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Washington, DC 20555

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Docket No.: 50-395
License No.: NPF-12

DOMINION ENERGY SOUTH CAROLINA (DESC)
VIRGIL C. SUMMER NUCLEAR STATION (VCSNS) UNIT 1
REPLY TO A NOTICE OF VIOLATION; EA-22-039

By letter dated October 18, 2022 (Reference 1), the Nuclear Regulatory Commission (NRC) notified Dominion Energy South Carolina (DESC) of a Notice of Violation (NOV 05000395/2022001-01) and associated White Finding. The violation states that VCSNS "inadequately assessed erratic governor behavior during EDG (Emergency Diesel Generator) testing; therefore, failed to identify and correct a condition adverse to quality."

The required reply to the NOV 05000395/2022001-01 is provided in Attachment 1. Dominion Energy South Carolina understands 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." Accordingly, Dominion Energy South Carolina will notify the NRC of our readiness for the supplemental inspection.

Should you have any questions regarding this submittal or require additional information, please contact Mr. Michael Moore, Manager Nuclear Station Licensing at (803) 345-4752.

Sincerely,

A handwritten signature in blue ink that reads "Dan Stoddard".

Daniel G. Stoddard
Senior Vice President and Chief Nuclear Officer

References:

1. Letter from Laura A. Dudes (NRC) to Daniel G. Stoddard (DESC), "Virgil C. Summer-Final Significance Determination of a White Finding and Notice of Violation and Assessment Follow-up Letter; NRC Inspection Report 05000395/2022091," dated October 18, 2022. (ADAMS Accession No. ML22287A184)

Attachment:

1. Reply to a Notice of Violation; EA-22-039

Commitments contained in this letter: None

cc: G. J. Lindamood – Santee Cooper
L. Dudes – NRC Region II
D. Dumbacher – NRC Region II
G. E. Miller – NRC Project Mgr.
NRC Resident Inspector

Attachment 1

REPLY TO A NOTICE OF VIOLATION; EA-22-039

**Dominion Energy South Carolina
Virgil C. Summer Nuclear Station Unit 1**

REPLY TO A NOTICE OF VIOLATION; EA-22-039

Reason for the Violation

The reason for the violation was failure to identify and correct a condition adverse to quality (CAQ) associated with 'B' Emergency Diesel Generator (EDG). This was not in compliance with 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action."

On January 16, 2022, following a major 'B' EDG maintenance package, the 'B' EDG exhibited an unexpected oscillation condition. While the acceptance criteria of the surveillance test procedure were met, VCSNS inadequately assessed the condition and did not document the condition in the corrective action program (CAP), resulting in the failure to identify and correct the CAQ. Erratic governor behavior caused by a mechanical fatigue fracture of a solder contact on the 'B' EDG electronic governor, was identified and corrected after the oscillation condition was observed during a subsequent surveillance test of the 'B' EDG on February 9, 2022.

Corrective Steps That Have Been Taken and the Results Achieved

Following the February 9, 2022, surveillance test, CR1191016 was written for the observed 'B' EDG oscillations. An action (CA10870934) was assigned to engineering to evaluate the 'B' EDG oscillation condition. An action to perform a common cause evaluation of the 'A' EDG (CA10894246) determined there was no concern that the 'B' EDG kW oscillation condition was also present on the 'A' EDG. Therefore, there was no requirement to start the 'A' EDG per TS 3.8.1.1, Action b.2. However, Operations conservatively decided to perform a start of the 'A' EDG to verify it did not have a similar condition. Engineering also observed the start of the 'A' EDG, per STP-125.002A, to support the common cause determination. Observations included fuel rack movement, local panel frequency indication, and governor oil level before and during the run. There were no abnormalities observed during this surveillance test.

CA10984866 was written to perform a level of effort evaluation (LEE) to determine the cause of the 'B' EDG oscillations. The LEE determined that the 'B' EDG load oscillations were caused by an intermittent open circuit and variable high resistance condition, which resulted from mechanical fatigue fracture of a solder contact at the "Pin B" location within an Amphenol plug connector. The fractured pin was interrupting the electronic governor control output signal to the engine-mounted proportional governor/actuator.

To repair the 'B' EDG kW oscillating condition, Work Order 88201648997 was written and successfully implemented on February 10, 2022, to replace the Amphenol connector. To prevent a potential similar condition on the 'A' EDG, Work Order 88201667470 was implemented on May 23, 2022, to replace the same Amphenol connector.

Corrective Steps That Will be Taken

To prevent recurrence, several corrective actions (CA) were initiated as part of the causal evaluation (CA10984866). CA11178458 was initiated for Engineering to request Plant Health Working Group approval to develop and issue a design change that incorporates strain relief on the governor control signal wires for the 'A' and 'B' EDG mechanical governor Amphenol connectors. The proposed design change was presented to, and received approval by, the Plant Health Working Group on July 18, 2022, and Plant Health Steering Committee on August 9, 2022. CA11178463 and CA11178465 were initiated to track implementation of the 'B' and 'A' EDG strain relief design changes, respectively. Both actions have a current due date of June 1, 2023.

In response to the NRC Notice of Violation (NOV), VCSNS initiated CR1210687. A root cause evaluation (RCE) charter was approved on October 27, 2022. The RCE will identify the root and contributing causes and associated corrective actions needed to address the failure to identify and correct a condition adverse to quality. This evaluation will also determine whether relevant human performance, programmatic or organizational, or nuclear safety culture weaknesses were involved. Corrective actions will be identified to prevent recurrence and to address contributing and other causes.

Date When Full Compliance Will be Achieved

Full compliance was achieved on February 9, 2022, when the CAQ was identified and documented in Condition Report CR1191016.