

NL-20-0484

April 30, 2020

Docket Nos.: 50-424
50-425U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001Vogtle Electric Generating Plant, Units 1 and 2
Reply to a Notice of Violation; EA-19-112
Inspection Report 05000424/2019-003 and 05000425/2019-003

Dear Sir or Madam:

By letter dated March 31, 2020, the Nuclear Regulatory Commission (NRC) staff notified Southern Nuclear Operating Company (SNC) of the final significance determination of the preliminary White finding discussed in NRC Inspection Report 05000424, 425/2019090 and a Notice of Violation associated with a White significance determination process (SDP) finding. The violation involved the failure to periodically calibrate containment high-range area radiation monitors 1RE-0005, 1RE-0006, 2RE-0005, and 2RE-0006 so that they responded within the required accuracy to known inputs. SNC agrees the performance deficiency resulted in the violation of Technical Specifications as written. Pursuant to the provisions of 10 CFR 2.201, SNC submits the required response to the violation as an Enclosure to this letter.

SNC understands that the NRC plans to conduct a supplemental inspection in accordance with Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area." SNC will provide notification of our readiness.

This letter contains no NRC commitments. If you have any questions, please contact Matt Euten at 205-992-7673.

Sincerely,



Cheryl A. Gayheart
Regulatory Affairs Director

CAG/tr

Enclosure: Response to Notice of Violation EA-19-112

cc: Regional Administrator
NRR Project Manager – Vogtle 1 & 2
Senior Resident Inspector – Vogtle 1 & 2
RType: CVC7000

References:

1. Vogtle Electric Generating Plant, Units 1 & 2 – Integrated Inspection Report 05000424/2019003, 05000425/2019003 and 07201039/2019003 and Apparent Violation, dated November 14, 2019 (EA-19-112).
2. Vogtle Electric Generating Plant – NRC Inspection Report 05000424/2019090 and 05000425/2019090 and Preliminary White Finding and Apparent Violation, dated December 26, 2019 (EA-19-112).
3. SNC letter to NRC, “Pre-decisional Reply to EA-19-112, NRC Inspection Report 05000424/2019090 and 05000425/2019090 and Preliminary White Finding and Apparent Violation,” dated January 31, 2020.
4. NRC letter to SNC, Vogtle Electric Generating Plant - Final Significance Determination of White Finding, Notice of Violation and Assessment Follow-up Letter (Inspection Report Nos. 05000424/2019090 and 05000425/2019090), dated March 31, 2020.

Vogtle Electric Generating Plant - Units 1 & 2
Response to Notice of Violation EA-19-112

Enclosure

Restatement of Violation 050000424/2019003-01 and 050000425/2019003-01

During an NRC inspection conducted on July 1, 2019, through September 30, 2019, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Technical Specification (TS) 3.3.3 requires the licensee to perform periodic channel calibrations for post-accident monitoring equipment, including radiation monitors 1RE-0005, 1RE-0006, 2RE-0005, and 2RE-0006. Section 1.1 of the TS states that "A channel calibration shall be the adjustment, as necessary, of the channel so that it responds within the required range and required accuracy to known inputs." Specifically, the source-to-detector geometry used for isotopic calibrations was not fixed and reproducible.

Contrary to the above, from each unit's initial plant startup until September 30, 2019, the licensee failed to periodically calibrate containment high-range area radiation monitors 1RE-0005, 1RE-0006, 2RE-0005, and 2RE-0006 so that they responded within the required accuracy to known inputs. This resulted in main control room indications that were biased high and would have resulted in overly conservative Emergency Action Level declarations during certain accident scenarios.

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

Southern Nuclear Operating Company (SNC) does not contest the violation.

Reason for the Violation

The root cause of the calibration method that resulted in the finding and the violation for failure to correctly calibrate containment High Range Area Radiation Monitors 1/2RE-0005 and 1/2RE-0006 was less than adequate application of calibration standards. This condition was initiated on February 28, 1991. At this time, the NSSS vendor turned over the responsibility of calibrating these radiation monitors to SNC. The procedure acceptance criteria at the time were not correlated back to the NSSS vendor's original gain factor. As a result, the gain factor was adjusted beyond the +/- 20% tolerance allowed by Technical Specification 3.3.3.

A contributing cause was inadequate written procedure content and provisions in that there was no fixed geometry for repeatability. At the time the NSSS vendor turned over the responsibility to SNC, the procedure directed the distance to be adjusted for the decay factor. SNC's consultant, found small deviations in geometry resulted in inconsistent results. This condition did not cause the violation but contributed to the continuing out of Technical Specification 3.3.3 tolerance of +/- 20% results.

Corrective Steps Taken and Results Achieved

A new calibration methodology was added to procedure 24989-1/2 on 2/6/2020. The procedure guides the technician to perform a decay correction calculation based on known readings from the Containment High Range Area Radiation Detectors. The radiation monitor will be configured to read the raw pico-Amp reading from the radiation source and a decay corrected value will be calculated for the expected reading from the portable Cs-137 gamma radiation source (Victoreen Model 878-10).

For the calibration to pass, the reading must be within +/-20% of the decay correction calculated value established in vendor report TSO 19-023. The gain factor will then be calculated based on the actual response of the detector to the radiation source.

This calibration method relies on data obtained from testing the spare RS-C3-1006-203 ionization detector documented in vendor report TSO 19-023. This testing establishes assay data with a known reading of the detector type in a fixed geometry. The results achieved are that this reading will be used during future calibrations to confirm that the detector response remains accurate and conforms to the assay data response documented in TSO 19-023.

Corrective Steps to be Taken to Avoid Further Violations

A root cause analysis has been performed. Corrective actions to prevent recurrence (CAPR) were developed to address the calibration method. This action will also address the contributing cause of no fixed geometry for repeatability. Maintenance Procedures 24989-1 and 24989-2 "Isotopic Channel Calibration of the Containment High Range Area Monitors RE-0005 and RE-0006" were revised to incorporate the new calibration method.

Procedures 24989-1 and 24989-2 now provide guidance for calculating the decay correction in accordance with industry best practices for isotopic calibration as documented in EPRI report TR-102644 "Calibration of Radiation Monitors at Nuclear Power Plants." For the calibration to pass, the reading must be within +/-20% tolerance of the decay correction calculated value established in vendor report TSO 19-023.

Date When Full Compliance Will Be Achieved

Unit 1 Monitors have been restored to full compliance with the completion of 1R22 in the Spring of 2020.

Unit 2 Monitors will be restored to full compliance not later than October 3, 2020, with the completion of 2R21