

**FINDING OF NO SIGNIFICANT IMPACT**  
**TENNESSEE VALLEY AUTHORITY**  
UNIONVILLE-RALLY HILL, TENNESSEE 161-KV TRANSMISSION LINE SYSTEM  
IMPROVEMENTS  
MAURY, MARSHALL, AND BEDFORD COUNTIES, TENNESSEE

**Proposed Action and Need**

Portions of Maury, Marshall, and Bedford counties in middle Tennessee are experiencing rapid residential and industrial growth with subsequent increases in demand for electric power. An outage or equipment problem at the Tennessee Valley Authority's (TVA's) Wartrace or East Shelbyville substations, which are the sole source of power to several other substations, could cause power interruptions over a wide area.

To address these issues, the TVA is proposing to construct a new 18-mile, 161-kV transmission line connecting the distributor-owned Rally Hill and Unionville substations and to construct two additional switching stations. These improvements would provide an additional power supply to the East Shelbyville 161-kV Substation and increased flexibility in delivering power to distributor substations in the area. TVA also proposes to replace approximately 5 miles of overhead ground wire (OHGW) on existing transmission line to provide increased protection from lightning strikes, as well as installing and upgrading communication and control equipment at several locations.

TVA has reviewed the proposed action and the reasonable alternatives in an environmental assessment (EA) prepared in accordance with its procedures for implementing the National Environmental Policy Act. The EA is incorporated by reference.

**Alternatives**

Two primary alternatives, i.e., the No Action Alternative and the Action Alternative, were analyzed in the EA. Other alternatives were considered. However, adoption of these other alternatives would neither improve the long-term reliability of nor provide the necessary flexibility in the TVA transmission system in the area. Thus, these alternatives were not discussed at length in the EA. In addition, TVA examined a number of different line routing alternatives.

Under the No Action Alternative, TVA would not undertake the proposed actions. If this course of action were adopted, increasing demands for electric power in the area could eventually overload the TVA transmission system in the middle Tennessee service area, and TVA would not be able to provide additional power to meet these needs.

Under the Action Alternative, TVA would implement the following actions to improve the reliability of the TVA transmission system in the middle Tennessee power service area.

- Construct the Unionville 161-kV Switching Station adjacent to the existing Unionville 161-kV Substation to provide additional flexibility in the transmission system.
- Construct a 161-kV transmission line between the distributor-owned Rally Hill and Unionville 161-Kv Substations to provide additional interconnection in the local

transmission system. Approximately 13.5 miles of this line would parallel the existing TVA Maury-Franklin 500-kV Transmission Line and would share a portion of its right-of-way. Structure 93 on the Maury-Franklin 500-kV Transmission Line would be relocated so that is closer to Highway 31. Because the Maury-Franklin 500-kV line and the proposed 161-kV transmission line intersect (i.e., the 500-kV line would pass over the 161-kV line) near Structure 93, a taller structure would be used to meet clearance requirements for the highway and to provide adequate clearance between the two transmission lines.

- Construct the Kedron Road 161-kV Switching Station to provide additional flexibility in routing power in the local transmission system.
- Replace OHGW from structure 612 to the Rally Hill Substation on the Maury-E. Franklin Tap to Rally Hill.
- Perform minor communication and control equipment updates at the East Shelbyville Substation, the Wartrace Substation, the East Franklin Substation, the Maury Substation, the South Nashville Substation, the Regional Operations Center, and the Widows Creek Fossil Plant.

### **Impacts Assessment**

Based on the analyses in the EA, TVA determined that implementation of the Action Alternative would have minor and insignificant effects on groundwater, surface water quality, aquatic life, local vegetation and wildlife, the availability of prime farmlands, local aesthetic quality, recreational opportunities, and natural areas.

Portions of the proposed 18-mile long transmission line would be located within the 100-year floodplain. Overhead transmission lines and support structures are considered a repetitive action. The two proposed switching stations are not located within a floodplain, and the proposed replacement of OHGW would not affect floodplain values or functions. Thus, the proposed action is consistent with Executive Order 11988 (Floodplain Management). No direct, indirect or cumulative effects to wetlands are anticipated from the proposed project. Thus, the proposed action is consistent with Sections 401 and 404 of the Clean Water Act and with Executive Order 11990 (Protection of Wetlands).

Because appropriate best management practices, including establishment of streamside management zones would be implemented during construction and maintenance of the proposed facilities, no impacts to endangered or threatened aquatic species are expected. The U.S. Fish and Wildlife Service concurred with TVA's determination that the proposed actions are not likely to adversely affect leafy prairie-clover and would not affect any other federally listed plants. Adoption of the Action Alternative is not expected to cause direct or indirect impacts to threatened or endangered terrestrial animal species or their habitats. Thus the requirements of Section 7 of the Endangered Species Act are satisfied.

TVA determined that the proposed undertaking would not have an adverse effect on any historic properties that are potentially eligible or currently listed on the National Register of Historic Places. The Tennessee State Historic Preservation Officer concurred with this determination. Therefore, requirements of Section 106 of the National Historic Preservation Act are satisfied.

## Mitigation

TVA will implement best management practices and other routine measures listed in the appendices of the EA during construction and operation of the proposed transmission line, access road, and switching stations. In addition, the following non-routine measures would be applied during construction, operation, and maintenance of the proposed upgrades and facilities to reduce the potential for adverse environmental effects.

1. Areas containing endangered or threatened species, including leafy prairie-clover, would be recorded on the plan and profile sheets specific to the proposed project.
2. Clearing of woody vegetation in areas with state-listed endangered or threatened species would be accomplished with a feller-buncher.
3. Heavy equipment would not be used to re-contour, remove tree stumps, or otherwise intentionally disturb the soil profile in areas containing state-listed plant species.
4. TVA would not use aerial application of herbicide in areas where state-listed species grow.
5. The TVA right-of-way specialist overseeing clearing and construction would notify personnel at the pre-construction meeting that the leafy prairie-clover occurs in the project area.
6. Clearing of woody vegetation in areas with leafy prairie-clover would occur between November and mid-April and would be accomplished with a feller-buncher.
7. Vehicle and equipment access would be explicitly excluded from areas where leafy prairie-clover occurs.
8. TVA botanists would coordinate with TVA Power Systems Operations personnel to erect temporary fencing around areas where leafy prairie-clover occurs prior to construction.
9. Areas containing leafy prairie-clover would be revegetated only with native species or the non-native, non-invasive annual species barley, oats, rye, winter wheat, or perennial ryegrass.
10. TVA would not use aerial application of herbicide in areas where leafy prairie-clover grows; mowing or hand clearing would be the primary method of controlling woody vegetation in the right-of-way. Any future use of low volume application of herbicide to control woody species in these areas would be approved through consultation with the U.S. Fish and Wildlife Service.
11. TVA botanists would visit the sites where leafy prairie-clover occurs during July or August the year following construction and would report to the U.S. Fish and Wildlife Service on the effectiveness of the mitigation measures.

TVA has not identified the need for any other non-routine mitigation measures to further reduce potential environmental impacts.

## Conclusion and Findings

Portions of the proposed 18-mile long transmission line would be located within the 100-year floodplain. Overhead transmission lines and support structures are considered a repetitive action. The two proposed switching stations are not located within a floodplain, and the proposed replacement of OHGW would not affect floodplain values or functions. Thus, the proposed action is consistent with Executive Order 11988 (Floodplain Management).

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Based on the findings listed above and the analyses in the EA, TVA concludes that the proposed action involving the construction of an 18-mile 161-kV transmission line and two 161-kV switching stations, the replacement of 5 miles of OHGW, and the minor equipment upgrades mentioned above 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 provided above.



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Susan J. Kelly, Senior Manager  
Federal Determinations  
Environmental Permits and Compliance  
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Date Signed