



TENNESSEE VALLEY AUTHORITY

Allen Aeroderivative Combustion Turbine Project

AGENCY: Tennessee Valley Authority.

ACTION: Record of Decision.

SUMMARY: Tennessee Valley Authority (TVA) has decided to implement the preferred alternative identified in its Final Environmental Impact Statement (EIS; Document ID EISX-455-00-000-1730803146) for the construction and operation of six aeroderivative combustion turbine (CT) units at its existing Allen CT facility located in Memphis, Tennessee. Under the preferred alternative, TVA would construct and operate the new units to generate approximately 200 megawatts (MW) of power to provide dispatchable generation to support the continued system load growth experienced in the TVA power service area and increase the flexibility and reliability of TVA's power system by improving TVA's transmission system stability in western Tennessee.

FOR FURTHER INFORMATION CONTACT: Matthew Higdon, NEPA Specialist, Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902; telephone 865-632-8051; email mshigdon@tva.gov. The Final EIS, this Record of Decision, and other project documents are available on TVA's website at <https://www.tva.gov/allenct>.

SUPPLEMENTARY INFORMATION: This notice is provided in accordance with the National Environmental Policy Act (NEPA), as amended (42 U.S. Code [U.S.C.] §§ 4321 et seq.) and TVA's NEPA procedures (18 CFR part 1318).

TVA is a corporate agency and instrumentality of the United States that provides electricity for 153 local power companies (LPC) serving approximately 10 million people as well as directly serving commercial, industrial, and government customers in the

Tennessee Valley—an 80,000-square-mile region comprised of Tennessee and parts of Virginia, North Carolina, Georgia, Alabama, Mississippi, and Kentucky.

Planning Basis and Assumptions

In 2019, TVA completed its IRP and associated IRP EIS. The 2019 IRP identified various energy resource options that TVA may pursue to meet the energy needs of the Tennessee Valley region over a 20-year planning period. The strategic direction established by the 2019 IRP and results from recommended near-term actions formed the basis for TVA's asset strategy, which continues to support affordable, reliable, and cleaner energy for customers. The 2019 IRP recommendation optimizes TVA's ability to create a more flexible power-generation system that can successfully meet changing load demands and integrate increasing amounts of renewable energy sources while ensuring reliability. TVA's target power supply mix includes firm, dispatchable power, which refers to a generating resource that can adjust power output up or down on demand within the specific operating limitations of that resource, thus increasing system reliability and resiliency. The 2019 IRP remains valid and continues to guide future generation planning until TVA updates its IRP and the TVA Board of Directors approves new recommendations.

The 2019 IRP identified the need for up to 5,200 MW of new CT units by 2028. Aeroderivative CT units are highly efficient and can be operated year-round to meet the fluctuating demand on the power system, including overnight, during cold pre-dawn winter mornings, and during warm summer evenings as solar generation fades.

Alternatives Considered

TVA prepared the Final EIS pursuant to NEPA to assess the environmental effects associated with constructing and operating the new units at the existing facility site, utilizing existing natural gas and transmission infrastructure to meet system-wide generation demands. The Notice of Availability (NOA) for the Final EIS was published in the *Federal Register* on July 18, 2025.

In the Final EIS, TVA assessed two alternatives: Alternative A – No Action, and Alternative B – Construction and operation of six aeroderivative CT units at the Allen CT facility. In the Final EIS, TVA identified Alternative B as its preferred alternative and summarized the other alternatives it considered but eliminated from detailed evaluation.

Alternative A: No Action Alternative - Under the No Action Alternative, TVA would not construct six new aero CT units or the associated support facilities to provide generation of approximately 200 MW at the ACT Plant. TVA would continue to operate two existing units (units 19 and 20) at the ACT Plant on a limited basis, consistent with the 2021 Paradise and Colbert Combustion Turbine EA. This alternative does not meet the purpose and need of TVA's proposed action; however, consistent with the requirements of NEPA, it is included in this evaluation because it represents current baseline conditions against which the proposed action alternative is compared.

Alternative B: Construction and operation of six aeroderivative CT units at the Allen CT facility – Under Alternative B, TVA would construct and operate six aero CT units (GE LM2500s) generating approximately 200 MW of power and associated support facilities. TVA would continue to operate units 19 and 20 on a limited basis as well. At least four of the new units would have black-start capability, meaning the ability to restore power without needing to rely upon inputs from the external electric power transmission system. The new units would support fast startup dispatching and synchronous condensing for transmission system stability in western Tennessee. TVA would install control systems to minimize and monitor air emissions of the new units; reduction of emissions from each unit would be achieved through a dry-low emissions combustion system and a selective catalytic reduction system. TVA would use potable water obtained from the existing public supply for inlet air evaporative cooling in summer ambient temperatures.

Alternative B would meet TVA's purpose and need to support continued load growth within the Tennessee Valley and increase the flexibility and reliability of the TVA

power system by improving TVA's transmission system stability in western Tennessee. These improvements would also help TVA expand and integrate renewable energy resources onto its transmission grid. Alternative B also aligns with the 2019 IRP generation target power supply mix, which allows for the addition of up to 5,200 MW of CT by 2028.

Summary of Environmental Effects

The anticipated environmental effects of the No Action Alternative and Alternative B are described in detail in the Final EIS and summarized in Table 2.2-1. This section summarizes the anticipated environmental effects that would occur.

Under the No Action Alternative, TVA would not construct or operate new aeroderivative CT units at the Allen CT facility. The No Action Alternative would avoid the adverse effects associated with constructing and operating new units at the existing facility. For this reason, TVA identifies this alternative as environmentally preferable. However, TVA would be required to obtain capacity from other sources to maintain reserves, if possible. Without peaking power available when needed, TVA would purchase the power from the cheapest market source, a portion of which would likely be natural gas. Relying on purchased power from a market source could potentially result in adverse effects to TVA generation system reliability and increased costs to customers. Incorporation of renewable energy sources would be limited without the addition of the reliable dispatchable generation.

As outlined in the Final EIS, TVA's proposed action under Alternative B would have no effect on the following resources: Floodplains, Wetlands, Land Use, Geology/Soils, Vegetation, Prime Farmland, Aquatic Ecology, Visual Resources, Recreation, and Cultural and Historic Resources. In the Final EIS, TVA described minor and temporary effects on the following resources: Groundwater, Natural Areas, Threatened and Endangered Species, Transportation, Public Health and Safety, and Solid and Hazardous Waste. Minor, long-term effects anticipated are Socioeconomics, Climate

Change, Utilities, Surface Water Resources, and Noise. Moderate, long-term effects to air quality are anticipated and are discussed in the Final EIS. Generally, constructing and operating the new aeroderivative CT units at the existing CT facility would minimize new ground disturbances and utilize existing natural gas and transmission infrastructure, resulting in fewer environmental effects.

In the Final EIS, TVA also describes beneficial effects to Utilities resulting from implementing Alternative B. Overall, the added dispatchable generation capacity as a result of Alternative B would have potential long-term beneficial effects by helping to ensure that TVA can reliably meet required year-round generation, maximum capacity system demands, and planning reserve margin targets while facilitating the integration of renewable energy onto the electric grid. The synchronous condensing and black-start capabilities of the units would also benefit TVA's transmission system by improving reliability and flexibility.

Public Involvement

TVA initiated a 30-day public scoping period on October 12, 2023, when it published a Notice of Intent in the *Federal Register* announcing the preparation of an environmental document (88 FR 70693, October 12, 2023). TVA also announced the project and requested public input in news releases; notices printed in relevant area newspapers; in letters or messages to federal, state, and local agencies and federally recognized Indian tribes; and on its public webpage (<https://www.tva.com/allenct>). TVA held a public scoping meeting on October 24, 2023, attended by 35 individuals. TVA also hosted a public webinar. During the scoping period, TVA received 19 submissions from members of the public, federal agencies, and various organizations.

The NOA of the Draft EIS was published in the *Federal Register* on March 14, 2025, initiating a 45-day public comment period that ended on April 28, 2025 (90 FR 12158, March 14, 2025). The availability of the Draft EIS and request for comments were

announced in a news release, newspaper advertisements, and letters or messages to interagency partners, and on social media and TVA's website. Postcards were mailed to over 9,000 addresses within five miles of the project area as well. TVA held a public meeting about the Draft EIS on April 10, 2025, attended by over 110 individuals. TVA also held a public webinar during the comment period. In total, TVA received 210 submissions from the public, local officials, state and federal agencies, and community organizations during the comment period. Responses to these comments are included in Appendix A of the Final EIS.

Decision

TVA has considered the alternatives, information, analyses, material in the record determined to be relevant, and comments submitted by federal and state governments and public commenters for consideration in developing the Final EIS. TVA has decided to implement Alternative B of the Final EIS to construct and operate six new aeroderivative CT units at its existing Allen CT facility to generate approximately 200 MW of dispatchable power. This alternative best achieves TVA's purpose and need to meet the growing system demand and load growth experience over the past few years. The addition of these units to TVA's fleet also aligns with the 2019 IRP recommendation to develop new dispatchable generation sources and to enhance system reliability and flexibility.

Mitigation

TVA would employ standard practices, routine measures, and other project-specific measures to avoid and minimize effects to resources from the implementation of Alternative B. TVA would also implement minimization and mitigation measures based on best management practices, permit requirements, and adherence to erosion and sediment control plans to minimize erosion during construction, operation, and maintenance activities. As discussed in the Final EIS, TVA would also continue (under a prior agreement with the U.S. Fish and Wildlife Service) to monitor the project area for the

presence of potential nesting sites for least terns and, if nests are found, would conduct no activities within 300 feet of the nests.

Authority: 18 CFR 1318.405.

Dated: September 25, 2025.

Donald A. Moul,

President and Chief Executive Officer.

Editorial Note: This document was received for publication by the Office of the Federal Register on January 12, 2026.

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