



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

May 8, 2023

EA-22-122

Mr. James Barstow
Vice President Nuclear Regulatory Affairs
and Support Services
Tennessee Valley Authority
1101 Market Street, LP 4A-C
Chattanooga, TN 37402

**SUBJECT: BROWNS FERRY NUCLEAR PLANT—FINAL SIGNIFICANCE
DETERMINATION OF A WHITE FINDING AND NOTICE OF VIOLATION AND
ASSESSMENT FOLLOWUP LETTER; NRC INSPECTION REPORT
05000259/2023091**

Dear Mr. James Barstow:

This letter provides you the final significance determination of the preliminary White finding discussed in the U.S. Nuclear Regulatory Commission (NRC) inspection report (IR) 05000259/2023090 dated March 2, 2023 (Agencywide Documents Access and Management System (ADAMS), Accession Number [ML23048A062](#)). The finding is associated with an NRC-identified apparent violation of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action" for the failure to promptly identify and correct a condition adverse to quality associated with the electric governor remote (EG-R) and remote servo subcomponents. This failure resulted in the inoperability of the Browns Ferry Unit 1 high pressure coolant injection (HPCI) system on July 12, 2022.

In a letter dated April 11, 2023, Browns Ferry Nuclear Plant, Units 1 and 2 - Response to Preliminary White Finding and Apparent Violation in NRC Inspection Report 05000259/2023090 and 05000260/2023090, EA-22-122 (ADAMS Accession Number [ML23101A025](#)), you provided a response to the NRC staff's preliminary determination regarding the finding. You agreed that this condition existed as documented in the inspection report and you neither contested the significance of the finding nor the apparent violation.

Furthermore, your response clarified that the updated condition monitoring standards of 0.05 percent moisture content in governor control oil was not established by the Terry Turbine Users Group (TTUG) in their August 2021 virtual conference as described in NRC IR 05000259/2023090. You do acknowledge that while this topic, the adverse impact on governor control oil with moisture content in excess of 0.05 percent, was discussed at the August 2021 conference attended by your staff, the new monitoring standards were not considered established until the Electric Power Research Institute (EPRI) published "The Effects of Moisture in Terry Turbine Lube Oil and Governor Systems" on December 3, 2021. The NRC has accepted this clarification regarding the moisture content monitoring standards.

Due to the failure mechanism of corrosion, a definitive elapsed time for component inoperability could not be determined. Therefore, the NRC has decided not to issue a Browns Ferry Unit 1 Technical Specification Limiting Condition for Operation (LCO) 3.5.1.C violation for HPCI system inoperability related to the July 12, 2022 event.

You have 30 calendar days from the date of this letter to appeal the staff's determination of the significance of the finding. Such appeal will be considered to have merit only if they meet the criteria given in the Inspection Manual Chapter (IMC) 0609, Attachment 2. An appeal must be sent in writing to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement; and the NRC resident inspector at Browns Ferry Nuclear Plant.

The NRC has also determined that this failure to identify and correct a condition adverse to quality which resulted in the inoperability of the Browns Ferry Unit 1 HPCI is a violation of 10 CFR 50, Appendix B, Criterion XVI, as cited in the enclosed Notice of Violation (Notice). The circumstances surrounding the violation were described in detail in NRC IR 05000259/2023090. In accordance with the NRC Enforcement Policy, the Notice is considered an escalated enforcement action because it is associated with a White finding.

The NRC has concluded that the information regarding the reason for the violation, the corrective actions taken as well as those planned to correct the violation and prevent recurrence, and the date when full compliance will be achieved is already adequately addressed on the docket in a letter dated April 11, 2023, Browns Ferry Nuclear Plant, Units 1 and 2 - Response to Preliminary White Finding and Apparent Violation in NRC Inspection Report 05000259/2023090 and 05000260/2023090, EA-22-122 (ADAMS Accession Number [ML23101A025](#)). Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position.

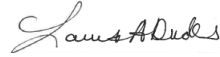
For administrative purposes, this letter is issued as a separate NRC Inspection Report No. 05000259/2023091. Accordingly, apparent violation (AV) 05000259/2023090-01 is updated consistent with the regulatory positions described in this letter, as NOV 05000259/2023090-01 in the Mitigating Systems Cornerstone with a safety significance of White with cross-cutting aspect P.2 - Evaluation.

The NRC has determined that the current plant performance places Browns Ferry Nuclear Plant, Unit 1 in the Regulatory Response Column of the Reactor Oversight Process Action Matrix beginning in the First Quarter of 2023 (January 1, 2023). 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 inspection will be scheduled after you notify the NRC of your readiness. This letter supplements, but does not supersede, the annual assessment letter issued on March 1, 2023 (ML23058A119).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from ADAMS,

accessible from the NRC Web site at <http://www.nrc.gov/readingrm/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.

Sincerely,



Signed by Dudes, Laura
on 05/08/23

Laura A. Dudes
Regional Administrator

Docket No. 05000259
License No. DPR-33

Enclosure:
Notice of Violation

cc w/ encl: Distribution via LISTSERV

SUBJECT: BROWNS FERRY NUCLEAR PLANT–FINAL SIGNIFICANCE DETERMINATION OF A WHITE FINDING AND NOTICE OF VIOLATION AND ASSESSMENT FOLLOWUP LETTER; NRC INSPECTION REPORT 05000259/2023091 DATED: MAY 8, 2023

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NOTICE OF VIOLATION

Tennessee Valley Authority (TVA)
Browns Ferry Nuclear Plant, Unit 1

Docket No.: 05000259
License No.: DPR-33
EA-22-122

During an NRC inspection conducted from January 1, 2023 to February 1, 2023, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 50, Appendix B, Criterion XVI requires, in part, “measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.”

Section 10.2.2, “Corrective Action for Adverse Conditions of the Nuclear Quality Assurance Plan (NQAP) (Quality Assurance Program Description),” of TVA fleet procedure TVA-NQA-PLN89-A, Rev.0040, states in part, that TVA Nuclear and onsite non-nuclear service organizations performing quality-related activities at nuclear facilities shall promptly identify and resolve adverse conditions.

Section 5 of TVA fleet procedure NPG-SPP-22.300.1, “Corrective Action Program (BFN Only),” Rev. 0000, defines that condition adverse to quality (CAQ) is a condition associated with a structure, system, component or program that is in-scope of the Nuclear Quality Assurance Plan (NQAP). The high-pressure coolant injection system is a safety-related system and is in the scope of the NQAP.

Browns Ferry site procedure Mechanical Preventive Instruction, MPI 0-073-TRB001, “High Pressure Coolant Injection (HPCI) Turbine Preventive Maintenance,” Revision 0053, Section 6.2.5, states, in part, that internal corrosion or moisture contamination requires initiation of a condition report.

Contrary to the above, from October 27, 2018, to July 12, 2022, the TVA failed to promptly identify and correct the condition adverse to quality associated with the EG-R and remote servo subcomponents. Specifically, the licensee failed to promptly document and correct adverse conditions during the preventive maintenance internal inspection of the EG-R on October 27, 2018, wherein inspection activities identified rust and moisture, but failed to initiate a required CAQ CR in accordance with MPI-0-073-TRB001 and TVA-NQA-PLN89-A.

This violation is associated with a White Significance Determination Process finding.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed on the docket in your written response of April 11, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession Number [ML23101A025](#)). However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a “Reply to a Notice

Enclosure

of Violation,” include the EA number, and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region 2, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

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.

If you choose to respond, 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 Web site at <http://www.nrc.gov/reading-rm/adams.html>. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

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

Dated this 8th day of May 2023