V.C. Summer Nuclear Station
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Dominion Energy®

December 8, 2022

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Serial No. 22-370
VCS-LIC/JB R0
Docket No. 50-395
License No. NPF-12

DOMINION ENERGY SOUTH CAROLINA (DESC)
VIRGIL C. SUMMER NUCLEAR STATION (VCSNS) UNIT 1
UPDATED LICENSEE EVENT REPORT 2022-002-01
CONDITION PROHIBITED BY TECHNICAL SPECIFICATION 3.8.1.1

Dominion Energy South Carolina hereby submits Licensee Event Report (LER) 2022-002-01, for VCSNS. LER 2022-002-00 (ML22101A284) described a potential condition prohibited by VCSNS Technical Specification 3.8.1.1 related to its 'B' Emergency Diesel Generator and was submitted in accordance with 10 CFR 50.73(a)(2)(i)(B). The enclosed LER 2022-002-01 provides updated information for this event.

Should you have any questions, please call Mr. Justin Bouknight at (803) 941-9828.

Sincerely,

George A. Lippard
Site Vice President
V.C. Summer Nuclear Station

Enclosure

Commitments contained in this letter: None

cc:
G. J. Lindamood – Santee Cooper
L. Dudes – NRC Region II
G. Miller – NRC Project Mgr.
NRC Resident Inspector
J. N. Bassett – INPO
Marsh USA, Inc.

NRC FORM 366 (08-2020) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2023

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LICENSEE EVENT REPORT (LER)

(See Page 3 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. Facility Name	2. Docket Number	3. Page
V.C. Summer Nuclear Station, Unit 1	05000 395	1 OF 3

4. Title

CONDITION PROHIBITED BY TECHNICAL SPECIFICATIONS: INOPERABLE 'B' EMERGENCY DIESEL GENERATOR

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year	Facility Name	Docket Number
02	09	2022	2022	- 002 -	01	12	8	2022		05000
									Facility Name	Docket Number
										05000

9. Operating Mode	10. Power Level
1	100

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*

10 CFR Part 20	☐ 20.2203(a)(2)(vi)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(A)	**10 CFR Part 73**
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(4)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(i)	**10 CFR Part 21**	☑ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(1)(i)
☐ 20.2203(a)(2)(ii)	☐ 21.2(c)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(i)
☐ 20.2203(a)(2)(iii)	**10 CFR Part 50**	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	☐ 73.77(a)(2)(ii)
☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	
☐ 20.2203(a)(2)(v)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	

☐ **OTHER** (Specify here, in abstract, or NRC 366A).

12. Licensee Contact for this LER

Licensee Contact	Phone Number (Include area code)
Justin Bouknight, Licensing Engineer	803.941.9828

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to IRIS	Cause	System	Component	Manufacturer	Reportable to IRIS
B	EK	DG	C470	Y					

14. Supplemental Report Expected		15. Expected Submission Date	Month	Day	Year
☑ No	☐ Yes (If yes, complete 15. Expected Submission Date)				

16. Abstract (Limit to 1560 spaces, i.e., approximately 15 single-spaced typewritten lines)

On February 9, 2022, VCSNS identified kilowatt oscillations in the load of the 'B' Emergency Diesel Generator (EDG) during the performance of surveillance test procedure STP-125.002B. The 'B' EDG satisfied STP-125.002B acceptance criteria; however, since the kilowatt oscillations were not immediately explainable and based on engineering qualitative review for prompt operability, the 'B' EDG was declared inoperable. The unexpected condition of the 'B' EDG resulted in inoperability of the 'B' EDG, contrary to VCSNS Technical Specifications (TS) Limiting Condition of Operation (LCO) 3.8.1.1.b, from January 16 to February 9, 2022.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
V.C. Summer Nuclear Station, Unit 1	05000- 395	2022	- 002	- 01

NARRATIVE

1.0 DESCRIPTION OF THE EVENT

On February 9, 2022, VCSNS identified kilowatt oscillations in the load of the 'B' Emergency Diesel Generator (EDG) during the performance of surveillance test procedure STP-125.002B. The 'B' EDG satisfied STP-125.002B acceptance criteria. Since the kilowatt oscillations were not immediately explainable, the 'B' EDG was declared inoperable. This prompt operability review was based on qualitative engineering analysis.

During troubleshooting on February 9, an intermittently connecting pin was discovered in a governor Amphenol connector, which was causing the kilowatt oscillations. The Amphenol connector was replaced to correct the connection issue.

VCSNS TS 3.8.1.1.b requires two separate and independent EDGs and appurtenances during Mode 1 through 4 operations. The broken Amphenol connector pin on the 'B' EDG governor wire resulted in inoperability of the 'B' EDG, contrary to VCSNS TS 3.8.1.1.b, from January 16 to February 9, 2022.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

The 'B' EDG is one of two safety-related (SR) power supplies on-site and provides the emergency on-site power supply to Engineered Safety Feature (ESF) loads on bus 1DB, in the event of off-site power interruption. Bus 1DB powers one of the two sets of redundant ESF equipment needed in the postulated design basis accident (DBA) scenario. In the event neither EDG is available to power its respective loads, a non-safety related alternate AC power (AAC) source can provide power. The AAC is designed to provide back-up power to either ESF bus whenever one of the EDGs is out of service, particularly in Modes 1 through 4 operation. The design of the AAC is capable of providing the required safety and non-safety related loads in the event of a total loss of offsite power and if both EDGs fail to start and load. Although the AAC is not designed for DBA loads, it is capable of supplying sufficient power to mitigate the effects of an accident. The AAC is not credited in the safety analysis.

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
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V.C. Summer Nuclear Station, Unit 1	05000-395	2022	- 002	- 01

NARRATIVE

3.0 CAUSE OF THE EVENT

Troubleshooting was performed following the February 9 performance of STP-125.002B and identified an intermittently connecting pin on the governor Amphenol connection. Replacement of the affected Amphenol connector corrected the 'B' EDG kilowatt oscillation condition.

4.0 IMMEDIATE CORRECTIVE ACTIONS

The 'B' EDG was declared inoperable following qualitative engineering review of the kilowatt oscillations during the February 9, 2022, STP-125.002B run. Troubleshooting was performed and the governor Amphenol connector was replaced.

5.0 ADDITIONAL CORRECTIVE ACTIONS

None

6.0 ACTIONS TO PREVENT RECURRENCE

Corrective actions have been generated to implement design changes for both EDGs that provides strain relief on the governor control signal wires. Routine maintenance and surveillance of the EDGs will continue to ensure operability of both EDGs and identify adverse conditions requiring correction.

7.0 SIMILAR EVENTS

None

8.0 MANUFACTURER

Colt Industries, Fairbanks-Morse Engine Division