

## **FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY**

PLATEAU 500-KV SUBSTATION  
CUMBERLAND COUNTY, TENNESSEE

The Tennessee Valley Authority (TVA) supplies bulk electric power to the Cumberland County and Putnam County area through a network of 26 161-kilovolt (kV) substations and 28 161-kV transmission lines. Population in this area has grown at a rate of almost 1.8 percent per year since 2000. TVA studies indicate that 19 of these substations will not meet acceptable voltage criteria by 2019, and the remaining seven substations will be unable to meet criteria by 2022. Five of the 161-kV transmission lines are expected to become overloaded by summer 2019, and 11 more lines are likely to be overloaded by summer 2022. Unless action is taken, the increasing power loads caused by commercial and residential growth in the area are likely to result in overloaded transformers and other electrical equipment damage, failure, and possible power outages.

Long-range studies indicate that either a 500-kV source or extensive upgrades to existing 161-kV facilities in the Putnam County and Cumberland County area will be required by 2019 to ensure the reliable transmission of electric power to meet anticipated power loads in the area. After considering various options, TVA proposes to construct and operate the Plateau 500-kV substation southeast of Monterey, Tennessee. TVA would also construct and operate new transmission line connections from the proposed substation to the adjacent existing Roane-Wilson 500-kV and Monterey-Peavine 161-kV transmission lines. TVA would also upgrade communications and replace relay equipment at the Peavine 161-kV Switching Station, and at the Monterey 161-kV, Wilson 500-kV, and Roane 500-kV substations. The TVA map board display at TVA's System Operations Center and Regional Operations Center in Chattanooga would be updated to reflect the new transmission assets.

The proposed action is the subject of an environmental assessment (EA) prepared by TVA. The EA is incorporated by reference.

Initially, TVA considered three possible courses of action for improving the area power supply. The action options included upgrading existing facilities (Option 1), constructing a substation in Cumberland County (Option 2), and building a substation in Putman County (Option 3). The no action option was carried forward in the EA as the No Action Alternative. However, due to higher costs and the potential for increased environmental effects, the Putnam County substation and the option of upgrading existing facilities were considered infeasible and were not considered in the EA. Additionally, three potential site locations for the proposed substation in Cumberland County were considered. Based on environmental and engineering considerations, Site 3, near Plateau Road, was considered the preferred site and is the subject of the action alternative in the EA.

Consequently, the potential effects from implementing two feasible alternatives, i.e., the No Action Alternative and the Action Alternative, were addressed in the EA. Under the No Action Alternative, TVA would take no action to ensure that future power needs in the Cumberland and Putnam county area are met. As a result, increasing demands for electric power are likely to cause equipment overloads and possible failures that could result in outages.

Under the Action Alternative, TVA would construct a 500-kV substation on an approximately 73-acre site in Cumberland County, southeast of Monterey, Tennessee. TVA would retire structure 171 of the Monterey-Peavine 161-kV Transmission Line and structure 296 of the Roane-Wilson 500-kV Transmission Line, and install new structures, conductors, and associated overhead ground wires to create a loop connection to the substation. These new transmission line connections would be less than 800 feet long and would be located entirely on the property to be acquired for the proposed substation site. The Action Alternative is TVA's preferred alternative.

Potential effects related to air quality, hazardous and nonhazardous wastes, and health and safety were considered. However, because of the nature of the action, any potential effects with respect to these resources would be minor and insignificant. Thus, potential effects related to these issues were not analyzed in detail. There would be no effects to recreation and managed areas.

Potential effects to groundwater and geology, surface water, aquatic life, vegetation, wildlife, aesthetic character, and environmental justice from implementing the Action Alternative would be minor and insignificant.

Construction and operation of the proposed substation would not affect any floodplains or their functions; thus, the action is consistent with the requirements of Executive Order 11988 (Floodplain Management). Substation construction would involve filling a 0.08-acre vernal pool wetland. Because less than one tenth of an acre of wetlands would be affected, a Nationwide Permit (i.e. Nationwide Permit 12) from the U.S. Army Corps of Engineers is not required. Potential wetland effects have been minimized; thus, the proposed action is consistent with the requirements of Executive Order 11990 (Protection of Wetlands).

No threatened or endangered aquatic animals or plants would be affected by implementing the Action Alternative. Construction of the proposed substation would affect 17.80 acres of suitable potential roosting habitat for the Indiana bat, which is federally listed as endangered. Direct effects to the Indiana bat would be avoided by limiting clearing to the period between October 15, 2014 and April 1, 2015, when bats are wintering in caves. Additionally TVA entered into a Memorandum of Agreement with the U.S. Fish and Wildlife Service to provide funding to the Indiana Bat Conservation Fund to offset removal of not more than 17.80 acres of potential Indiana bat roosting habitat and any indirect or cumulative effects on the species. Suitable summer roosting habitat for the northern long-eared bat, which is proposed for federal listing as an endangered species, occurs on the property to be acquired for the substation. Because of the timing of site clearing, there would be no effect to this bat species. Thus, the requirements of Section 7 of the Endangered Species Act are satisfied. No significant impacts to the state-listed golden-winged warbler are anticipated from implementing the Action Alternative.

The property to be acquired for the proposed substation contains approximately 4.4 acres of agricultural land considered prime farmland. Establishing the substation would preclude the use of this acreage for agricultural uses for the life of the substation. The Farmland Conversion Impact Rating was less than the threshold score, indicating that use the site for non-agricultural purposes constitutes a minor loss of farmland resources. Thus, the requirements of the federal Farmland Protection Policy Act are satisfied.

Implementing the proposed project would have no effects on archaeological or architectural resources listed in or eligible for listing in the National Register of Historic Places due to the absence of such resources within the respective Areas of Potential Effects.

In January 2011, TVA published a notice of intent (NOI) in the *Federal Register* to prepare an environmental impact statement (EIS) or an environmental assessment (EA) on the proposed action. TVA invited interested parties to comment on its scope, and copies of the NOI were sent to two federal agencies, four Tennessee state agencies, and 11 elected officials.

TVA held a public scoping meeting in January 2011 in Cookeville, Tennessee to present the three options described above. Attendance was sparse, and public input was not useful in refining the existing options. Following additional engineering, environmental, and financial studies, TVA determined that Option 1 and Option 3 would not meet the identified project objectives as well as Option 2.

In July, 2011, TVA held an open house in Monterey, Tennessee to present three potential 500-kV substation sites within the Cumberland County area. A 30-day public review and comment period was held following the open house, and TVA accepted public comments. At the close of the comment period, TVA conducted field environmental surveys and civil analyses of the three alternative sites for the 500-kV substation. After considering the field data and reviewing potential transmission line connection points, TVA determined the site adjacent to Plateau Road was the most feasible location for the proposed 500-kV substation.

Because construction of the proposed substation could affect suitable potential roosting habitat for the federally listed as endangered Indiana bat, TVA consulted with the U.S. Fish and Wildlife Service in accordance with the requirements of the Endangered Species Act. Consultation led to the establishment of a Memorandum of Agreement.

### **Mitigation**

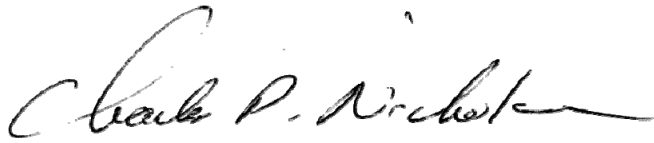
TVA will implement best management practices and other routine measures listed in Section 2.5 and in the appendices of the EA during construction, operation, and maintenance of the proposed substation and the associated transmission line connections. In accordance with the terms of the Memorandum of Agreement, the following nonroutine measures would be applied during construction of the proposed substation and transmission line connections to reduce the potential for adverse effects to Indiana bats.

- TVA will selectively remove Indiana bat roosting habitat between the dates of October 15, 2014 and April 1, 2015. The remainder of standing trees will be cleared during summer 2016. Prior to final clearing, inspection of the site will be conducted to determine if suitable Indiana bat maternity roosting structure may have developed subsequent to the initial clearing, and evening emergence observations will be conducted for any suitable maternity type roost structures present. If no bats are observed to emerge from the structures, then they will be felled within 24 hours. The observation of bat emergence would result in coordination between representatives of TVA and the USFWS.
- TVA shall contribute \$65,860 to the Indiana Bat Conservation Fund administered by the Kentucky Natural Lands Trust. That transaction was completed October 1, 2013.

### **Conclusion and Findings**

Based on the findings listed above and the analyses in the EA, we conclude that the proposed action of constructing, operating, and maintaining a 500-kV substation and associated transmission line connections would not be a major federal action significantly affecting the

environment. Accordingly, an environmental impact statement is not required. This finding is contingent upon adherence to the mitigation measures described above.



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Date Signed