

**FINDING OF NO SIGNIFICANT IMPACT**  
**TENNESSEE VALLEY AUTHORITY**  
**PURCHASE OF POWER GENERATED AT THREE STARKVILLE AREA**  
**SOLAR FACILITIES, OKTIBBEHA COUNTY, MISSISSIPPI**

TVA proposes to enter into power purchase agreements (PPAs) to purchase the electric power generated at three proposed solar facilities in the vicinity of Starkville, Oktibbeha County, Mississippi (Figure 1). The three proposed solar facilities would have direct current (DC) generating capacities of 67 kilowatts (kW), 200 kW, and 1 megawatt (MW) for a combined capacity of 1.267 MW. The PPA would be executed through TVA's Renewable Standard Offer (RSO) program.

Under the proposed action, TVA would execute the three PPAs that would result in the construction and operation of the following solar facilities:

1. David Palmer, LLC 67kW Solar Array, a ground mounted facility on a 0.7-acre site near Highway 182 West, west-northwest of Starkville;
2. Synergetics Properties, LLC 200kW Solar Array, a roof-mounted facility on an existing commercial building on Highway 12 West in Starkville; and
3. Synergetics DCS, Inc. 1MW Solar Array, a ground-mounted facility on a 3.6-acre site near Chapel Hill Road east of Starkville.

Under the terms of the PPAs, TVA would purchase the electricity generated by the solar facilities for a 20-year period. The 67-kW and 1-MW facilities would be connected to the 4-County Electric Power Association distribution network, which in turn would transmit the power to the TVA transmission network. The 200-kW facility would be connected to the Starkville Electric Department distribution network, which would transmit the power to the TVA network.

The 200-kW Synergetics Properties facility would consist of approximately 800 photovoltaic (PV) panels mounted on metal racks fastened to the building roof. The panels would be connected to a DC to alternating current (AD) power inverter, which would be connected to the distribution lines serving the building. PV panels have been previously installed on part of the building roof.

The 67-kW David Palmer facility and the 1-MW Synergetics DCS facility would consist of approximately 270 and 4,000 PV panels, respectively, mounted on metal racks supported by poles driven into the ground. The racks would be arranged in parallel east-west rows. Electrical cables would connect the rows to DC to AC power inverters and pad-mounted transformers.

The proposed David Palmer facility site is partially wooded and the trees would be removed at the initiation of construction. The site is adjacent to an existing road and no road construction would be necessary. The facility would be connected to the electrical distribution system by cables running from the transformer to the adjacent distribution line.

No tree removal would be required on the proposed Synergetics DCS facility site, which has recently been managed as pasture. Part of the site, likely less than an acre, would be graded to smooth a small area of irregular terrain. Gravel would be added to an existing field road to improve site access. The facility would be connected to an existing electrical distribution line by a new 2,000-foot long power line running parallel to the access road. Following the installation of the PV panels and associated equipment, both the David Palmer and Synergetics DCS sites would be planted with grass which would be maintained by periodic mowing, herbicide applications, or, at the Synergetics DCS site, grazing. Security fencing and night lighting are not proposed at either site.

The anticipated environmental impacts of TVA's proposed action of entering into the PPAs, as well as those of the resulting construction and operation of the proposed solar facilities, are the subject of an environmental assessment (EA) which is incorporated by reference. The EA evaluates two alternatives, i.e., the No Action Alternative and the Action Alternative. Under the No Action Alternative, TVA would not enter into the PPAs and the solar facilities would not be constructed. Under the Action Alternative, TVA would enter into the PPAs and the solar facilities would be constructed and operated as described above.

The construction of the proposed solar facilities have negligible adverse effects on air quality and their operation would have a small beneficial effect on air quality, including reduced emissions of greenhouse gases, due to the generation of emissions-free electricity that would otherwise likely be generated in part by fossil fuels. No noise would be generated by operation of the solar facilities; noise from construction and periodic maintenance would be short-term and not adversely affect nearby residents. No water bodies occur in the immediate vicinity and use of best management practices would minimize erosion or sedimentation during construction activities. No impacts to surface waters or groundwater are anticipated. No wetlands or floodplains occur in the project areas and the proposed action complies with Executive Orders 11988 on floodplain management and 11990 on wetlands.

The removal of vegetation from the David Palmer site would displace most of the wildlife from the site. Although the impacts on plant and animal species on the site would be adverse, these species are common in the region and overall impacts would be minor and insignificant. No federally or state-listed endangered or threatened species or other species of conservation concern would be affected and the requirements of Section 7 of the Endangered Species Act have been met. The rooftop Synergetics Properties facility would have little, if any, visual impacts. Due to the terrain and existing vegetation adjacent to other two sites, visual impacts of the David Palmer and Synergetics DCS facilities would be negligible. The Synergetics Properties facility would have no effect on land use. The land use of the David Palmer and Synergetics DCS sites would change from undeveloped woodland and farmland to rural industrial; there are no applicable zoning regulations at these two sites and insignificant effects to surrounding land uses. Impacts to soils, including prime farmland, would be insignificant. Socioeconomic impacts would be minor and beneficial, and there would be no disproportionate impacts to minority and low-income populations. No historic properties would be affected and TVA has consulted with the Mississippi State Historic Preservation Officer and with federally recognized Indian tribes regarding this determination in accordance with Section 106 of the National Historic Preservation Act.

## **Mitigation**

TVA has not identified the need for mitigation measures to reduce the anticipated environmental impacts.

## Conclusion and Findings

Based on the findings in the EA, TVA concludes that the proposed action of entering into the PPAs for the David Palmer, Synergetics Properties, and Synergetics DCS solar facilities, and the subsequent construction and operation of the solar facilities, would not be a major Federal action significantly affecting the environment. Accordingly, preparation of an environmental impact statement is not required.



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Date Signed