

Dominion Energy South Carolina
V. C. Summer Nuclear Station
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February 7, 2024

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

Serial No. 24-049
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
10 CFR 21 REPORT
EMERGENCY DIESEL GENERATOR CONTROL POWER CIRCUIT MONITOR RELAY

Dominion Energy South Carolina hereby submits the enclosed updated written notification of the identification of a defect, in accordance with the requirements of 10 CFR 21.21(d)(3)(ii). This notification pertains to the Emergency Diesel Generator Control Power Circuit Monitor Relay at VCSNS.

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

Sincerely,

A handwritten signature in black ink, appearing to read "R. Justice", enclosed within a large, loopy oval scribble.

Robert L. Justice
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.

10 CFR 21 Report

Emergency Diesel Generator Control Power Circuit Monitor Relay

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

10 CFR 21 REPORT

Emergency Diesel Generator Control Power Circuit Monitor Relay

1. Name and address of the individual or individuals informing the Commission.

James Holloway
Vice President, Nuclear Engineering & Fleet Support
Dominion Energy
5000 Dominion Blvd
Glen Allen, VA 23060

2. Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which contains a defect or noncompliance.

V.C. Summer Nuclear Station
Docket No. 50-395
License No. NPF-12
Basic Component: Emergency Diesel Generator Control Power Circuit Monitor Relay
(Eaton-Cutler Hammer D26MRD30A1)

3. Identification of the firm constructing the facility or supplying the basic component which contains a defect or noncompliance.

AREVA NP Inc.,
100 East Kensing Drive, Suite 100
Cranberry Township, PA 16066

4. Nature of the defect or noncompliance and the safety hazard which is created or could be created by such defect or noncompliance.

On November 12, 2021, the 'B' EDG was rendered inoperable when its Control Power Monitor Relay (Cutler-Hammer D26MRD30A1 Type Relay) de-energized due to coil failure. The most probable cause of the relay coil failure was due to the mechanical binding which prevented rapid actuation of the coil clearing contact resulting in longer pick-up coil operation. Consequentially, the inrush coil remained energized for longer than designed during relay actuations causing premature failure of the coil windings due to excessive thermal and electrical stress.

The binding was caused by a manufacturing defect that allowed heat-induced shrinkage to reduce the clearance between the magnet carrier and adjacent coil housing and base, preventing it from moving freely. V.C. Summer replaced the affected relay and restored operability of its 'B' EDG.

5. The date on which the information of such defect or noncompliance was obtained.

February 10, 2022

6. In the case of a basic component which contains a defect or noncompliance, the number and location of all such components in use at, supplied for, or being supplied for or may be supplied for one or more facilities or activities subject to the regulations in this part.

VC Summer identified one (1) relay effected by this condition out of a total of 10 relays procured under the same purchase order.

Affected components supplied to other licensees is not known to V.C. Summer.

7. The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

The affected relay was replaced with a similar Eaton-Cutler Hammer D26MRD30A1.

Bench testing was performed on all the relays from the same manufacturing batch as the failed relay and no additional defects were identified.

New relays from a different manufacturing batch were procured.

8. Any advice related to the defect or noncompliance about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

None.

9. In the case of an early site permit, the entities to whom the early site permit was transferred.

Not applicable, does not involve an early site permit.