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U.S. Nuclear Regulatory Commission
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Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Revised Supplement to Request for License Amendment and Exemption:
Pipe Rupture Hazard and Flooding Analysis (LAR-17-010S5)

Ladies and Gentlemen:

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC) requests an amendment to the combined licenses (COLs) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4 (License Numbers NPF-91 and NPF-92, respectively). The requested amendment proposes to depart from approved AP1000 Design Control Document (DCD) Tier 2 information (text, tables, and figures) [as incorporated into the Updated Final Safety Analysis Report (UFSAR) as plant-specific DCD information], and involves related changes to COL Appendix C information, with corresponding changes to the associated plant-specific Tier 1 information. Pursuant to the provisions of 10 CFR 52.63(b)(1), an exemption from elements of the design as certified in the 10 CFR Part 52, Appendix D, design certification rule is also requested for the plant-specific DCD Tier 1 material departures.

The requested amendment proposes changes to the COL, COL Appendix C (and to plant-specific Tier 1 information) and associated Tier 2 information to address mitigation of fire protection system flooding of the Auxiliary Building identified during completion of the pipe rupture hazards analysis (PRHA).

Enclosure 17 provides responses to NRC Staff RAI #4 from the Electrical Systems Branch dated December 21, 2017 (ADAMS accession number ML17355A470). Enclosures 1 through 4 were provided with the original LAR. Enclosures 5 and 6 were provided on August 21, 2017, with SNC letter ND-17-1465 (LAR-17-010S1), in response to 5 of 7 NRC Staff requests for additional information (RAIs) dated July 20, 2017 (ADAMS accession number ML17201Q412). Enclosures 7 through 11 were provided on October 9, 2017, with SNC letter ND-17-1725 (LAR-17-010S2), in response to the remaining two NRC Staff RAIs dated July 20, 2017, and included updated responses to two others in response to NRC Staff follow-up questions. Enclosures 12 through 14 were provided on November 1, 2017, with SNC letter ND-17-1831 (LAR-17-010S3), in response to the NRC Staff RAIs #2 dated September 22, 2017 (ADAMS accession number ML 17265A357). Enclosures 15 and 16 were provided on December 1, 2017, with SNC letter ND-17-2026 (LAR-17-010S4), and subsequently revised on December 15, 2017, with SNC letter ND-17-2102 (LAR-

17-010S4R1), in response to the NRC Staff RAIs #3 based on clarification calls of November 15 and 16, 2017, and December 14, 2017.

The supplemental information provided in this LAR supplement does not impact the scope, technical content, or conclusions of the Technical Evaluation, Significant Hazards Consideration Determination, or Environmental Considerations of the original LAR, LAR-17-010, provided in Enclosure 1 of SNC letter ND-17-0496.

SNC requests staff approval of the license amendment and associated exemption by January 15, 2018, to support continued construction activities and ITAAC closure activities. SNC expects to implement the proposed amendment (through incorporation into the licensing basis documents; e.g., the Updated Final Safety Analysis Report) within 30 days of approval of the requested changes.

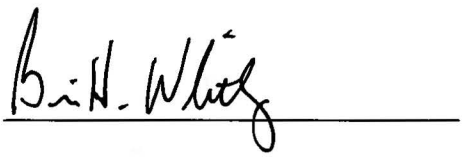
In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR supplement by transmitting a copy of this letter and enclosures to the designated State Official.

This letter contains no regulatory commitments. This letter, including enclosures, has been reviewed and confirmed to not contain security-related information.

Should you have any questions, please contact Ms. Amy Chamberlain at (205) 992-6361.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 3rd day of January 2018.

Respectfully submitted,



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Enclosures: 1 – 4) (Previously submitted with original LAR-17-010 via ND-17-0496)

5 – 6) (Previously submitted as supplemental information with LAR-17-010S1 via ND-17-1465)

7 – 11) (Previously submitted as supplemental information with LAR-17-010S2 via ND-17-1725)

12 – 14) (Previously submitted as supplemental information with LAR-17-010S3 via ND-17-1831)

15 – 16) (Previously submitted as supplemental information with LAR-17-010S4R1 via ND-17-2102)

17) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 –Response to NRC Request for Additional Information #4 Regarding the LAR-17-010 Review (LAR-17-010S5)

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Southern Nuclear Operating Company

ND-18-0001

Enclosure 17

Vogtle Electric Generating Plant Units 3 and 4

Response to NRC Request for Additional Information #4

Regarding the LAR-17-010 Review

(LAR-17-010S5)

(This Enclosure consists of 3 pages, including this cover page.)

Electrical Systems Branch:

10 CFR 50, Appendix A, General Design Criteria (GDC) 17, “Electric Power Systems,” discusses the onsite dc power system's: (1) capacity and capability to permit functioning of SSCs important to safety assuming no offsite power is available; (2) independence, redundancy, and testability to perform its safety function assuming a single failure; and (3) provisions to minimize the probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss-of-power generated by the nuclear power unit or the loss-of-power from the transmission network. The Class 1E batteries, as part of the onsite power system, shall have sufficient capacity to perform their safety function.

In letter dated August 21, 2017 (ML17233A325), in response to Question 4, the licensee stated that new level instrumentation (floodup sensors WLS-400A and WLS-400B) are added and that there is a minor increase to the power requirements of the Class 1E batteries which is within the available battery capacity.

Staff requests the following information:

1. Describe the added load on the Class 1E batteries (i.e. are these momentary or continuous loads?; the added load compared to the total load)

2. Discuss which battery banks or inverters are powering the load.

3. Discuss any changes or confirm no changes to FSAR Tables 8.3.2-1 through 8.3.2-7.

4. Regarding the battery sizing calculation, what are the changes and discuss the impact of the changes.

5. Describe the changes to the Vogtle licensing basis, specifically in regards to design margin (i.e. aging factor, load growth, etc.) in battery sizing.

RESPONSE:

Item 1: Added load on the Class 1E batteries

The Auxiliary Building Radiologically Controlled Area (RCA) Floodup Level Sensor consumes a maximum of 1.8 Watts (W) per transmitter, or 3.6 W total (since the power required is equal to the voltage squared divided by the resistance where the voltage is 30 Volts (V) & and the resistance is 500 ohms, thus, $30^2/500$ is 1.8 W). These new auxiliary building RCA floodup level sensors (WLS-JE-LT400A/B) are continuous loads on the 24-hour batteries. Per Updated Final Safety Analysis Report (UFSAR) Tables 8.3.2-1 and 8.3.2-7 the total continuous load on the Division A and C batteries is several kilowatts; and as explained below, already includes this loading.

Item 2: Battery banks or inverters powering the load

The sensors are in Divisions A and C of the Protection and Safety Monitoring System (PMS), on the IDSA-DU-1 inverter and IDSC-DU-2 inverter. Again, as explained below, this small load has already been considered in the equipment sizing considerations.

Item 3: Impact to UFSAR Tables 8.3.2-1 through 8.3.2-7

There are no changes to the UFSAR tables due to the addition of the sensors because their loads are already included in the PMS loading shown in the tables. The input for the PMS loads presumes the cabinet supports the full number of sensors the cabinet is capable of handling in determination of power consumption. Therefore, the stated power consumption is not increased as the sensors are already presumed to exist in the cabinet.

Item 4: Battery sizing calculation impact

As indicated in item 3, the battery sizing calculation already includes a full loading of the cabinet for sensors (i.e., all possible channels filled) to confirm the batteries are sufficiently sized for the fully loaded condition. Thus, the battery sizing calculation is not impacted.

Item 5: Licensing basis impact

As discussed in question number 3, there are no licensing basis impacts for the batteries due to the Auxiliary Building RCA Floodup Level Sensor additions as they are already accounted for in the battery loading tables.