

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
Anderson 500-kV Substation and Associated System Modifications

The Tennessee Valley Authority (TVA) proposes to construct a 500-kV substation on TVA property (TVA Tract No. MHR-1) located near TVA's Bull Run Fossil Plant (BRF) in Anderson County, Tennessee. Power for Knoxville, Tennessee and the surrounding areas has been mainly supplied from BRF which TVA is planning to close by 2023. The impending loss of power generation at BRF has necessitated the need to upgrade the transmission system to ensure the electric load on the power grid is not disrupted and the surrounding area's future and present power needs are met. The proposed action would ensure TVA's Bulk Transmission System is able to continue to operate reliably within North American Electric Reliability Corporation (NERC) Standards and would provide operational flexibility once power generation ceases at BRF.

The proposed action is the subject of an environmental assessment (EA) prepared by TVA. The EA is incorporated by reference. Additional analysis on the change in volume and location of the spoil from the substation construction has also been taken into account for this revised finding of no significant impact (FONSI)

Alternatives

Two alternatives are addressed in this EA. Under the No Action Alternative (Alternative A), TVA would not implement the proposed action. As a result, the TVA power system in Knoxville and the surrounding areas would continue to operate under the current conditions, increasing the risk for substation and transmission line overloading, loss of service, and occurrences of violations of NERC reliability criteria. TVA's ability to provide reliable service within the TVA Power Service Area would be jeopardized, which would not support TVA's overall mission. The potential environmental effects of adopting the No Action Alternative were considered in the EA to provide a baseline for comparison with respect to the potential effects of implementing the proposed action.

Under the Proposed Action Alternative (Alternative B), TVA would build a new 500-kV substation on TVA Tract No. MHR-1 and modify other TVA transmission system assets. TVA has determined the area of potential effects (APE) to be the entire approximate 50-acre tract. A fenced enclosure would surround the proposed substation occupying roughly 14 acres. In addition, about nine acres would be utilized for spoil.

In the final EA/FONSI released on May 29, 2020 (May 29, 2020 EA/FONSI), spoil material from the construction of the substation would have been hauled to the Bull Run Fossil plant (BRF) utilizing public roads. TVA has since reevaluated this option and determined that approximately 151,750 cubic yards of spoil material would likely be generated from site preparation, of which roughly 92,000 cubic yards would be utilized on site as required for substation site preparation and construction. This is a larger quantity of spoil material than was originally anticipated in May 29, 2020 EA/FONSI. The remaining roughly 60,000 cubic yards of spoil material could be located onsite utilizing roughly 3.4 acres southwest of the proposed substation. TVA has evaluated this change and determined that it does not present potential environmental effects that are significantly different than those already analyzed in the May 29, 2020 EA/FONSI. Specifically, additional analyses of this area provided that no new resources would be impacted,

and the impact determination for the project would not change from the original FONSI. Additionally, this modified approach would avoid the need for off-site transport, thereby avoiding noise and transportation related impacts.

Impacts Assessment

In the EA, TVA identified relevant environmental issues and reviewed the potential impacts of implementing the proposed substation and transmission system modifications. Following the release of the May 29, 2020 EA/FONSI, TVA reviewed the potential impacts of a greater volume of spoil being hauled off-site and also impacts of depositing it onsite. TVA analyzed potential impacts to the following environmental resource areas:

- *Surface Water,*
- *Aquatic Ecology,*
- *Threatened and Endangered Species and their Critical Habitats*
- *Noise and Vibration*
- *Transportation*
- *Land Use, Soils and Prime Farmland*
- *Archaeological and Historic Resources.*

TVA also considered potential effects related to wetlands, vegetation, wildlife, groundwater and geology, socioeconomics and environmental justice, visual resources, air quality, waste, and health & safety. These resources were eliminated from additional detailed analysis due to either their absence within the study area, impacts to the resource could be avoided, or their impacts were determined to be anticipated as temporary, minor, and/or insignificant.

Generally, TVA's analysis found that most environmental resources would be minimally affected by the proposed action. After a review of the proposed action by TVA subject matter experts, the project was found to have no effect to threatened or endangered terrestrial plant species and aquatic species. With appropriate implementation of BMPs and procedures that are designed to avoid and minimize impacts to federally or state-listed species during site preparation, construction, and on-going maintenance activities, and adherence to guidelines in the programmatic biological assessment for bats, the proposed TVA action is expected to have only minor effects on federally or state-listed species.

Both direct and indirect impacts to surface waters would occur. One intermittent stream and one ephemeral/wet-weather conveyance (WWC) would be directly impacted by the substation construction either due to the filling in of a portion of the stream or encapsulation/ rerouting. It was determined there was no practicable alternative to constructing the substation over the unnamed intermittent tributary. One additional WWC was identified in the area proposed for spoil. All other actions would be consistent with EO 11988. Aquatic life within the intermittent stream proposed for encapsulation would be directly affected. Required mitigation for these direct impacts would be based on approximately 730 required Functional Feet (FF) stream credits to minimize impacts. The proposed spoil area would be located outside the 100-yr floodplain, which would be consistent with EO 11988. Any impacts to streams or floodplains in the project area would be expected to be minor, temporary impacts with the proper implementation of standard best management practices (BMPs), streamside management zones, and mitigation measures.

Borrow would be obtained from a previously developed and permitted borrow site, and the transport of borrow would utilize existing roads such that no new roads would need to be

constructed. Traffic generated during the construction phase is expected to be minor and localized and would be intermittent and short-term in nature. Minor visual discord above ambient levels would be produced during construction and maintenance activities. The proposed substation would present a minor, long-term visual effect.

Melton Hill Lake trail, the Centennial Golf Course, and Haw Ridge Park are between 130 and 310 feet from the new substation. The proposed spoil location is located about 950 feet from Haw Ridge Park. There could be minor, temporary negative impacts to users of the Melton Lake Greenway trail during construction. Until project completion and the spoil area has been reseeded and landscaped, users of these recreational areas could experience a minor, temporary change to the viewshed due to the spoil deposition. However, no significant direct or indirect impacts are anticipated to natural areas, Wild and Scenic Rivers, National River Inventory streams, ecologically critical areas, federal, state, or local park lands, national or state forests, wilderness areas, scenic areas, wildlife management areas, recreational areas, greenways, or trails from construction or operation of the Anderson Substation. The minor loss of prime farmland within the substation footprint (9.2 acres) and spoil area (0.9 acre) is negligible when compared to the amount of land designated as prime farmland within the surrounding region. Therefore, impacts to prime farmland soils would be minor. All associated modifications to the existing transmission system would take place within the existing transmission line right-of-way.

Construction noise may be distracting to users along a short segment of the Melton Hill Lake Greenway trail or a single hole on the Centennial Golf Course, however, noise impacts would not detract from the overall use of these recreational facilities. Users of adjacent Haw Ridge Park and the Centennial Golf Course could experience noise levels of up to 80.9 dBA and 81.5 dBA, respectively, while noise along the trail could occasionally surpass 85 dBA along the segment that passes through the project's limits of disturbance. Overall, temporary, minor noise above ambient levels would be produced during construction, operation and maintenance activities. In the event explosive blasting is required during construction, vibration impacts would be temporary and minor.

No archaeological sites are present and none would be affected by the project as proposed. Two National Register of Historic Places (NRHP)-listed properties would be affected by the proposed substation, however, the effect would not be adverse. A minor change to the viewshed would occur to a third NRHP-listed property as a result of the substation construction. TVA would leave wooded vegetation creating a visual buffer so as to not compromise the historical significance for which the property has been determined eligible for the NRHP. In consultation with the Tennessee State Historic Preservation Office and federally recognized Indian tribes, TVA finds that the proposed undertaking would result in no adverse effects on historic properties.

Public Involvement and Intergovernmental Review

Pursuant to Section 106 of the National Historic Preservation Act, TVA consulted with the Tennessee State Historic Preservation Officer (SHPO) requesting concurrence that the proposed action of substation construction and transmission system modifications would have no effect on cultural resources. The SHPO concurred with this determination in a letter dated January 23, 2020. TVA re-consulted with SHPO regarding the newly proposed spoil area on a 9-acre portion of the Anderson Substation property to the southwest of the substation site. On November 2, 2020, the TN SHPO concurred with TVA's findings. TVA also consulted with federally recognized Indian tribes on the proposed undertakings. TVA received no responses.

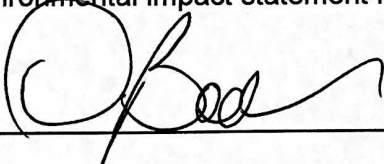
Mitigation Measures

TVA would implement the routine environmental protection measures listed in the EA. In addition to those routine measures, the following non-routine measures would be implemented to reduce the potential for adverse environmental effects.

- A number of activities associated with the proposed project were addressed in TVA's programmatic consultation with the U.S. Fish and Wildlife Service on routine actions and federally listed bats in accordance with ESA Section 7(a)(2) and completed in April 2018. For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. TVA will integrate BMPs during construction and maintenance to minimize potential impacts to foraging bat habitat as described and in accordance with TVA's Programmatic Consultation on Bats on routine actions.
- There are currently no stream restoration credits available at local mitigation banks. As such, to compensate for direct impacts to streams TVA will contract with a 3rd party to complete a Permittee Responsible Mitigation project scaled to account for approximately 730 FF stream credits.
- TVA will leave in place the vegetative, wooded area between the J. B. Jones house and the proposed substation, the unused spoil material, and the new transmission line structures to create a visual buffer.

Conclusion and Findings

Based on the findings and the analyses in the EA, and this subsequent analyses on locating construction spoil onsite rather than to BRF, TVA continues to conclude that the proposed action to construct, operate, and maintain the new Anderson 500-kV Substation and to modify associated transmission and communication assets would not be a major federal action significantly affecting the environment. Accordingly, consistent with the prior finding, an environmental impact statement is not required.



Dawn Booker, Manager

12-04-2020

Date Signed

NEPA Program

Tennessee Valley Authority