



April R. Rice
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July 13, 2015
NND-15-0101
10 CFR 50.90
10 CFR 52.63

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

Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3
Combined License Nos. NPF-93 and NPF-94
Docket Nos. 52-027 & 52-028

Subject: LAR 14-15 S1: VCSNS Units 2 and 3 Response to Request for Additional Information Related to Request for License Amendment and Exemption: Compressed and Instrument Air System High Pressure Air Subsystem Changes

In accordance with 10 CFR 50.90, South Carolina Electric & Gas Company (SCE&G), the licensee for Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3, requested an amendment to Combined License (COL) Numbers NPF-93 and NPF-94, for VCSNS Units 2 and 3, respectively, by SCE&G letter NND-14-0531 dated October 30, 2014 [Accession No. ML14303A635]. The proposed license amendment request (LAR) would depart from VCSNS Units 2 and 3 COLs Appendix C and from plant-specific Design Control Document (DCD) Tier 1 material and Tier 2 material contained in the Updated Final Safety Analysis Report (UFSAR) to reconcile text and figure differences related to the removal of a supply line from the Compressed and Instrument Air System (CAS) to the main generator breaker package. As noted in the October 30, 2014 letter, the changes proposed in this license amendment request (SCE&G LAR 14-15) are identical in technical content with the Southern Nuclear Operating Company (SNC) LAR-14-009 submittal on this topic [Accession No. ML14227A707].

On December 2, 2014, the Nuclear Regulatory Commission (NRC) issued Request for Additional Information (RAI) Letter No. 1 [Accession No. ML14336A703] to SNC regarding their LAR-14-009 (electronic RAI (eRAI) 7769). SNC responded to that RAI by letter dated January 16, 2015 [Accession No. ML15016A416].

Because SCE&G LAR 14-15 is within the scope of NRC RAI Letter No. 1, SCE&G elects to provide the same response to these questions as those provided by SNC in their letter dated January 16, 2015. The SCE&G response to RAI Letter No. 1 is found in Enclosure 4 of this letter, which supplements the original LAR 14-15. Enclosures 1 through 3 were provided previously in SCE&G letter NND-14-0531.

The information provided in Enclosure 4 does not change the scope of, nor affect the Technical Evaluation or the conclusions of the Significant Hazards Consideration determination in the original LAR 14-15 submitted on October 30, 2014. This letter contains no regulatory commitments.

In accordance with 10 CFR 50.91, SCE&G is notifying the State of South Carolina of this LAR supplement by transmitting a copy of this letter and enclosures to the designated State Official.

Should you have any questions, please contact Mr. Justin Bouknight by telephone at (803) 941-9828, or by email at justin.bouknight@scana.com.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 15th day of July, 2015.

Sincerely,



April R. Rice
Manager, Nuclear Licensing
New Nuclear Operations

GT/ARR/gt

Enclosures 1 - 3: (previously submitted with the original LAR 14-15 in SCE&G letter NND-14-0531)

Enclosure 4: Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3 – Response to NRC Request for Additional Information Related to License Amendment Request LAR 14-15 (LAR 14-15 S1)

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**South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station Units 2 and 3**

NND-15-0101

Enclosure 4

**(Note that Enclosures 1 through 3 were provided with the original LAR 14-15 in SCE&G
letter NND-14-0531)**

**Response to NRC Request for Additional Information Related to
License Amendment Request LAR 14-15
(LAR 14-15 S1)**

(This enclosure contains three pages including this cover page)

eRAI Tracking No. 7769

Question 1:

In Enclosure 1, Section 2 of the license amendment request (LAR), the licensee stated that the generator circuit breaker (GCB) is capable of carrying and interrupting the normal load current and interrupting the maximum available root mean square (RMS) symmetrical and asymmetrical fault current produced by the main generator or the sum of the bolted three-phase fault currents associated with the plant motor house loads and the switchyard. However, the staff could not find supporting information that demonstrates the capacity and capability of the GCB.

Please provide a detailed summary of the evaluation, including applicable supporting technical references, that shows that the SF6 gas type GCB ratings and capabilities are consistent with the conditions as defined in Institute of Electrical and Electronics Engineers Standard C37.013, "Standard for AC High Voltage Generator Circuit Breakers Rated on a Symmetrical Current Basis," and meet the performance tests and capabilities as stated in NUREG-0800, Section 8.2, Appendix A.

Response to Question 1:

The GCB is designed and tested in accordance with Institute of Electrical and Electronics Engineers Standard C37.013. Detailed information regarding the design and ratings of the GCB may be found in the design specifications for the GCB. Supporting calculations also exist for determining the required ratings of the GCB. The ratings verified by the calculation include the required voltage and continuous current ratings, required symmetrical short circuit current interrupting capability, required asymmetrical short circuit current interrupting capability and required close-latching capability. Both the design specification and supporting calculations can be made available for NRC review. No change in compliance to NUREG-0800 is made with the change from an implied air-blast technology breaker to a sulfur hexafluoride (SF6) technology breaker. The breaker must meet all technical load carrying, load make/break, and fault interrupt requirements independent of implementing technology.

Question 2:

In Enclosure 1, Section 2 of the LAR, the licensee stated that changing from an air-blast to a SF6 gas type GCB does not adversely affect any GCB function.

Please describe the functional and operational requirements, including surveillance and maintenance, that are in place to ensure that the SF6 type GCB and its support systems will perform their intended design functions.

Response to Question 2:

The licensee is changing the GCB from an air-blast type breaker to a SF6 type breaker. The new breaker is an ABB Generator Circuit-Breaker System HEC 9 and uses SF6 gas to insulate and quench arcs during operation versus using compressed air to extinguish the arc. The GCB

performs the functions listed below. A change in the arc extinguishing medium does not adversely affect these functions.

- Carries the full load current of the generator and ensures the required insulation level at all times
- Connects the synchronized generator with the step-up transformer
- Separates the electrical connection between the generator and step-up transformer
- Interrupts load currents up to the full load current of the generator
- Interrupts transformer-fed short-circuit currents
- Interrupts generator-fed short-circuit currents

Along with the change in the arc extinguishing medium, there are also changes in maintenance strategies associated with the different technology. There are no Technical Specification or Technical Requirements Manual surveillance requirements associated with the GCB. Development of the maintenance strategies is a part of the SCE&G Equipment Reliability Program. Currently the maintenance strategies have not been determined; however, they will be established consistent with the vendor recommendations listed in the owner's manual. Available industry best practices will also be considered for inclusion. SF6 gas will be handled in accordance with SCE&G's policy and procedures for use and handling of SF6 gas.