forest on the Project site and conversion to managed grassland. These changes would affect common wildlife. Wildlife in the TL upgrade areas may be disturbed and leave the area to similar, adjacent habitats during work activities; however, disturbance would be short-term. Impacts to wildlife or habitat in TL upgrade areas would be minor. Approximately 23 of the 41 acres proposed for tree removal offer bat foraging and summer roosting habitat. Due to the lack of impacts to potential bat hibernacula and no captures of federally listed bat species during presence/absence surveys, TVA determined that the Proposed Action may affect but is not likely to adversely affect federally listed bat species. Consultation under Section 7 of the Endangered Species Act was conducted with the U.S. Fish and Wildlife Service (USFWS). USFWS concurred with TVA's determinations in a letter dated September 27, 2024. The Project would not affect other federally listed endangered or threatened species and 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 Mississippi Department of Archives and History (MDAH) 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. On January 5, 2024, MDAH concurred that the Project as currently proposed would not adversely affect any historic properties. Should previously undiscovered cultural resources be identified

during construction or operation, construction in the affected area would be immediately stopped and the discovery location secured against further disturbance, pending completion of consultation with appropriate stakeholders. TVA and MDAH would be consulted before any further action is taken.

Construction of the proposed facility would 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 Monroe County and the local region as a result of permanent job creation and increase in the local tax base. 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. Most impacts would occur during the 24-month construction period. Off-site impacts would be minor or mitigated. As such, minor 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. With decommissioning of the Project, removal of Project components, and site reclamation, the Project site could return to other agricultural uses. Visual impacts during operations of the solar facility would be minor to moderate due to the visibility of relatively small portions of the Project elements. Visual effects from the Project would be minimal on a larger scale, due to variation of the visual attributes of the Project area as distance from the Project increases. Temporary, minor adverse impacts on visual resources in the vicinity of the TL upgrade areas would occur during installation of OPGW, modifications to the existing TL, and other equipment, associated with the TL upgrade activities. There would likely be minimal to negligible impacts to outdoor recreation areas due to events most likely occurring outside of construction hours. During installation of OPGW on TLs, a helicopter would be visible to some outdoor recreation area users. Noise impacts would be minor to moderate during construction, particularly during the six-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. Minor impacts to air quality would occur during construction, primarily as a result of an increase in vehicular emissions in the vicinity, and no to minimal negative impacts to air quality or GHG emissions would occur during operations. Long-term beneficial effects to GHG emissions would occur during operations, as the emissions-free power generated by the solar facility would reduce the need for power that would otherwise likely be generated, at least in part, by the combustion of fossil fuels.

Cumulative Impacts

The 2022 Council on Environmental Quality's National Environmental Policy Act regulations define cumulative effects as "effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.

Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.” The reasonably foreseeable future actions identified in the EA include multiple industrial facilities and road improvements. Minor cumulative impacts could occur to land use, geology, soils, prime farmland, groundwater, surface water, floodplains, visual resources, and natural areas.

Public and Agency Review

SR Magnolia, LLC held two meetings about the Project, one with Monroe County officials and one with deacons of the adjacent Ebernezer Missionary Baptist Church. SR Magnolia and TVA jointly mailed postcards to adjacent landowners to notify the public of the 30-day scoping period.

On July 15, 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 newspapers that serve the Monroe County area and postcards sent to adjacent landowners. 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 comments were received from three individuals. The comments and responses are included as Appendix E of the EA.

Mitigation

SR Magnolia, 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/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
 - Make an effort to balance cut-and-fill quantities to alleviate the transportation of soils off site during construction.
- Water resources
 - Comply with the terms of the SWPPP prepared as part of the National Pollutant Discharge Elimination System permitting process;
 - Avoid long- and short-term impacts associated with destruction or modification of wetlands caused by new construction (per EO 11990, Protection of Wetlands);

- 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* (2022a): 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 surface water SMZs, placement of silt fences and sediment traps along SMZ edges, selective herbicide treatment to restrict application near receiving water features, and proper vehicle maintenance to reduce the potential for adverse impacts to surface water and groundwater;
- Comply with the conditions of U.S. Army Corps of Engineers 404 permits and required compensatory mitigation, as applicable.
- Use only U.S. Environmental Protection Agency (USEPA)-registered and TVA-approved herbicides 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; and
- Ensure construction and maintenance activities occur during dry periods as much as possible.
- Floodplain resources
 - 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;
 - To prevent an obstruction in the floodway portion of the Town Creek and Mud Creek floodplain going to Structures 277-283: (1) any fill, gravel, or other modifications in the floodway that extend above the pre-construction road grade would be removed after completion of the Project; (2) this excess material would be spoiled outside of the published floodway; and (3) the area would be returned to its pre-construction condition;
 - 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 TL construction in floodplains (TVA 1980).
- Biological resources
 - Revegetate with native and/or non-invasive grasses to reintroduce habitat, reduce erosion, and limit the spread of invasive species (per EO 13112, Invasive Species);
 - Minimize direct impacts to most migratory birds and federally listed tree roosting bats by clearing trees and shrubs in winter months (November 16 to March 14) outside of nesting season and roosting season, respectively;
 - Follow USFWS recommendations regarding biological resources, including pollinator species;

- Avoid, to the extent practicable, siting generation equipment and associated infrastructure in areas that support state-listed plant species and rare plant habitats;
- Use downward-facing and timer- and/or motion-activated lighting to limit attracting wildlife, particularly migratory birds and bats;
- Instruct personnel on wildlife resource protection measures, including (1) applicable federal and state laws such as those that prohibit animal disturbance, collection, or removal, (2) the importance of protecting wildlife resources, and (3) avoiding vegetation disturbance in undisturbed and buffer areas;
- Use only USEPA-registered and TVA-approved herbicides 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 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 the TL upgrade activities; and
- Implement Avian Power Line Interaction Committee guidelines to minimize impacts to birds during design and construction of TL upgrade activities.
- Visual resources
 - Use timer- and/or motion-activated downward-facing, fully shielded, and/or low-glare lighting to limit visual effects at night.
- 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 5,000 feet of the nearest church would be scheduled outside of church services to minimize impacts to the church.
- 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, and establishing a speed limit to mitigate fugitive dust and maintain equipment in good condition.
- 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
 - 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.

- Obtain a Mississippi Department of Transportation Driveway Permit for Project related driveways in use during facility operations.
- Cultural Resources
 - Should previously undiscovered cultural resources be identified during construction or operation, construction in the affected area would be immediately stopped and the discovery location secured against further disturbance, pending completion of consultation with appropriate stakeholders. TVA and MDAH would be consulted before any further action is taken.

Non-Routine Mitigation Measures

- Biological resources
 - Use wildlife-friendly fencing instead of chain-link security fencing, which would allow for free movement for small animals, to maintain wildlife connectivity.
- Visual resources
 - Install and maintain a vegetative buffer of a couple rows of evergreen trees on the perimeter of the Project site adjacent to the Ebenezer Missionary Baptist Church, where existing natural buffers are not sufficient in shielding views of the facility.

Conclusions and Findings

Based upon the analyses documented in the EA, TVA concludes that the Proposed Action Alternative of the electric output either directly or through a flexibility agreement, with implementation by SR Magnolia, LLC of the mitigation measures summarized above and described in detail in the EA, would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.

Document Type: EA-Administrative Record
Index Field: Finding of No Significant Impact (FONSI)
Project Name: SR Magnolia
Project Number: 2022-11



December 9, 2024

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Date Signed