



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

April 15, 2019

EA-18-182

Mr. Joseph W. Shea
Vice President
Nuclear Regulatory Affairs and
Support Services
Tennessee Valley Authority
1101 Market Street, LP 4A
Chattanooga, TN 37402-2801

SUBJECT: WATTS BAR NUCLEAR PLANT - FINAL SIGNIFICANCE DETERMINATION OF A WHITE FINDING AND NOTICE OF VIOLATION AND ASSESSMENT FOLLOW-UP LETTER (NRC INSPECTION REPORT NOS. 05000390/2019090 AND 05000391/2019090)

Dear Mr. Shea:

This letter provides you the final significance determination of the Apparent Violation initially documented in the U.S. NRC Integrated Report (IR) 05000390, 391/2018004-05 dated February 5, 2019 and subsequent preliminary White finding discussed in our previous communication IR 05000390, 391/2019501 dated February 21, 2019. The finding involved a failure to maintain the effectiveness of an emergency plan when the licensee failed to recognize the risk associated with calculations affecting emergency preparedness. Tennessee Valley Authority (TVA) Watts Bar's emergency classification scheme for Radiological Effluent emergency action levels (EALs) RG1 (General Emergency), RS1 (Site Area Emergency), RA1 (Alert), and RU1 (Unusual Event), which included radiation monitor threshold values, were calibrated too high (non-conservative). Radiation monitors, calibrated with the non-conservative EAL threshold values, were being relied upon to continuously assess the impact of the release of radioactive materials, provide criteria for determining the need for notification and participation of local and State agencies, and provide technically accurate dose assessments. The calculation errors adversely impacted the EAL threshold values and dose assessment capabilities. However, the errors did not have actual safety consequences because the errors did not result in an actual untimely emergency declaration.

By letter dated March 21, 2019, you provided a response to the NRC staff preliminary determination regarding the finding. Your response indicated TVA does not dispute that the violation occurred or the preliminary significance determination as a White finding with a cross-cutting aspect of Human Performance, Change Management [H.3].

After considering the information developed during the inspection the NRC has concluded that the finding is appropriately characterized as White.

According to NRC Inspection Manual Chapter (IMC) 0609, appeal rights only apply to those licensees that have either attended a regulatory conference or submitted a written response to the preliminary determination letter.

You have 30 calendar days from the date of this letter to appeal the staff's determination of significance for the identified White finding. Such appeals will be considered to have merit only if they meet the criteria given in the IMC 0609, Attachment 2. An appeal must be sent in writing to the Regional Administrator, Region II, 245 Peachtree Center Avenue N.E., Suite 1200, Atlanta, GA, 30303-1257.

The NRC has determined that your failure to maintain the effectiveness of an emergency plan to meet the requirements of 10 CFR Part 50.47(b)(4), (b)(9), and Part 50 Appendix E, is a violation, as cited in the attached Notice of Violation (Notice). The circumstances surrounding the violation were described in detail in the subject inspection report. In accordance with the NRC Enforcement Policy, the Notice is considered escalated enforcement action because it is associated with a White finding.

The violation associated with this White finding is being cited in accordance with the NRC Enforcement Policy, which can be found at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>

The NRC has determined that the reason for the violation, corrective actions taken and planned to address recurrence, and the date when full compliance was achieved for this violation is adequately addressed and captured on the docket in your written response dated March 21, 2019. Therefore, you are not required to respond to this letter unless the record does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

For administrative purposes, this letter is issued as a separate NRC Inspection Report Nos. 05000390/2019090 and 05000391/2019090. Accordingly, apparent violation (AV) 05000390/2019501 and 05000391/2019501 and AV 05000390/2018004-05 and 05000391/2018004-05 are updated consistent with the regulatory positions described in this letter. Therefore, AV 05000390/2018-004-05 and 05000391/2018-004-05, Failure to Maintain the Effectiveness of the Emergency Plan and a Standard Emergency Classification Scheme Which Included Facility Effluent Parameters is updated as VIO 05000390/2018-004-05 and 05000391/2018-004-05 in the Emergency Preparedness Cornerstone with a safety significance of White with a crosscutting aspect of H.3.

The NRC has determined the performance at Watts Bar Units 1 and 2 would be in the Regulatory Response Column of the ROP Action Matrix beginning 4th quarter of 2018. 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," when you have notified us of your readiness. This IP is conducted to provide assurance that the root and contributing causes for the performance issues are understood; to provide assurance that the extent of condition and extent of cause of 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 4, 2019.

This letter, and its enclosure, will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Laura A. Dudes
Acting Regional Administrator

Docket Nos.: 50-390 and 50-391
License Nos.: NPF-90 and NPF-96

Enclosure:
Notice of Violation

cc: Distribution via Listserv

SUBJECT: WATTS BAR NUCLEAR PLANT - FINAL SIGNIFICANCE DETERMINATION OF A WHITE FINDING AND NOTICE OF VIOLATION AND ASSESSMENT FOLLOW-UP LETTER (NRC INSPECTION REPORT NOS. 05000390/2019090 AND 05000391/2019090) dated April 15, 2019

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 ADAMS: Yes ACCESSION NUMBER: **ML 19105B198** SUNSI REVIEW COMPLETE FORM 665 ATTACHED

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Notice of Violation

Tennessee Valley Authority
Watts Bar Nuclear Plant

Docket Nos.: 50-390 and 50-391
License Nos.: NPF-90 and NPF-96
EA-18-182

Watts Bar Nuclear Plant identified a violation of NRC requirements during a design change impact review. In accordance with the NRC Enforcement Policy, the violation is listed below.

10 CFR Part 50.54(q)(2) requires that a holder of a nuclear power reactor operating license under this part, shall follow and maintain the effectiveness of an emergency plan that meets the planning standards in 10 CFR Part 50.47(b) and the requirements in Appendix E to this part.

10 CFR Part 50.47(b)(4) requires a standard emergency classification and action level scheme, the bases of which include facility and system effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

10 CFR Part 50.47(b)(9) requires adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

10 CFR Part 50, Appendix E, Section IV.B., "Assessment Actions," requires that means to be used for determining the magnitude of, and for continuously assessing the impact of, the release of radioactive materials shall be described, including emergency action levels (EALs) that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other federal agencies. The EALs shall be based on in-plant conditions and instrumentation, in addition to onsite and offsite monitoring.

Contrary to the above, from each unit's initial plant startup until September 17, 2018, the licensee failed to maintain the effectiveness of their emergency plan and a standard emergency classification scheme which included facility effluent parameters. Specifically, calculation errors for the Main Steam Line Condenser Vacuum Exhaust monitor dose conversion factors resulted in significantly non-conservative effluent EAL threshold values for EALs RG1, RS1, RA1, and RU1 and degraded the licensee's ability to perform dose assessment. These radiation monitors were being relied upon to continuously assess the impact of the release of radioactive materials, provide criteria for determining the need for notification and participation of local and State agencies, and provide for technically accurate dose assessments.

This violation is associated with a White SDP finding.

The NRC has determined that the reason, corrective actions taken and planned to address recurrence, and the date when full compliance was achieved for this violation is adequately addressed and captured on the docket in your written response dated March 21, 2019 (ML19080A178). 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 of Violation, EA-18-182". Send your response 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

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facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation. In accordance with 10 CFR 2.390(b)(1)(ii), the NRC is waiving the affidavit requirements of your response.

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.

Dated this 15th day of April 2019