



Post Office Box 2000, Spring City, Tennessee 37381

WBL-21-051

November 18, 2021

10 CFR 50.4

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Watts Bar Nuclear Plant, Units 1 and 2  
Facility Operating License Nos. NPF-90 and NPF-96  
NRC Docket Nos. 50-390 and 50-391

Subject: **30-Day Voluntary Report in Accordance with Industry Groundwater Protection Initiative**

The Tennessee Valley Authority (TVA) is submitting the attached voluntary 30-day report in accordance with Nuclear Energy Institute (NEI) 07-07, "Industry Groundwater Protection Initiative – Final Guidance Document," Rev. 1. Samples obtained from two groundwater monitoring wells at Watts Bar Nuclear Plant (WBN) contained tritium at a concentration that exceeded the threshold value for voluntary reporting in accordance with NEI 07-07. The initial NRC notification of this condition was completed on October 28, 2021.

There are no new regulatory commitments in this letter. Please direct any questions concerning this matter to Brian Watson, WBN Chemistry Manager, at (423) 365-3262.

Respectfully,

A handwritten signature in black ink, appearing to read 'Anthony L. Williams IV', is written over a large, light-colored oval shape that serves as a placeholder for a stamp or seal.

Anthony L. Williams IV  
Site Vice President  
Watts Bar Nuclear Plant

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cc: (Enclosure)

NRC Regional Administrator - Region II  
NRC Senior Resident Inspector - Watts Bar Nuclear Plant  
NRC Project Manager - Watts Bar Nuclear Plant  
Tennessee Radiological Health Department Director  
Tennessee Department of Environmental Conservation Senior Director - Water  
Programs  
Rhea County Emergency Services Chief

## Enclosure 30-Day Voluntary Report

### Description of Event

On October 27, 2021, Watts Bar Nuclear Plant (WBN) received confirmatory analysis results from two groundwater monitoring wells that were sampled in support of the Nuclear Energy Institute (NEI) Industry Groundwater Protection Initiative (GPI). The analysis determined that tritium levels exceeded the NEI voluntary reporting threshold of 20,000 pico-Curies/liter (pCi/L) for wells R and S which are located inside the plant Protected Area (PA). In accordance with the NEI guidance, reports to required agencies were made on the next business day, October 28, 2021. The following information is provided consistent with the NEI reporting guidelines:

- i. This voluntary special 30-day report is submitted in accordance with NEI 07-07, "Industry Ground Water Protection Initiative - Final Guidance Document," Rev. 1.
- ii. On October 27, 2021, WBN received confirmatory analysis results for samples collected on September 23, 2021 from wells R and S. The tritium activity levels were determined to be 157,000 pCi/L and 747,000 pCi/L, respectively.
- iii. Initial actions taken by the plant included notification to the Tennessee Department of Environmental Conservation, the Tennessee Radiological Health Department, Rhea County Emergency Services, and the Nuclear Regulatory Commission. Based on the affected monitoring well locations, the most likely source is the Radwaste Line which is used for permitted discharges offsite. The site secured releases from the Radwaste Line. A temporary modification will be installed to allow permitted releases to continue while additional actions are taken to confirm the leak location and to replace affected portions of the Radwaste Line. An experienced vendor is assisting WBN in actions to monitor and remediate the condition.
- iv. Monitoring of the site's effluent pathways for tritium indicates that tritium in the groundwater has not migrated off the plant property. The location of the exceedance was adjacent to the plant. The groundwater in the area moves towards the site's French drain system and will be discharged via a permitted pathway. Additionally, the source was effluent that was permitted for release offsite. Therefore, there is no estimated annual dose increase to any member of the public associated with this event.
- v. Since there is no estimated annual dose increase to a member of the public from the groundwater pathway, no corrective actions are necessary to reduce the projected annual dose to a member of the public to less than the limits in 10 CFR 50, Appendix I. WBN will continue to monitor the condition and initiate corrective actions as needed.