

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
WATTS BAR HYDRO PLANT-GREAT FALLS HYDRO PLANT 161-KV
TRANSMISSION LINE TAP TO SPENCER & GREAT FALLS HYDRO
PLANT-SPENCER 46-KV TRANSMISSION LINE RETIREMENT AND
REMOVAL
VAN BUREN AND WARREN COUNTIES, TENNESSEE

Caney Fork Electric Cooperative (CFEC), a distributor of Tennessee Valley Authority (TVA) power, is upgrading its existing Spencer 46-kV Substation to 161-kV capability and CFEC has requested that TVA provide a new 161-kV delivery point. TVA proposes to supply electric power to the upgraded substation by constructing, operating, and maintaining approximately 4.6 miles of new 161-kilovolt (kV) transmission line (TL).

The electrical facilities that supply power to the Spencer, Tennessee area are becoming inadequate. TVA currently serves the Spencer area via the 18.5-mile-long Great Falls Hydro Plant-Spencer 46-kV TL from the Great Falls Hydro Plant. The Great Falls Hydro Plant transformers that serve this substation are over 65 years old and have been given a risk of failure of greater than 95 percent. Sections of this TL have an original in-service date of 1913, with other portions being in service from 1969. If this TL, or the associated equipment at the Great Falls Hydro Plant, fails, TVA would be unable to provide power to the Spencer area.

To ensure that the Spencer area has a continuous, reliable source of electric power, TVA needs to provide new 161-kV power supply to the upgraded Spencer 161-kV Substation. The construction of a new TL would meet this need by providing a delivery point, as requested by CFEC, thereby improving reliability in CFEC's service area. The proposed project would also allow TVA to meet reliability criteria and respond to residential and commercial growth in the area.

After the completion of the proposed Watts Bar Hydro Plant-Great Falls Hydro Plant 161-kV TL Tap To Spencer, TVA proposes to retire and remove the existing Great Falls Hydro Plant-Spencer 46-kV TL. TVA would also retire equipment in the Great Falls Hydro Plant 46-kV switchyard associated with the Great Falls Hydro Plant-Spencer 46-kV TL.

The potential environmental effects of this proposed action are described in an environmental assessment (EA), which is incorporated by reference.

Alternatives

The subject EA evaluates two alternatives in detail, i.e., the No Action Alternative and the Action Alternative (Construct, Operate, and Maintain a New 161-kV Transmission Line and Retire an Existing 46-kV Transmission Line). TVA also considered other alternatives, including alternative TL routes, in identifying its preferred action alternative.

Under the No Action Alternative, TVA would not construct the proposed 161-kV TL to serve CFEC's upgraded Spencer 161-kV Substation or retire and remove the 18.5 miles of existing Great Falls Hydro Plant-Spencer 46-kV TL. However, CFEC could independently decide to

build a new TL to provide power to the substation. The distributor could use the route identified by TVA, or it could select another route. Alternatively, CFEC could decide not to upgrade the Spencer 46-kV Substation. In this event, continued operations under the current conditions would increase the risk for loss of service and violations of reliability criteria. TVA's ability to continue to provide reliable power to the Spencer area would be jeopardized.

Under the Action Alternative, TVA would serve CFEC's upgraded Spencer 161-kV Substation by building a 4.6-mile-long 161-kV TL connecting the substation to TVA's existing Watts Bar Hydro Plant–Great Falls Hydro Plant 161-kV TL. The new TL would be located on new 100-foot-wide right-of-way (ROW). A short, permanent access road would be constructed to facilitate access to two switches structures.

Additionally, TVA would retire various equipment in the Great Falls Hydro Plant 46-kV switchyard associated with the Great Falls Hydro Plant Spencer-46-kV TL. TVA system's map boards would be modified to include the names and numbers of the new TL and remove the name and number of the Great Falls Hydro Plant-Spencer 46-kV TL.

Impacts Assessment

The EA documents potential effects to the following resources: land use; aquatic life; vegetation; wildlife; endangered and threatened species (aquatic animals, terrestrial animals, and plants) and their critical habitats; water quality; floodplains; wetlands; archaeological and historic resources; aesthetic resources; recreation, parks, and managed areas; socioeconomics and environmental justice, and transportation.

If the No Action Alternative were adopted, TVA would not construct or operate a new 161-kV TL to serve CFEC's planned upgraded Spencer 161-kV Substation. Thus, environmental conditions along the proposed ROW would remain unchanged. However, if CFEC were to independently provide transmission service by constructing a new TL, the potential environmental effects of implementing the No Action Alternative would be comparable to those resulting from the adoption of the Action Alternative, depending on factors such as the route chosen for the TL and the construction methods. In the event that CFEC chose not to upgrade the Spencer 46-kV Substation, the reliability of the local power supply would continue to degrade, and the area could lose residential, commercial, and industrial development opportunities. Potential socioeconomic effects under the No Action Alternative would likely affect all populations in the region negatively.

The majority of the ROW for the proposed 161-kV TL is forested with limited areas of pasture. Pasture and other agricultural operations are consistent with TL operations. Under the Action Alternative, approximately 50 acres of forested land within the proposed 161-kV ROW would be cleared. The construction of the proposed TL would require changes in land use from forest to early successional habitats; however, potential effects to vegetation, local wildlife populations or habitat, or aquatic life would be minor and insignificant. Potential effects from electromagnetic fields (EMF) would be minor, and the proposed 161-kV TL would not pose an increased hazard for electric shock or from lightning. Because construction of the proposed 161-kV TL would be short-term, potential effects to local air quality would be minor and insignificant, and the amount of solid waste produced would be minor. Solid waste generated by the removal of the Great Falls Hydro Plant-Spencer 46-kV TL would be reused, recycled, or disposed of according to TVA's environmental protection procedures.

Along the existing 46-kV TL, about 220 acres of ROW is currently maintained in early successional habitat. For the majority of the TL, the retired structures and poles would either be

removed or cut off four to six feet above the ground. . TVA would install signage to mark ROW throughout and, depending on future electrical transmission needs, could reestablish the full use of this ROW at a later date. After this 46-kV TL is retired and removed, TVA would cease maintenance of the ROW likely resulting in an increase in forest in the existing ROW. Not all of that land would transition to forest when vegetation maintenance stops. Some portion of that area would continue to be mowed by individual landowners or is currently surrounded by agricultural fields or other open lands. Potential effects to vegetation, local wildlife populations or habitat, or aquatic life would be minor and insignificant.

In order to minimize impacts to potential summer roosting habitat for the Indiana bat and northern long-eared bat, TVA **Error! Bookmark not defined.** would enter into a conservation agreement with the United States Fish and Wildlife Service (USFWS) and implement mitigation **Error! Bookmark not defined.** measures on the timing of timber harvesting prior to any clearing or construction along the proposed ROW. With implementation of these mitigation measures, impacts on federally listed species would not be adverse. Fulfilling the terms of the conservation agreement will satisfy TVA's obligations under Section 7 of the Endangered Species Act.

A small population of about 20 white fringeless orchid individuals within the existing 46-kV ROW would be negatively affected. Open habitats like maintained transportation and utility ROW provide important habitat for white fringeless orchid. TVA is proposing to minimize indirect impacts caused by the habitat conversion from the lack of vegetation maintenance working with Tennessee Department of Environment and Conservation and the USFWS to relocate white fringeless orchid plants to unoccupied suitable habitat on property owned by the State of Tennessee during the fall of 2016. Further, direct impacts would be minimized by avoiding known populations during the January 2017 deconstruction of the Great Falls Hydro Plant-Spencer 46-kV TL.

With the use of appropriate best management practices, potential effects to surface water, groundwater, and wetlands would be minor and insignificant. The proposed TL would not cross floodplain areas. As such, construction, operation, and maintenance of the proposed 161-kV TL and retirement and removal of the 46-kV TL would not have an impact on floodplains. In compliance with the CWA and EO 11990, TVA has considered all alternatives to avoid and minimize wetland impacts, resulting in the least wetland disturbance practicable and determined that there is no practicable alternative to completely avoid all wetland impacts.

TVA consulted with the Tennessee State Historic Preservation Office (SHPO), 12 federally recognized Native American tribes, and USFWS concerning the proposed project. The proposed project would have no adverse effect on archaeological site 40VB145 with the use of BMPs and avoiding structure placement within the site boundary.

TVA and SHPO have agreed that the proposed action to retire and remove the 46-kV TL would result in an adverse effect on Segment 01 of the Great Falls Hydro Plant-Spencer 46-kV TL. In addition, as a contributing resource this adverse effect would likewise result in an adverse effect on the Great Falls Hydro Plant (NRHP-listed as the Great Falls Hydroelectric Plant) even though the hydro plant is located outside of the affected project area. TVA and the SHPO have agreed to enter into a Memorandum of Agreement (MOA) for the mitigation of the undertaking's adverse effects on these two historic properties. The MOA stipulates the measures that TVA will perform as mitigation for the adverse effects. TVA has proposed that these measures include 1) the preparation of historic American engineering record documentation for Segment 01 of the Great Falls Hydro Plant-Spencer 46-kV TL and submitting that documentation to the

U.S. National Park Service (USNPS) for review; and 2) in-place preservation of representative examples of steel A-frame TL structures that are part of Segment 01, and therefore historically associated with the Great Falls Hydro Plant. Accordingly, TVA's obligations under Section 106 of the NHPA for the construction of the proposed 161-kV TL, deconstruction of the existing 46-kV TL, and associated access roads have been met. The TN SHPO has concurred with TVA's determination of these effects in letters dated July 13, 2015, November 5, 2015, November 6, 2015, and November 16, 2015. None of the 12 consulted tribes identified such properties or objected to the proposed Undertaking.

Most changes in local visual character would occur during TL construction or removal. The visual presence of the new 161-kV TL would not contrast significantly with the established landscape character. Removal of the existing 46-kV TL would result in a more natural view to local residents. Construction, operation, and maintenance of the proposed 161-kV TL and removal of the 46-kV TL could cause minor shifts in local informal recreation. Fall Creek Falls State Park and Bridgestone/Firestone Centennial WMA are located a sufficient distance away from the proposed 161-kV TL such that there would be no impacts to these areas. Eight structures and an access road associated with the 46-kV TL are located within Rock Island State Park. These features are within the existing ROW, and are within the boundaries of the Collins River Trail. Although this trail would likely be closed during construction, impacts associated with removal of structures are minor and temporary.

A portion of the existing 46-kV TL that is proposed for retirement and removal crosses the Rocky River, listed on the Nationwide Rivers Inventory (NRI). TVA considered the possible indirect and direct effects to the natural, cultural, and recreational values of this NRI-listed stream and determined there would be no adverse effects. TVA determined overall impacts to this section of the Rocky River associated with the proposed 46-kV TL removal would be positive. In communication with the USNPS on February 1, 2016, it was determined that no consultation would be necessary. No Wild and Scenic Rivers would be affected. Eight structures and an access road associated with the 46-kV TL are located within Rock Island State Park. These features are within an existing ROW, and are within the boundaries of the Collins River Trail. Impacts associated with removal of structures, such as trail closures during the construction phase, would be minor and temporary. The new 161-kV TL would be routed through one parcel of land that has an existing conservation easement limiting development. ROW construction would result in the clearing of approximately 17 acres (less than one percent) of this 3,571-acre parcel. The proposed construction would also occur within the drainage area of Rumbling Cave, a geologically and biologically sensitive cave system. Three natural areas are within five miles of the proposed 161-kV TL project area, but are located a sufficient distance away from the TL such that there would be no impacts to these areas.

The socioeconomic effects caused by inadequate power supplies would be addressed under the Action Alternative. Minor temporary effects could be experienced during TL construction; however, no noticeable adverse social or economic effects, including changes in local property values, are likely. Potential effects on traffic would likely be minor and short-term in nature.

Public and Intergovernmental Review

TVA developed a public communication plan that included a website with information about the project, a map of the alternative TL routes, and feedback mechanisms. Public officials were briefed on the project. Potentially affected property owners, along with nine public officials, were specifically invited to a project open house. TVA used local news outlets and placed notices in the local newspapers to notify other members of the public of the open house.

At the open house, TVA presented a network of 14 alternative TL routes comprised of 21 different line segments and two tap points. A 30-day public review and comment period was held following the open house, and TVA accepted public comments on the proposed action.

TVA consulted with the USFWS, the Tennessee Department of Transportation, and 11 federally recognized Native American tribes concerning the proposed project.

Mitigation

TVA will implement, or require adherence to, the routine measures listed in the EA during the construction and operation of the proposed 161-kV TL, existing 46-kV TL, and associated access roads. In addition, the following non-routine measures would be applied during construction and operation of the proposed 161-kV TL and existing 46-kV TL to reduce the potential for adverse environmental effects.

1. In accordance with the stipulations of the MOA between TVA and the Tennessee SHPO, TVA has proposed that these measures include the following:
 - The preparation of historic American engineering record documentation for Segment 01 of the Great Falls Hydro Plant-Spencer 46-kV TL and submitting that documentation to the USNPS for review; and
 - In-place preservation of representative examples of steel A-frame TL structures that are part of Segment 01, and therefore historically associated with the Great Falls Hydro Plant.
2. A plant species proposed for federal listing as threatened, white fringeless orchid, occurs in the project area. In order to minimize impacts to this plant along the 46-kV ROW, the following measures will be implemented where this species was identified:
 - TVA, in conjunction with TDEC and the USFWS, would transplant all white fringeless orchid present on the Great Falls Hydro Plant-Spencer 46-kV TL ROW to conservation land on state property during the fall of 2016.
 - TVA would limit impacts to the white fringeless orchid by avoiding known populations during the January 2017 deconstruction of the Great Falls Hydro Plant-Spencer 46-kV TL.
3. Potential Indiana bat and northern long-eared bat summer roosting habitat occurs in the project area. In order to minimize adverse effects to the Indiana bat, the following identified measures would be implemented:
 - To prevent direct impacts to Indiana bats northern long-eared bats during operations and maintenance activities, any removal of trees located within or adjacent to the proposed 161-kV ROW would be seasonally restricted.
 - Prior to the commencement of construction, consultation with the USFWS under Section 7 of the ESA would be completed. TVA would enter into a conservation agreement with the USFWS to offset indirect impacts to Indiana bat and northern long-eared bat potentially resulting from the removal of suitable habitat for these species. No ground-disturbing activities would occur until TVA has completed consultation and fulfilled its obligations under Section 7.

The mitigation measures are described in more detail in the EA, in Section 2.6. TVA has not identified the need for any other non-routine mitigation measures to further reduce potential environmental impacts.

Conclusion and Findings

Based on the findings in the EA, TVA concludes that the construction of the proposed Watts Bar Hydro Plant-Great Falls Hydro Plant 161-kV TL Tap To Spencer and the retirement and removal of the Great Falls Hydro Plant-Spencer 46-kV TL as described under the Action Alternative will not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required. This finding of no significant impact is contingent upon adherence to the permit conditions and mitigation measures described above.



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Date Signed