

## FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

### TVA SOLAR PHOTOVOLTAIC PROJECTS

ALABAMA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, TENNESSEE, AND VIRGINIA

Consistent with its 2011 Integrated Resource Plan, the Tennessee Valley Authority (TVA) proposes to acquire additional power from solar photovoltaic facilities located within its seven-state, 170-county power service area. Power from these facilities would be delivered to TVA by direct connection or via interconnections with local power companies that distribute TVA power.

Currently, TVA assesses the potential environmental impacts of each solar project by preparing an individual environmental assessment (EA) under the National Environmental Policy Act (NEPA). To expedite the NEPA environmental review process, TVA has prepared a programmatic environmental assessment (PEA) to document the potential environmental effects of developing and operating, or purchasing power from independently owned and operated solar facilities of a certain size. The PEA is incorporated by reference. Solar facilities considered in the PEA included ground-mounted facilities occupying 10 acres or less on previously unoccupied "greenfield" sites, ground-mounted facilities occupying 20 acres or less on previously disturbed or occupied (i.e., "brownfield") sites, and building-mounted solar facilities, regardless of size. Projects participating in the Green Power Providers program are not considered in the PEA.

Under the No Action Alternative, TVA would continue to participate in its current renewable energy programs and would pursue adding additional solar-generated power to its energy portfolio. Upon entering into an agreement to purchase power from an independent solar power supplier, TVA would conduct an environmental review, normally an environmental assessment or environmental impact statement, consistent with the requirements of NEPA. Thus, under the No Action Alternative, TVA would continue this current course of action to meet its environmental review obligations under NEPA.

Under the Action Alternative, which is the preferred alternative, TVA would pursue the NEPA review process outlined below for the acquisition of additional power from solar facilities of a certain size.

- ***TVA proposes to construct a solar facility.***  
An environmental review would be conducted on a case-by-case basis in accordance with TVA's NEPA Procedures. As appropriate, that environmental review could tier from or incorporate findings from the PEA.
- ***TVA proposes to purchase power from an existing solar facility.***  
If no changes to those facilities would occur, normally, no further environmental would be conducted because such actions typically cause no additional environmental effects. However, if environmental effects would likely result from TVA's purchase of power from such a facility, TVA would initiate an appropriate NEPA review. That review could tier from or incorporate findings from the PEA.

- ***TVA proposes to acquire power from proposed non-TVA solar facilities meeting the size criteria mentioned above.***

As part of the power purchase agreement, TVA would require developers to supply certain information about site characteristics. Besides basic information about the site and any necessary permits, TVA would require information on the occurrence of the following resources onsite or nearby if they could be affected: cultural resources (i.e., archaeological resources and historic structures); state-listed and federally listed threatened, endangered or protected species; wetlands; unique natural features; floodplains, prime farmlands; and waste material or contamination. Using this information and other available information, TVA would screen each proposed project to determine the potential for adverse environmental effects. These findings would be documented using TVA's Categorical Exclusion Checklist or other appropriate documentation prepared in accordance with TVA's NEPA Procedures.

In cases where sensitive resources are present onsite or the project is likely to adversely affect one or more of these resources, TVA would encourage or require the developer, as necessary, to develop appropriate measures to avoid adverse effects altogether or to reduce those potential effects to minor and insignificant levels. TVA would also routinely require developers to utilize appropriate best management and best construction measures. In situations where the project would have only minor environmental effects or if the developer modifies the project to the extent that TVA determines that there is no potential for significant environmental effects to these resources, the findings of the PEA would apply with respect to NEPA compliance for that project.

In the event that TVA determines that a proposed solar project could result in significant environmental effects despite mitigation or avoidance measures or if substantial controversy exists over the significance of environmental effects, the project would be subject to a project-specific environmental review. However, relevant portions of the PEA could be incorporated into that review.

Potential effects to the following resources are considered in the PEA: groundwater; surface water; wetlands; floodplains; wildlife; vegetation; aquatic ecology; threatened and endangered species; managed areas and ecologically significant sites; land use and prime farmlands; cultural resources; visual resources; and, socioeconomics and environmental justice. As stated above, TVA would conduct a site-specific screening of each prospective site to determine the potential for adverse effects to these resources.

Typically, solar installations of the size considered in the PEA have a low potential to affect groundwater. TVA would require solar developers to implement appropriate best management practices to avoid affecting surface water and groundwater quality. Thus, potential effects to surface water quality and local aquatic life are expected to be minor. Appropriate siting of prospective solar facilities is expected to reduce the potential for affecting wetlands and floodplains, as well as managed areas and ecologically significant sites. If wetlands or floodplains would be affected, TVA would require the provider to adhere to mitigation requirements under Executive Orders 11990 (Protection of Wetlands) and 11988 (Floodplain Management), and Section 404 of the Clean Water Act. Potential effects to terrestrial wildlife and vegetation from the construction and operation of the solar facilities considered in the PEA are expected to be minor and insignificant.

As part of the site-specific screenings of potential solar projects and in compliance with the Endangered Species Act, TVA would determine potential effects to federally listed threatened or

endangered species, would consult with the U.S. Fish and Wildlife Service as appropriate, and would develop appropriate avoidance or mitigation measures. In the event TVA determines that these measures would not be practicable or effective in eliminating the potential for adverse effects to listed species, TVA would conduct a separate environmental assessment or environmental impact statement for that facility, and that facility would no longer be considered under the PEA.

Construction of ground-mounted solar facilities could change onsite land uses for the life of the facility. TVA would require prospective solar power developers to seek zoning approvals from local and state land use planning and zoning authorities or to produce proof that such approvals are not required. Additional proposed solar projects considered under this PEA would occupy an estimated 200 to 500 acres each year across the TVA power service area. The cumulative change in the amount of undeveloped land, compared to the spread of urban, suburban, and industrial development, would be extremely minor. As required by the Farmland Protection Policy Act, TVA would complete Form AD-1066 for those prospective sites that contain prime farmlands. As necessary, TVA would require appropriate avoidance measures to reduce potential effects to onsite prime farmlands. Thus, long-term, cumulative effects to prime farmlands are expected to be insignificant.

In accordance with Section 106 of the National Historic Preservation Act, TVA would evaluate potential effects to cultural resources on a case-by-case basis. TVA would seek to avoid or minimize effects whenever possible. If TVA, in consultation with the appropriate State Historic Preservation Office, determines that cultural resources would be adversely affected by a proposed solar project, that project would be subjected to an independent environmental review and would not be considered under the PEA. Thus, no significant effects to cultural resources are expected from implementing the solar facilities considered under the PEA.

The solar facilities considered in this PEA are small, i.e., 10 acres or less on greenfield sites and 20 acres or less on brownfields. Potential visual impacts of a particular facility depend on a variety of factors. However, appropriate siting and screening can be effective in reducing visual changes in the local setting, and TVA would encourage implementing these measures as necessary. Because of their limited size and their dispersed nature, cumulative changes in local visual character would be insignificant.

The solar facilities considered in the PEA have a low potential to cause socioeconomic or environmental justice-related effects. Because appropriate, feasible avoidance measures would be implemented in situations where environmental justice-related effects could occur, socioeconomic effects of the solar facilities considered under the PEA would be minor and insignificant.

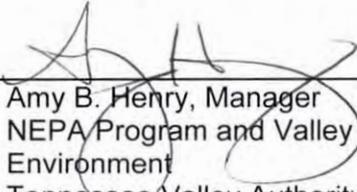
A draft of the PEA was released for public review and comment, and TVA notified various local, state, and federal agencies and federally recognized Indian tribes of the availability of the draft PEA. The comments received on the draft have been addressed in the final PEA.

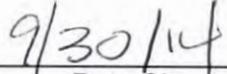
### **Mitigation**

TVA will implement, or require prospective solar facility developers to adhere to, reasonable and feasible routine environmental protection measures (e.g., implementation of construction best management practices) mentioned in the PEA. Additionally, TVA would require facility developers to comply with applicable requirements of local, state, and federal law.

**Conclusion and Findings**

Based on the findings listed above and the analyses in the EA, we conclude that the proposed programmatic action of acquiring additional solar-generated power produced by solar facilities of a certain size would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.

  
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Amy B. Henry, Manager  
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Date Signed