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FINDING OF NO SIGNIFICANT IMPACT

TENNESSEE VALLEY AUTHORITY

GALLATIN FOSSIL PLANT-ANGELTOWN 161-KV TRANSMISSION LINE
AND SWITCHING STATION - POWER SYSTEM IMPROVEMENTS
SUMNER COUNTY, TENNESSEE

The Proposed Action and Need

Tennessee Valley Authority (TVA) proposes to improve the existing power supply system in the Middle Tennessee area by constructing and operating approximately 19.6 miles of new 161-kilovolt (kV) transmission line and a new switching station in Sumner County. TVA plans its transmission system according to industry-wide standards provided by the North American Electric Reliability Corporation (NERC) and the National Electrical Safety Code (NESC). The standards state that the power supply system must be able to serve customer loads with adequate voltage and no equipment damage while maintaining adequate line clearances. There has been a growing demand for electric power in the Gallatin, Portland, and Lafayette areas of Middle Tennessee causing electric loads to increase. Models forecast that based on normal electric load growth, by summer 2011, the potential failure of the East Gallatin-Portland 161-kV Transmission Line would cause the Gallatin FP-Lafayette 161-kV Transmission Line to overload. This could result in the voltage at the East Gallatin 161-kV Substation dropping below TVA transmission planning criteria.

To ensure that the Gallatin, Portland, and Lafayette areas have continuous, reliable service, TVA needs to provide additional electric service to the area. The proposed action would allow TVA to meet the increasing need for power by relieving the overloading of existing equipment and improving reliability in the Sumner County area of Middle Tennessee and thereby allowing TVA to meet NERC Transmission Planning Reliability Standards. Additionally, the proposed action would allow TVA to ensure the area continues to be provided with an affordable source of power for continued economic health and residential and commercial growth in the area.

TVA has assessed the impact of the proposed action in an environmental assessment (EA) prepared in accordance with its procedures for implementing the National Environmental Policy Act (NEPA). This EA is incorporated by reference.

Alternatives

Two primary alternatives, i.e., the No Action Alternative and an Action Alternative, were analyzed in the EA. Under the No Action Alternative TVA would continue to use the existing infrastructure and reliability would be compromised as area demand for electricity grows.

Under the Action Alternative, TVA would add approximately 3.7 miles of 161-kV transmission line to the vacant side of the existing double-circuit Gallatin Fossil Plant (FP)-Hoeganaes 161-kV Transmission Line and rebuild about 2.5 miles of the existing Gallatin-Hartsville 69-kV Transmission Line with a new double-circuit 161-kV transmission line. This 6.2-mile section of transmission line would be constructed on approximately 75 acres of existing, 100-foot-wide right-of-way (ROW). In addition, TVA would construct about 13.4 miles of single-circuit transmission line on new 100-foot-wide ROW occupying about 163 acres. The switching station would be constructed on approximately 10-acres of undeveloped land. TVA also proposes to make minor modifications to existing facilities in connection with the proposed action.

TVA considered various means of improving the power supply to the Middle Tennessee area while planning this project. In addition to the proposed action (the Preferred Alternative) and the No Action Alternative, TVA considered other potential alternatives including 1) upgrading 42 miles of transmission line and installing a capacitor bank; 2) constructing the proposed 19.6-mile transmission line, but terminating into the existing Portland-Westmoreland 161-kV Transmission Line instead of a new switching station; 3) constructing 100 miles of new 500-kV transmission line and a new 500-kV substation; 4) constructing either a new 15-mile transmission line and new switching station or a 20-mile transmission line; and 5) installing transmission lines underground instead of overhead. However, adoption of these other alternatives would either not improve the long-term reliability of the TVA transmission system in the area or cost substantially more than the Preferred Alternative. In addition, TVA examined a number of different line routing alternatives.

Impacts Analysis

Under the No Action Alternative, TVA would not undertake the proposed actions to improve the reliability of the TVA transmission system. If this course of action were adopted, either the loss of an existing transmission line serving the area or the 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.

Based on the analyses in the EA, TVA has concluded that implementation of the Action Alternative would have no impact or minor and insignificant impacts on surface water, prime farmland, recreation including parks and natural areas, and aesthetics including visual, noise, and odor. The project area is located within karst terrain; however, with implementation of best management practices (BMPs) to avoid groundwater contamination during construction and maintenance activities, the proposed action would have insignificant impacts on groundwater. The project would affect a total of 124 watercourses (25 perennial, 28 intermittent, and 61 wet-weather conveynces) and 10 ponds. Some turbity from increased sedimentation during construction is anticipated, but with implementation of stormwater permit conditions, BMPs and additional protection measures, impacts to the affected watercourses are expected to be minor and insignificant. Approximately 70 acres of forestland would be cleared for the proposed transmission line ROW. This would increase the fragmentation of forests along the proposed transmission line route, and plant and wildlife communities would be affected. Since the affected forest types are common throughout the region, and the recovery of herbaceous plant communites to preproject conditions is expected to occur in less than one year, impacts to plant or wildlife communities would be minor and insignificant. Much of the project area currently has a large component of invasive terrestrial plants. The use of TVA standard operating precedures for revegetating with noninvasive species would help prevent the further introduction and spread of invasive species within the affected project area. Other impacts on vegetation and wildlife would be insignificant. Effects to floodplain functions are anticipated to be insignificant and consistent with Executive Order (EO)11988.

No federally designated critical habitat occurs in the proposed project area. Five federally listed endangered or threatened species are known to occur in Sumner County as well as the recently delisted bald eagle. Habitat does not occur within the project area for three of these species and one species is a historical record and likely no longer occurs in the area due to habitat loss. The proposed action would have no effect on the federally listed pink mucket because the project would not affect the riverine habitats where this species occurs. Federally listed gray bat is known from Sumner County and Indiana bat is known from the adjacent county. No cave habitat would be affected by the proposed action. However, marginal foraging habitat for both species could be affected temporarily as a result of disturbance associated with heavy equipment crossing streams or soil disturbance adjacent to watercourses during construction

and maintenance activities. Approximately 0.25 mile of potentially suitable Indiana bat summer roosting habitat was identified along the proposed ROW. With the implementation of a precautionary mitigation measure restricting the removal of trees within or adjacent to the identified habitat and implementation of BMPs and streamside management zones (SMZs), TVA determined that the proposed actions are not likely to adversely affect the Indiana bat or gray bat. The U.S. Fish and Wildlife Service has concurred with this determination and TVA's obligations under Section 7 of the Endangered Species Act have been fulfilled. Because appropriate BMPs, including establishment of SMZs would be implemented during construction and maintenance of the proposed facilities, impacts to state-listed endangered or threatened species are expected to be short term and insignificant.

TVA has determined that the proposed undertaking would not adversely affect any historic properties eligible for or listed in the National Register of Historic Places. The Tennessee State Historic Preservation Officer has concurred with this determination. The Chickasaw Nation and the Shawnee Tribe found no effect to religious or cultural properties of these tribes from the proposed action.

ROW clearing would convert 0.11 acres of moderate-quality forested wetlands to emergent/scrub-shrub wetlands. An additional 0.19 acre of emergent/scrub-shrub wetlands located within the ROW would be spanned and allowed to continue functioning in the same capacity as current conditions. Because BMPs would be implemented during transmission line construction and ROW maintenance, potential effects to wetlands and to water quality would be minor and insignificant. Use of BMPs and vegetation management would minmize impacts to wetlands consistent with the requirements under EO 11990.

Mitigation

TVA will implement BMPs and other routine measures listed in the appendices of the EA during construction, operation, and maintenance of the transmission line, access roads, and switching station proposed in the Action Alternative. In addition, the following nonroutine measure would be applied during construction of the proposed transmission line to reduce the potential for adverse environmental effects.

- During construction, the removal of trees located within or adjacent to this identified 0.25-mile area of the proposed ROW would be seasonally restricted to prevent directly impacting the Indiana bat. The removal of trees within this section of proposed ROW would occur during a time period between November 15 and March 31. However, should it become necessary to remove a tree outside of this time frame, TVA would conduct a bat mist-net survey and acoustic survey between June 1 through August 15 and prior to the removal of any trees within this 0.25-mile area. Documentation of Indiana bat use of this area following this survey would require additional consultation with the USFWS.

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

Conclusion and Findings

Based on the findings listed above and the analyses in the EA, we conclude that implementing the Action Alternative involving the construction, operation, and maintenance of new transmission lines and a switching station, as well as modifications to existing facilities, 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 measure described above.

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Federal Determinations
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Date Signed