UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
245 PEACHTREE CENTER AVENUE N.E., SUITE 1200
ATLANTA, GEORGIA 30303-1200

December 15, 2025

EAF-RII-2025-0184

Delson Erb
Vice President, OPS Support
Tennessee Valley Authority
1101 Market Street, LP 4A-C
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2 – FINAL SIGNIFICANCE DETERMINATION OF A WHITE FINDING, NOTICE OF VIOLATION, AND ASSESSMENT FOLLOWUP LETTER; NRC INSPECTION REPORT 05000390/2025090 AND 05000391/2025090

Dear Delson Erb:

The U.S. Nuclear Regulatory Commission (NRC) completed its final significance determination of the preliminary White finding discussed with Alicia Jenkins, Plant Manager, and other members of your staff during an inspection exit meeting with Gregory Suber, Deputy Director, Region II Division of Operating Reactor Safety, and other NRC Region II staff on September 25, 2025. The finding involved the failure to adequately address non-functional speakers in the plant's public address (PA) system, resulting in the loss of an emergency planning standard function.

During the exit meeting, the NRC discussed the available options for providing any additional information that should be considered before the NRC made a final decision. These options included: (1) the NRC issuing a "Choice Letter" in accordance with NRC Inspector Manual Chapter (IMC) 0609, Attachment 1, which documents the preliminary finding and offers the opportunity to attend a regulatory conference or provide a written response; or (2) the licensee declining the opportunity to provide additional information, either in a conference or in writing, thereby allowing the NRC to make a final decision based on the best available information obtained during the inspection. The NRC informed Tennessee Valley Authority (TVA) staff that declining the opportunity to attend a regulatory conference or submit a written response waives TVA's right to appeal the finding and its significance determination as described in IMC 0609, Attachment 2, "Process for Appealing NRC Characterization of Inspection Findings (SDP Appeal Process)."

In response, TVA staff accepted the characterization of the preliminary White finding and its associated violation as presented in the exit meeting. In addition, TVA declined the opportunity to discuss the issue in a regulatory conference or submit a written response before the NRC finalized the significance.

After considering the information developed during the inspection, the NRC has concluded that the finding is appropriately characterized as White (low safety significance). The NRC has also determined that the failure to adequately address non-functional speakers in the plant's PA system and the resulting loss of an emergency planning standard function was a violation of Title 10 of the Code of Federal Regulations (10 CFR) 50.54(q)(2)(i) and 10 CFR 50.47(b)(10) as cited in Enclosure 1, Notice of Violation (Notice). The circumstances surrounding the violation and the basis for the significance determination are described in the enclosed inspection report (Enclosure 2). In accordance with the NRC Enforcement Policy, which can be found at http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html, the Notice of Violation is considered escalated enforcement action because it is associated with a White finding.

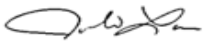
TVA is required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing the response. While the appeal rights for the characterization of the finding as White do not apply in this case, TVA does have the opportunity to contest the violation and provide additional information that the NRC should consider with respect to the enforcement aspects of this case. The NRC review of TVA's response to the Notice will also determine whether further enforcement action is necessary to ensure TVA's compliance with regulatory requirements.

The NRC has determined that the performance at Watts Bar Nuclear Plant, Units 1 and 2, would be in the Regulatory Response Column of the Reactor Oversight Process Action Matrix beginning in the third quarter of 2025 (July 1, 2025). Therefore, the NRC plans to conduct a supplemental inspection in accordance with Inspection Procedure (IP) 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area." This IP is conducted to provide assurance that the root and contributing causes for the performance issues are understood, and to provide assurance that the corrective actions are sufficient to address the root and contributing causes and prevent recurrence. This letter supplements, but does not supersede, the annual assessment letter issued on March 11, 2025 (ADAMS Accession Number ML25066A124).

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

Please contact Gregory Suber at 404-997-4501 with any questions you may have regarding this letter.

Sincerely,


Signed by Lara, Julio
on 12/15/25

Julio F. Lara
Acting Regional Administrator

Docket Nos. 05000390 and 05000391
License Nos. NPF-90 and NPF-96

Enclosures:
1. Notice of Violation
2. Inspection Report

cc w/ encl: Distribution via LISTSERV

SUBJECT: WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2 – FINAL SIGNIFICANCE DETERMINATION OF A WHITE FINDING, NOTICE OF VIOLATION, AND ASSESSMENT FOLLOWUP LETTER; NRC INSPECTION REPORT 05000390/2025090 AND 05000391/2025090 DATED DECEMBER 15, 2025

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NAME	S. Price	J. Peralta	P. McKenna	M. McCoppin	J. Lara
DATE	12/5/2025	12/10/2025	12/11/2025	12/15/202	12/15/2025

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NOTICE OF VIOLATION

Tennessee Valley Authority (TVA)
Watts Bar Nuclear Plant, Units 1 and 2

Docket Nos.: 05000390 and 05000391
License Nos.: NPF-90 and NPF-96
EAF-RII-2025-0184

The U.S. Nuclear Regulatory Commission (NRC) conducted an inspection from June 25, 2025, through September 25, 2025, and identified a violation of NRC requirements. In accordance with the NRC Enforcement Policy, the violation is listed below:

> Title 10 of the Code of Federal Regulations (10 CFR) 50.54(q)(2)(i) states in part that a holder of a nuclear power reactor license under this part shall follow and maintain the effectiveness of an emergency plan that meets the planning standards of paragraph 50.47(b).
>
> Planning Standard 10 CFR 50.47(b)(10) states in part that a range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public.
>
> Contrary to the above, between February 2019 and June 2025, the licensee failed to follow and maintain an effective emergency plan that meets planning standards in that it failed to ensure that a range of protective actions (e.g., evacuation) were available for emergency workers during emergencies, including hostile action events. Specifically, the licensee failed to characterize the continuous and progressive failure of a significant fraction of public address (PA) speakers (e.g., greater than 25%) as a "loss of function" and failed to take actions to evaluate, implement viable compensatory measures, and prioritize restoration of non-functional PA speakers as directed by licensee procedure NPG-SPP-18.3.5, "Equipment Important to Emergency Response," Revision 7 (2017). Consequently, plant workers were unable to hear announcements or alarms in certain areas of the facility, which adversely affected the licensee's ability to provide protective actions, such as evacuation orders, to emergency workers located within the plant.
>
> This violation is associated with a White significance determination process finding.

Pursuant to the provisions of 10 CFR 2.201, TVA is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice of Violation (Notice), within 30 days of the date of the letter transmitting this Notice. This reply should be clearly marked as a "Reply to a Notice of Violation; EAF-RII-2025-0184" and should include: (1) the reason for the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC website at http://www.nrc.gov/reading-rm/adams.html, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the basis for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 15th day of December 2025

U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Numbers:	05000390 and 05000391
License Numbers:	NPF-90 and NPF-96
Report Numbers:	05000390/2025090 and 05000391/2025090
Enterprise Identifier:	I-2025-090-0009
Licensee:	Tennessee Valley Authority
Facility:	Watts Bar Nuclear Plant, Units 1 and 2
Location:	Spring City, Tennessee
Inspection Dates:	June 25 to September 25, 2025
Inspectors:	R. Wehrmann, Senior Resident Inspector
Approved By:	Ryan C. Taylor, Chief Projects Branch 5 Division of Operating Reactor Safety

Enclosure 2

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting an NRC inspection at Watts Bar Nuclear Plant, Units 1 and 2, in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to https://www.nrc.gov/reactors/operating/oversight.html for more information.

List of Findings and Violations

Failure to Maintain Public Address System			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Emergency Preparedness	White NOV 05000390,05000391/2025090-01 Open EAF-RII-2025-0184	[P.3] - Resolution	71152A
A White (low safety significance) finding and associated violation of Title 10 of the Code of Federal Regulations (10 CFR) 50.54(q)(2)(i) and 10 CFR 50.47(b)(10) was identified by NRC inspectors when a review of corrective action documentation and testing records of the plant's public address (PA) system revealed that the licensee failed to address non-functional PA speakers in accordance with licensee procedure NPG-SPP-18.3.5, "Equipment Important to Emergency Response." Specifically, between February 2019 and June 2025, the licensee failed to characterize the continuous and progressive failure of multiple PA speakers as a "loss of function" and failed take actions to evaluate, implement viable compensatory measures, and prioritize restoration of the non-functional PA speakers as specified in procedure NPG-SPP-18.3.5.			

Additional Tracking Items

None.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

INSPECTION RESULTS

Failure to Maintain Public Address System			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Emergency Preparedness	White NOV 05000390,05000391/2025090-01 Open EAF-RII-2025-0184	[P.3] - Resolution	71152A

A White (low safety significance) finding and associated violation of Title 10 of the Code of Federal Regulations (10 CFR) 50.54(q)(2)(i) and 10 CFR 50.47(b)(10) was identified by NRC inspectors when a review of corrective action documentation and testing records of the public address (PA) system revealed that the licensee failed to address non-functional PA speakers in accordance with licensee procedure NPG-SPP-18.3.5, "Equipment Important to Emergency Response." Specifically, between February 2019 and June 2025, the licensee failed to characterize the continuous and progressive failure of multiple PA speakers as a "loss of function" and failed to take actions to evaluate, implement viable compensatory measures, and prioritize restoration of the non-functional PA speakers as specified in NPG-SPP-18.3.5.

Description: On June 22, 2025, the licensee initiated condition report (CR) 2021575 to document a complete review of all past performances of preventive maintenance (PM) 600124697, "Periodic Testing of Plant Public Address System." This maintenance was completed under work orders (WOs) 113236794, 116344148, 119174853, and 122220692. However, these past PM performances were unsatisfactory due to non-functional/non-working speakers/amplifiers. In addition, at the time of the inspectors' review, there were 39 various open corrective maintenance WOs associated with PA speakers at Watts Bar. The number of open WOs, combined with unsatisfactory PM performances, resulted in the PA system being placed on the site's top priority list (i.e., Heat Map).

A review of the completed work orders revealed the following:

1. WO 113236794 (February 2013): 33 of 162 speakers were non-functional resulting in a failure rate of 20%.

2. WO 116344148 (September 2018): 76 of 162 speakers (47%) were not audible during testing. CR 1039257 was written to document the condition and closed to a planned work order. The CR stated that the issue was related to volume control on the

speakers and concluded that the speakers were functional and no compensatory actions were required.

3. WO 119174853 (February/March 2019): 96 of 162 speakers (59%) were not audible during testing. CRs 1494210 and 1496172 were written to document the condition and closed to future work orders. CR 1494210 stated that the Fire Operations group no longer had any trained personnel to perform the necessary volume adjustments.

4. WO 122220692 (June 2023): 117 of 162 speakers were non-functional resulting in a failure rate of 72%. CR 1861810 was written to document the condition and Standing Order 23-11 was created. The CR noted that a large portion of the speakers had been documented as "failed" without being addressed.

The plant's PA system is relied upon to meet the planning standard described in 10 CFR 50.47(b)(10), which requires a range of protective actions available for emergency workers during emergencies. Licensee procedure NPG-SPP-18.3.5, Revision 7, contains the following instructions applicable to this issue:

- Section 5.0, "Definitions," states that a "loss of function" is the inability of a facility, system, or component, including tools and equipment, to fulfill its emergency response purpose.

- Section 3.1, "Roles and Responsibilities," states that Operations and Emergency Preparedness staff are responsible for:

    a. Reviewing plant equipment that is out of service to identify potential impacts on equipment important to emergency response (EITER) and emergency response facility availability.
    b. Identifying and implementing, or directing the implementation of, the applicable site-specific compensatory measures identified in Attachment 3, "WBN EITER Matrix."

- Section 3.2.1, "Evaluations and Actions for a Loss of Function," Step A, states that upon identification of an unplanned loss of function for any equipment listed in Attachment 3, the applicable Shift Manager, or Emergency Duty Officer for CECC issues, shall evaluate the loss and take action using Attachment 4.

- Attachment 4, "Unplanned Loss of Equipment Important to Emergency Response," states that in case of loss of function of EITER Type B equipment (e.g. PA speakers), the licensee is instructed to:

    a. Generate appropriate deficiency tracking documents and prioritize to restore function
    b. Identify redundant backup indication or method
    c. If no redundant or backup indication or method is available, the EITER should be reclassified as Type A and reprioritize work accordingly and implement compensatory measures.

- Section 3.2.3, "Development of Compensatory Measures," Step 3, states in part that compensatory measures are put in place immediately following equipment loss or

facility functional failures, to prevent or mitigate any loss of function that could result from the equipment being removed from service.

- Attachment 3, “WBN EITER Matrix,” states in part that, in the event a significant number of speakers in one area, or a significant percentage of speakers overall (for example, greater than 25%) is out of service in occupied areas that would need to be evacuated in an emergency, temporary additional speakers or alternate contact or notification plans may be needed.

In June 2023, Standing Order 23-11 created compensatory measures due to the plant’s degraded PA system. Specifically, the standing order stated: “This standing order supports interim action (CR 1861810) for broken PA speakers. In the event of entry into the radiological emergency plan (REP) requiring Assembly and Accountability or Site Evacuation, contact Security to have officers walk down the attached areas to notify personnel of the REP entry and any required actions.” These compensatory measures were not implemented until more than four years (February 2019 to June 2023) after WO 119174853 identified that 59 percent of the speakers were non-functional. However, the inspectors determined that this measure was not reasonably comparable to the PA system’s required function because it would conflict with Security’s duties during a hostile action event.

Additionally, the licensee did not begin evaluating and prioritizing restoration of the non-functional speakers, as required by NPG-SPP-18.3.5, until June 2025, after NRC discussions highlighted the emergency response implications.

Corrective Actions: The licensee has documented the issue in the corrective action program and has begun efforts to restore the public address system.

Corrective Action References: CRs 2033922, 2035146, 2023435, 2032295, and 2032300

Performance Assessment:

Performance Deficiency: The licensee’s failure to address non-functional PA speakers in accordance with procedure NPG-SPP-18.3.5 was a performance deficiency. Specifically, between February 2019 and June 2025, the licensee failed to characterize the continuous and progressive failure of multiple PA speakers as a “loss of function” and failed to take actions to evaluate, implement viable compensatory measures, and prioritize restoration of non-functional PA speakers as specified in NPG-SPP-18.3.5.

Screening: The inspectors determined the performance deficiency was more than minor in accordance with IMC-0612, Appendix B, “Issue Screening Directions,” because it was associated with the “Facilities and Equipment” attribute of the Emergency Preparedness cornerstone and adversely affected the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the failure to address non-functional PA speakers allowed for significant degradation of the plant’s public address system. This degradation resulted in areas of the facility where personnel were unable to hear announcements or alarms, which directly challenged the ability of the facility to provide protective actions and evacuation orders to individuals located within the plant.

Significance: Using IMC 0609 Attachment 4, “Initial Characterization of Findings,” this issue affects the Emergency Preparedness cornerstone since it is a failure to comply with one of the emergency preparedness planning standards in 10 CFR 50.47(b). Per Table 3 of IMC-

0609, Attachment 4, the inspector is directed to IMC 0609, Appendix B, “Emergency Preparedness Significance Determination Process.” Using Table 5.10-1, “Significance Examples §50.47(b)(10), Emergency Protective Actions,” the finding aligns with an example of a loss of planning standard (PS) function and screens as White. Specifically, the finding matches the example of a significant fraction (e.g., greater than 25%) of the onsite notification system (e.g., plant page speakers) being out of service in occupied areas that would need to be evacuated during an emergency for longer than seven days from the TIME OF DISCOVERY, and no COMPENSATORY MEASURES were implemented.

Consistent with IMC 0609, Appendix B, the NRC determined that there were no other extenuating circumstances or mitigating factors, such as compensatory measures, that could further inform the finding’s significance. Specifically, IMC 0609, Appendix B, Section 5.0.2.h.1 states in part that a credited compensatory measure must be capable of accomplishing the affected planning standard function (PSF) in a reasonably comparable manner. The affected PSF, described in Section 5.10, PS Function 1, states that a range of protective actions is available for emergency workers during emergencies, including hostile action events. Considering this guidance, the inspectors determined that the compensatory measure specified in Standing Order 23-11 was not a reasonable comparable measure because it would conflict with the duties of Security personnel during a hostile action event. Further, the inspectors noted that the licensee did not begin to take action to evaluate and prioritize restoration of the non-functional PA speakers as directed by procedure NPG-SPP-18.3.5 until June 2025, following discussions with the NRC inspectors regarding the emergency response implications.

Cross-Cutting Aspect: P.3 - Resolution: The organization takes effective corrective actions to address issues in a timely manner commensurate with their safety significance. Specifically, a significant fraction (e.g., greater than 25%) of the PA speakers were non-functional for over four years (February 2019 to June 2023) before compensatory measures were implemented. Further, actions were not initiated to improve compensatory measures or evaluate and prioritize restoration of non-functional PA speakers until June 2025.

Enforcement:

Violation: 10 CFR 50.54(q)(2)(i) states in part that a holder of a nuclear power reactor license under this part shall follow and maintain the effectiveness of an emergency plan that meets the planning standards of paragraph 50.47(b).

Planning Standard 10 CFR 50.47(b)(10) states in part that a range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public.

Contrary to the above, between February 2019 and June 2025, the licensee failed to follow and maintain an effective emergency plan that meets planning standards in that it failed to ensure that a range of protective actions (e.g., evacuation) were available for emergency workers during emergencies, including hostile action events. Specifically, the licensee failed to characterize the continuous and progressive failure of a significant fraction of PA speakers (e.g., greater than 25%) as a “loss of function” and failed to take actions to evaluate, implement viable compensatory measures, and prioritize restoration of non-functional PA speakers as directed by NPG-SPP-18.3.5. Consequently, plant workers were unable to hear announcements or alarms in certain areas of the facility, which adversely affected the licensee’s ability to provide protective actions, such as evacuation orders, to emergency workers located within the plant.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

- On September 25, 2025, the NRC inspection results were presented to Alicia Jenkins, Plant Manager, and other members of the licensee staff during an inspection exit meeting with Gregory Suber, Deputy Director, Region II Division of Operating Reactor Safety, and other NRC Region II staff.