

August 13, 2018

Docket Nos.: 52-025
52-026

ND-18-1038
10 CFR 50.90
10 CFR 52.63

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Supplement to Request for License Amendment and Exemption:
Fire Protection System Non-Safety Cable Spray Removal (LAR-18-015S1)

Ladies and Gentlemen:

In accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC) submitted license amendment request (LAR)-18-015 for the combined licenses (COLs) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4 (License Numbers NPF-91 and NPF-92, respectively) by SNC letter ND-18-0593, dated April 27, 2018 [ADAMS Accession Number ML18117A464] to depart from Tier 2 information in Updated Final Safety Analysis Report (UFSAR) Subsection 9.5.1, Section 19.59, and Appendix 9A by removing the fire protection system (FPS) non-safety related containment cable spray and installing passive fire stops and radiant energy shields. The requested amendment also involves related changes to plant-specific Tier 1 Figures 2.3.4-1 and 2.3.4-2, with corresponding changes to the associated COL Appendix C information.

On July 5, 2018 NRC Staff provided a draft request for additional information (RAI) [ML18186A561] regarding this license amendment request (LAR). SNC discussed the draft RAI with the NRC Staff in the weekly public meeting on July 12, 2018 [ML18197A241]. As a result of the public meeting discussion, the NRC issued a final RAI dated July 12, 2018 [ML18197A060]. This letter supplements LAR-18-015 to respond to the NRC Staff RAI.

Enclosures 1, 2, and 3 were provided with the original LAR-18-015, SNC letter ND-18-0593. There are no changes to Enclosures 1, 2, or 3, which were included in the original submittal of LAR-18-009, as a result of this supplement.

Enclosure 4 of this letter provides the response to the final RAI dated July 12, 2018.

The information provided in this LAR supplement does not impact the scope, technical content, or conclusions of the Significant Hazards Consideration Determination or the Environmental Considerations of the original LAR-18-009 provided in Enclosures 1 and 2 of SNC letter ND-18-0593.

SNC maintains the requested NRC staff approval of the license amendment by October 15, 2018, to support installation of FPS piping inside containment. SNC expects to implement this proposed amendment within 30 days of approval of the requested changes.

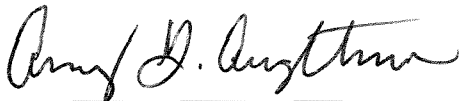
This letter contains no regulatory commitments. This letter has been reviewed and determined not to contain security-related information.

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

Should you have any questions, please contact Mr. Adam Quarles at (205) 992-7031.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 13th of August 2018.

Respectfully submitted,



Amy G. Aughtman
Licensing Manager, Regulatory Affairs
Southern Nuclear Operating Company

- Enclosures
- 1) through 3) Previously submitted with the original LAR, LAR-18-015
 - 4) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Supplement to Request for License Amendment and Exemption Regarding Fire Protection System Non-Safety Cable Spray Removal (LAR-18-015S1)

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Enclosure 4

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Supplement to Request for License Amendment and Exemption Regarding

Fire Protection System Non-Safety Cable Spray Removal

(LAR-18-015S1)

(This Enclosure consists of 4 pages, including this cover page)

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Enclosure 4

Supplement to Request for License Amendment and Exemption Regarding Fire Protection System Non-Safety Cable Spray Removal (LAR-18-015S1)

The NRC requested the following information regarding license amendment request (LAR)-18-015 in a request for additional information (RAI) dated 7/12/18. The RAI is available in NRC ADAMS under Accession Number ML18197A060. The responses from Southern Nuclear Operating Company (SNC) are provided following the RAI questions.

NRC RAI Questions

GDC 3, Fire protection, states in part that; "Structures, systems, and components important to safety shall be designed and located to minimize, consistent with other safety requirements, the probability and effect of fires and explosions."

On page 3 of 24 of the license amendment request the licensee states that:

"The fire protection program utilizes the guidance of various industry and regulatory documents including that provided in Revision 1 of Regulatory Guide 1.189, "Fire Protection for Nuclear Power Plants" (RG 1.189). RG 1.189 recognizes the use of passive fire stops in lieu of water spray systems."

On page 5 of 24 of the license amendment request the license states that

"These passive fire stops will be placed in the nonsafety-related open cable trays near the boundary of fire zone 11300B prior to where the trays continue into adjacent fire zones. The purpose of the passive fire stops is to prevent a fire in the nonsafety-related open cable trays of fire zone 11300B from propagating to another fire zone."

Section 4.2.3.3, "Fire Stops for Cable Routing," of Regulatory Guide 1.189, Revision 1, states the following:

"Fire stops should be installed every 6.1 m (20 ft) along horizontal cable routings in areas important to safety that are not protected by automatic water systems. Vertical cable routings should have fire stops installed at each floor-ceiling level. Between levels or in vertical cable chases, fire stops should be installed at the mid-height if the vertical run is 6.1 m (20 ft) or more, but less than 9.1 m (30 ft), or at 4.6-m (15-ft) intervals in vertical runs of 9.1 m (30 ft) or more unless such vertical cable routings are protected by automatic water systems directed on the cable trays."

It is not clear to the staff if passive fire stops discussed in the license amendment request will be installed according to staff approved guidance (e.g., RG 1.189 Section 4.2.3.3). Therefore, the staff requests the licensee to provide additional information:

1. Indicate whether fire stops will be installed every 6.1 M (20 ft) along horizontal cable routings or provide justification why the fire stops should not be installed.
2. Indicate whether vertical cable routings will have fire stops installed at each floor and ceiling level. In addition, whether fire stops will be installed between levels or in vertical cable chases if the mid-height of the vertical run is 6.1 m (20 ft) or more, but less than 9.1 m (30 ft), or at 4.6-m (15-ft) intervals in vertical runs of 9.1 m (30 ft) or more, or provide justification why the fire stops should not be installed.

3. Explain applicability of regulatory guidance used in Items 1 and 2 above.

SNC RAI Response

1. As indicated in LAR-18-015 (page 5 of 24), the passive fire stops that are proposed to replace the open-nozzle water spray suppression system "...will be placed in the nonsafety-related open cable trays near the boundary of fire zone 11300B prior to where the trays continue into adjacent fire zones. The purpose of the passive fire stops is to prevent a fire in the nonsafety-related open cable trays of fire zone 11300B from propagating to another fire zone." The fire stops need not be installed at locations other than the boundary of fire zone 11300B for the following reasons:
 - a. As indicated in LAR-18-015 (page 15 of 24), the division A and C safe shutdown components in fire zone 11300B are conservatively assumed to be disabled as a result of a fire in this fire zone. However, it is noted that the B and D divisions are sufficient to perform functions applicable to their systems to achieve and maintain safe shutdown. Therefore, there is no need to place fire stops in open cable trays at locations within fire zone 11300B because the safe shutdown components within fire zone 11300B are conservatively assumed to be disabled by the fire.
 - b. The installation of the fire stops at the fire zone boundaries is also appropriate because, as indicated in LAR-18-015, the proposed fire stops have been tested and shown to prevent flame propagation for three hours. As indicated in LAR-18-015, the fire duration of fire zone 11300B is calculated to be less than three hours (page 15 of 24). The fire stops referenced in section 4.2.3.3, "Fire Stops for Cable Routing," of Regulatory Guide 1.189, Revision 1 are for preventing the propagation of a fire for a minimum of 30 minutes. The fire stops SNC proposes using are rated for 3 hours. Additionally, the fire stops are replacing the open-nozzle water spray suppression system, which is only credited for providing additional assurance that a fire will not propagate between fire zones 1100 AF 11300A and 1100 AF 11300B, not for preventing fire propagation within each zone.
 - c. As indicated in LAR-18-015 (pages 13 and 15 of 24), the installation of fire stops at the boundary of fire zone 11300B does not invalidate other design aspects that physically separate fire zone 11300B from adjacent fire zones and the distances between intervening combustibles that inhibit fire propagation from one zone to another.
2. As indicated in LAR-18-015 (page 13 of 24), the flame propagation tests of the passive fire stops were performed with the test trays vertically oriented. The results of the tests are that flame propagation was prevented for a three-hour test period. Therefore, for the same reasons as expressed in the response to question number 1, the fire stops need not be installed at locations other than the boundary of fire zone 11300B.
3. As indicated in LAR-18-015 (page 3 of 24), "The design of the [fire protection system (FPS)] meets the applicable requirements of NFPA 804, "Standard for Fire Protection for Advanced Light Water Reactor Electric Generating Plants," and NUREG-0800 Standard Review Plan

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Enclosure 4

Supplement to Request for License Amendment and Exemption Regarding Fire Protection System Non-Safety Cable Spray Removal (LAR-18-015S1)

(SRP), Section 9.5.1, "Fire Protection Program," Revision 3, July 1981 including Branch Technical Position (BTP) CMEB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants," Revision 2, July 1981. The fire protection program utilizes the guidance of various industry and regulatory documents including that provided in Revision 1 of Regulatory Guide (RG) 1.189, "Fire Protection for Nuclear Power Plants" (RG 1.189)." Although RG 1.189 is not applicable to the AP1000 design (see LAR-18-015 page 3 of 24 and Vogtle Units 3 and 4 UFSAR Appendix 1A), the FPS of Vogtle Units 3 and 4 conforms to RG 1.189, Revision 1, for programmatic and/or operational aspects. The AP1000 FPS design is generally in accordance with BTP CMEB 9.5-1 (Vogtle Units 3 and 4 UFSAR Table 9.5.1-1 provides a point-by-point description of the conformance with BTP 9.5-1). The discussion of RG 1.189 in LAR-18-015 is only intended to illustrate that the use of passive fire stops is recognized by the NRC.