

FINDING OF NO SIGNIFICANT IMPACT

WATTS BAR NUCLEAR UNITS 1 AND 2 LICENSE RENEWAL

INTRODUCTION

The Tennessee Valley Authority (TVA) must decide whether to submit a License Renewal Application (LRA) to the U.S. Nuclear Regulatory Commission (NRC) to renew the operating licenses of WBN Units 1 and 2 for an additional 20 years beyond their current license expiration dates. The current NRC operating license for Watts Bar Nuclear Plant (WBN) Unit 1 will expire on February 7, 2036, and WBN Unit 2 on October 21, 2055. WBN provides baseload generation that supports forecasted system needs, as outlined in the TVA's 2026 Final Integrated Resource Plan (IRP), by helping to maintain grid stability and generating capacity for TVA's generation portfolio mix. In 2024, WBN produced approximately 12 percent of TVA's total power supply.

PURPOSE AND NEED FOR ACTION

The purpose and need for the proposed action is to enable TVA to consider extending the current term of the nuclear power plant operating licensing to continue 1) operation for future system generation needs and 2) tritium production for DOE. Unless there are findings in the safety review required by the Atomic Energy Act or the NEPA environmental review that would lead the NRC to reject a license renewal application, the NRC does not have a role in the energy-planning decisions about whether a particular nuclear power plant should continue to operate. Renewal of the current operating license would allow WBN Units 1 and 2 to continue supplying approximately 2,300 megawatts (MW) electric (MWe) of safe, clean, reliable, and cost-effective baseload generation for an additional 20 years beyond their current license terms, thereby supporting TVA's statutory responsibility to provide low-cost, dependable power to the Tennessee Valley region.

ALTERNATIVES

The **No Action Alternative (Alternative A)** would be the WBN Units 1 and 2 operating licenses not being renewed. Under Alternative A, the current WBN operating licenses would expire and the units shut down at the end of their term, February 7, 2036, and October 21, 2055, respectively. Unless replacement generating capacity is provided as part of the No-Action Alternative, approximately 2,300 MWe of baseload generation would no longer be available to meet TVA's electricity customers' needs, and the alternative would not satisfy the Purpose and Need for the Proposed Action. Thus, the No-Action Alternative is defined as having two components, decommissioning of WBN and replacement generation. TVA would replace lost generation capacity with an alternative generating portfolio of resources. Under the No Action Alternative WBN would no longer be able to provide tritium to the DOE unless an alternative were identified. Therefore, selection of the No Action Alternative would require TVA and/or DOE to identify alternative sources of tritium.

Under the action alternative, **Alternative B**, TVA would seek renewal of the WBN Units 1 and 2 operating licenses to allow for continued operation of both units for an additional 20 years beyond their current license expiration dates. Under Alternative B, TVA would submit Units 1 and 2 LRAs to NRC. Assuming NRC approves the LRA, WBN Unit 1 would be available as a reliable base load generation plant until February 7, 2056, and Unit 2 until October 21, 2075. Under Alternative B, WBN Unit 1 and 2 would

continue to operate within the approved design basis and operational limits as allowed by the individual NRC licenses.

TVA has identified Alternative B – WBN Units 1 and 2 License Renewal as the preferred alternative.

SUMMARY OF ENVIRONMENTAL IMPACTS

Under the WBN license renewal, continued operation and maintenance activities would occur within previously disturbed and developed areas, with no major new construction.

The proposed WBN license renewal is expected to have SMALL impacts to land and visual resources, air quality, noise, geologic environment, surface water resources, groundwater resources, waste management, greenhouse gas emissions and climate change, socioeconomics, uranium fuel cycle, postulated accidents, and decommissioning.

The proposed WBN license renewal would have NO EFFECT on historic or cultural resources because license renewal would not include any new construction, deconstruction, or ground disturbance, it therefore does not qualify as an undertaking with potential to affect historic properties, consistent with 36 CFR Part 800.3(a)(1). Additionally, the proposed action is consistent with an exemption in TVA's system-wide programmatic agreement (Appendix A, G.2 of the PA "administrative actions that do not involve, or result in, physical work on the part of TVA or any other party").

The proposed WBN license renewal is expected to have SMALL impacts to ecological resources. Based on habitat conditions, operational controls, and the absence of critical habitat, continued operation of WBN would have NO EFFECT on federally listed species under USFWS jurisdiction. Additionally, the continued operation of WBN would not jeopardize the continued existence of species proposed for listing under the Endangered Species Act.

Studies of 60-Hz EMFs have not uncovered consistent evidence linking harmful effects with field exposures. Because the state of the science is currently inadequate, no conclusion on human health impacts is possible; however, overall, the proposed WBN license renewal is expected to have SMALL impacts to human health.

PUBLIC INVOLVEMENT

A draft of the SEA was released for public review and comment on May 29, 2026. The availability of the Draft SEA and request for comments was announced in The Herald News, that serves the Rhea County area, and was posted on TVA's website. TVA's agency involvement included notification of the availability of the Draft SEA to local, state, and federal agencies and federally recognized tribes. Comments were accepted through June 30, 2026, via TVA's website, mail, and e-mail.

TVA received two comment submissions, one comment letter from a member of the public submitted via TVA's website and one comment letter from the Tennessee Department of Environment and Conservation (TDEC). TVA carefully reviewed the eight distinct comments received in these comment letters. Substantive comments raised during the comment period are summarized in Appendix L of the Final SEA. Non-substantive or out-of-scope comments not specific to the NEPA analysis were not addressed in the Final SEA.

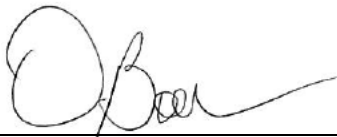
MITIGATION MEASURES

Best management practices (BMPs) identified in the SEA to avoid, minimize, or reduce adverse impacts to the environment from the preferred alternative are summarized below. WBN would continue operating within all applicable federal, state, and local regulations and no new construction or modifications to the facility would occur during the proposed period of extended operations. Therefore, no new mitigation measures would be required beyond those already implemented due to initial construction and operations.

- BMPs would continue to be implemented as described in A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activities, Revision 4 – 2022 (TVA 2022a), stormwater pollution and Spill Prevention, Control, and Countermeasure plan, and other permit conditions.
- The Integrated Pollution Prevention Plan (IPPP) and Spill Response Plan that addresses storage, secondary containment, and inspections of fuel, hazardous materials, and chemicals, like biocides, would be maintained as described in the Environmental Compliance Manual (ECM-8) (TVA, 2025c).
- The discharge to surface water would continue to be regulated by the conditions set forth in the National Pollutant Discharge Elimination System (NPDES) permit.
- Dredged material would be stockpiled on land above the 500-year flood elevation outside the floodplain.
- Flood-damageable equipment and facilities would be located at a minimum outside 100-year floodplains, and Critical Actions would be located at a minimum outside 500-year floodplains.
- All handling and disposal of non-radioactive and radioactive wastes would continue to be managed in accordance with applicable rules, regulations, and requirements of local, state, and federal laws; and existing WBN waste management procedures and general BMPs. Any radioactive wastes would be managed by TVA in accordance with 10 CFR Part 100 limits and WBN's implementing procedures.
- TVA would coordinate with the River Forecast Center during any delivery operations.
- All excavation would be performed in accordance with digging permits, TVA-TSP-18.804, TVA Safety Manual Form 29205, and appropriate BMPs. TVA would obtain any necessary permits for excavation and grading (i.e. Construction Storm Water Permit, Aquatic Resource Alteration Permit, etc.)

CONCLUSION AND FINDINGS

Based on the findings listed above and the analyses in the SEA, we conclude that the proposed WBN license renewal would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



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Date Signed