

V.C. Summer Nuclear Station  
Bradham Blvd & Hwy 215, Jenkinsville, SC 29065  
Mailing Address:  
P.O. Box 88, Jenkinsville, SC 29065  
DominionEnergy.com



April 11, 2022

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

Serial No. 22-112  
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**  
**LICENSEE EVENT REPORT 2022-002-00**  
**POTENTIAL CONDITION PROHIBITED BY TECHNICAL SPECIFICATION 3.8.1.1**

Dominion Energy South Carolina hereby submits Licensee Event Report (LER) 2022-002-00, for VCSNS. This report describes a potential condition prohibited by VCSNS Technical Specification 3.8.1.1 related to its 'B' Emergency Diesel Generator and is submitted in accordance with 10 CFR 50.73(a)(2)(i)(B). An update to the LER or notice of cancellation is expected to be available by July 21, 2022.

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

Sincerely,

A handwritten signature in black ink, appearing to read "George A. Lippard".

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.



**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/>)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Library, and Information Collections Branch (T-6 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk all: [oir\\_submission@omb.eop.gov](mailto:oir_submission@omb.eop.gov). The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

<b>1. Facility Name</b> V.C. Summer Nuclear Station, Unit 1	<b>2. Docket Number</b> 05000                      395	<b>3. Page</b> 1 OF 3
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**4. Title**  
 POTENTIAL 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	00	04	11	2022		05000
									Facility Name	Docket Number
										05000

<b>9. Operating Mode</b> 1	<b>10. Power Level</b> 100
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**11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)**

<input type="checkbox"/> 10 CFR Part 20	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<b>10 CFR Part 73</b>
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.69(g)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(i)	<b>10 CFR Part 21</b>	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(1)(i)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 21.2(c)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(i)
<input type="checkbox"/> 20.2203(a)(2)(iii)	<b>10 CFR Part 50</b>	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 73.77(a)(2)(ii)
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	
<input type="checkbox"/> OTHER (Specify here, in abstract, or NRC 366A).				

**12. Licensee Contact for this LER**

<b>Licensee Contact</b> Justin Bouknight / Licensing Engineer	<b>Phone Number (Include area code)</b> 803.941.9828
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**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**

<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date)	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Month</th> <th>Day</th> <th>Year</th> </tr> <tr> <td>07</td> <td>21</td> <td>2022</td> </tr> </table>	Month	Day	Year	07	21	2022
Month	Day	Year					
07	21	2022					

**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 conservatively declared inoperable. Until further review is completed, a possibility exists that VCSNS was outside of the conditions required by VCSNS Technical Specification (TS) Limiting Condition of Operation (LCO) 3.8.1.1.b prior to February 9.

VCSNS is currently evaluating this condition and will update this LER following completion of that evaluation, either confirming a period of inoperability or withdrawing the LER.

The evaluation and updated LER are expected to be available by July 21, 2022.



**LICENSEE EVENT REPORT (LER)  
CONTINUATION SHEET**

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1. FACILITY NAME V.C. Summer Nuclear Station, Unit 1	2. DOCKET NUMBER 05000- 395	3. LER NUMBER		
		YEAR 2022	SEQUENTIAL NUMBER 002	REV NO. 00

**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 conservatively declared inoperable. This prompt operability review was based on qualitative engineering analysis. It is possible that VCSNS was outside of the conditions required by VCSNS Technical Specification (TS) Limiting Condition of Operation (LCO) 3.8.1.1.b prior to February 9.

During troubleshooting on February 9, an intermittently connecting pin was discovered in an Amphenol connector, which was causing the noisy signal and kilowatt oscillations. The Amphenol connector was replaced to correct the connection issue. This condition is currently under evaluation.

VCSNS TS 3.8.1.1.b requires two separate and independent EDGs and appurtenances during operating Modes 1 through 4. LCO 3.8.1.1 Action b.4.a requires restoration of the inoperable EDG within 14 days when the alternate AC power source (AAC) is available.

The evaluation and supplemental LER are expected to be available by July 21, 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 postulated design basis accident (DBA) scenarios. In the event neither EDG is available to power its respective loads, a non-safety related AAC 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. 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.

**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 Amphenol connector. Replacement of the affected Amphenol connector corrected the 'B' EDG kilowatt oscillation condition.



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**NARRATIVE**

**4.0 IMMEDIATE CORRECTIVE ACTIONS**

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

**5.0 ADDITIONAL CORRECTIVE ACTIONS**

None

**6.0 ACTIONS TO PREVENT RECURRENCE**

Routine maintenance and surveillance of the EDGs will continue to ensure continued operability of both EDGs and identify adverse conditions requiring correction.

**7.0 SIMILAR EVENTS**

None

**8.0 MANUFACTURER**

Colt Industries, Fairbanks-Morse Engine Division

**9.0 ADDITIONAL INFORMATION**

VCSNS continues to evaluate this condition and expects to either issue a notice of cancellation or supplement this LER by July 21, 2022.