



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS

RELATED TO AMENDMENT NOS. 112 AND 111

TO THE COMBINED LICENSE NOS. NPF-91 AND NPF-92

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

GEORGIA POWER COMPANY

OGLETHORPE POWER CORPORATION

MEGA POWER SPVM, LLC

MEGA POWER SPVJ, LLC

MEGA POWER SPVP, LLC

CITY OF DALTON, GEORGIA

VOGTLE ELECTRIC GENERATING PLANT, UNITS 3 AND 4

DOCKET NOS. 52-025 AND 52-026

1.0 INTRODUCTION

By letter dated October 6, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17279A084), Southern Nuclear Operating Company, Inc. (SNC) requested that the U.S. Nuclear Regulatory Commission (NRC) amend the combined licenses (COL) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, COL Numbers NPF-91 and NPF-92, respectively.

License Amendment Request (LAR) 17-036 requested a departure from approved AP1000 Design Control Document (DCD) Tier 2 information (as incorporated into the Updated Final Safety Analysis Report (UFSAR) as plant-specific DCD information) and proposes changes to plant-specific Tier 1 information (and corresponding changes to COL Appendix C) for each of the VEGP Units 3 and 4 COLs. Specifically, LAR 17-036 requests modifying UFSAR Subsection 8.3.2.4 to describe raceway and cable routing criteria and hazard protection, and involves related changes to plant-specific Tier 1 Table 3.3-6, inspections, tests, analyses, and acceptance criteria (ITAAC) information, with corresponding changes to the associated COL Appendix C information.

SNC also requested an exemption from the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, Appendix D, Section III.B, "Design Certification Rule for the AP1000 Design, Scope and Contents," to allow a departure from the elements of the

certification information in Tier 1 of the generic DCD.¹

In order to modify the UFSAR Tier 1 (the plant-specific DCD) information, the NRC must find SNC's exemption request included in its submittal for the LAR acceptable. The NRC staff's review of the exemption request and the LAR is included in this safety evaluation.

The staff's proposed no significant hazards consideration determination was published in the *Federal Register* on November 21, 2017 (82 FR 55411).

2.0 REGULATORY EVALUATION

10 CFR Part 52, Appendix D, Section VIII.A.4 states that exemptions from Tier 1 information are governed by the requirements in 10 CFR 52.63(b)(1) and 10 CFR 52.98(f). It also states that the Commission will deny such a request if it finds that the design change will result in a significant decrease in the level of plant safety otherwise provided by the design.

10 CFR Part 52, Appendix D, Section VIII.B.5.a allows an applicant or licensee who references this appendix to depart from Tier 2 information, without prior NRC approval, unless the proposed departure involves a change to or departure from Tier 1 information, Tier 2* information, the Technical Specifications, or requires a license amendment under 10 CFR Part 52, Appendix D, Section VIII, paragraphs B.5.b or B.5.c.

10 CFR 52.63(b)(1) allows the licensee who references a design certification rule to request NRC approval for an exemption from one or more elements of the certification information. The Commission may only grant such a request if it determines that the exemption will comply with the requirements of 10 CFR 52.7, which, in turn, points to the requirements listed in 10 CFR 50.12 specific exemptions. In addition, the Commission must consider whether special circumstances, as required by 10 CFR 52.7 and 50.12, outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption. Therefore, any exemption from the Tier 1 information certified by Appendix D to 10 CFR Part 52 must meet the requirements of 10 CFR 50.12, 52.7, and 52.63(b)(1).

10 CFR 52.98(f) requires NRC approval for a proposed amendment to the COL for any modification to, addition to, or deletion from the terms and conditions of a COL. These activities involve a change to COL Appendix C ITAAC information, with corresponding changes to the associated plant-specific DCD Tier 1 information. Therefore, NRC approval is required prior to making the plant specific changes in this LAR.

10 CFR 50.55a(h)(3), "Safety Systems," requires compliance with Institute of Electrical and Electronic Engineers (IEEE) Standard (Std.) 603-1991, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations," and the correction sheet dated January 30, 1995. Clause 5.6 of IEEE Std. 603-1991, "Independence" requires, in part, that redundant portions of a safety system provided for a safety function shall be independent of and physically separated from each other to the degree necessary to retain the capability to accomplish the

¹ While the licensee describes the requested exemption as being from Section III.B of 10 CFR Part 52, Appendix D, the entirety of the exemption pertains to proposed departures from Tier 1 information in the plant-specific DCD. In the remainder of this evaluation, the NRC will refer to the exemption as an exemption from Tier 1 information to match the language of Section VIII.A.4 of 10 CFR Part 52, Appendix D, which specifically governs the granting of exemptions from Tier 1 information.

safety function during and following any design basis event requiring that safety function. Safety system equipment required to mitigate the consequences of a specific design basis event shall be independent of, and physically separated from, the effects of the design basis event to the degree necessary to retain the capability to meet the requirements of this standard. In addition, the safety system design shall be such that credible failures in and consequential actions by other systems shall not prevent the safety systems from meeting its safety requirements. This LAR proposed changes and clarifications to the minimum separation distance requirements of raceway systems, which are used in the certified AP1000 design for supporting, protecting, and routing electrical and instrumentation circuits. Therefore, the regulatory requirements in 10 CFR 50.55a(h)(3) are considered in this safety evaluation.

The specific NRC technical requirements applicable to LAR-17-036 are the general design criteria (GDC) in Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities." In particular, these technical requirements include the following GDC:

GDC 17, "Electric power systems," requires, in part, that the onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure.

GDC 21, "Protection system reliability and testability," requires, in part, that redundancy and independence designed into the protection system shall be sufficient to assure that (1) no single failure results in loss of the protection function and (2) removal from service of any component or channel does not result in loss of the required minimum redundancy unless the acceptable reliability of operation of the protection system can be otherwise demonstrated.

GDC 22, "Protection system independence," requires that the protection system shall be designed to assure that the effects of natural phenomena, and of normal operating, maintenance, testing, and postulated accident conditions on redundant channels do not result in loss of the protection function, or shall be demonstrated to be acceptable on some other defined basis. Design techniques, such as functional diversity or diversity in component design and principles of operation, shall be used to the extent practical to prevent loss of the protection function.

GDC 24, "Separation of protection and control systems," requires that the protection system shall be separated from control systems to the extent that failure of any single control system component or channel, or failure or removal from service of any single protection system component or channel which is common to the control and protection systems leaves intact a system satisfying all reliability, redundancy, and independence requirements of the protection system. Interconnection of the protection and control systems shall be limited so as to assure that safety is not significantly impaired.

Regulatory Guide (RG) 1.75, "Criteria for Independence of Electrical Safety Systems," endorses, with exceptions, IEEE Std. 384-1981, "Criteria for Independence of Class 1E Equipment and Circuits." RG 1.75 provides criteria for establishing and maintaining the independence of safety-related equipment and circuits, and auxiliary supporting features by physical separation and electrical isolation.

3.0 TECHNICAL EVALUATION

3.1 EVALUATION OF EXEMPTION

The regulations in Section III.B of Appendix D to 10 CFR Part 52 require a holder of a COL referencing Appendix D to 10 CFR Part 52 to incorporate by reference and comply with the requirements of Appendix D, including certified information in Tier 1 of the generic AP1000 DCD. Exemptions from Tier 1 information are governed by the change process in Section VIII.A.4 of Appendix D of 10 CFR Part 52. Because SNC has identified changes to plant-specific Tier 1 information, with corresponding changes to the associated COL Appendix C information resulting in the need for a departure, an exemption from the certified design information within plant-specific Tier 1 material is required to implement the LAR. The Tier 1 information for which a plant-specific departure and exemption was requested relates to the changes and clarifications to the minimum separation distance requirements for raceway systems found in IEEE Std. 384-1981. It includes proposed changes to criteria and hazard protection and involves related changes to plant-specific Tier 1 Table 3.3-6 information, with corresponding changes to the associated COL Appendix C information. The result of this exemption would be that SNC could implement modifications to Tier 1 information. Pursuant to the provisions of 10 CFR 52.63(b)(1), an exemption from the elements of the design as certified in the 10 CFR Part 52, Appendix D, design certification rule is requested for the involved Tier 1 information described and justified in LAR 17-036. This exemption is a permanent exemption limited in scope to the particular Tier 1 information specified.

As stated in Section VIII.A.4 of Appendix D to 10 CFR Part 52, an exemption from Tier 1 information is governed by the requirements of 10 CFR 52.63(b)(1) and 52.98(f). Additionally, Section VIII.A.4 of Appendix D to 10 CFR Part 52 provides that the Commission will deny a request for an exemption from Tier 1 if it finds that the requested change will result in a significant decrease in the level of safety otherwise provided by the design. Pursuant to 10 CFR 52.63(b)(1), the Commission may grant exemptions from one or more elements of the certification information, so long as the criteria given in 10 CFR 52.7 which, in turn, references 10 CFR 50.12, are met and that the special circumstances, as defined by 10 CFR 50.12(a)(2), outweigh any potential decrease in safety due to reduced standardization.

Pursuant to 10 CFR 52.7, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 52. As 10 CFR 52.7 further states, the Commission's consideration will be governed by 10 CFR 50.12, "Specific exemptions," which states that an exemption may be granted when: (1) the exemptions are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security; and (2) special circumstances are present. Specifically, 10 CFR 50.12(a)(2) lists six special circumstances for which an exemption may be considered. It is necessary for one of these special circumstances to be present in order for the NRC to consider granting an exemption request. The licensee stated that the requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii). That subsection defines special circumstances as when "[a]pplication of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." The staff's analysis of these findings is presented below.

3.1.1 AUTHORIZED BY LAW

The requested exemption would allow the licensee to implement revisions to Tier 1 information and corresponding information in COL Appendix C in the plant-specific DCD. This exemption is a permanent exemption limited in scope to particular Tier 1, Table 3.3-6 information. Subsequent changes to Tier 1, Table 3.3-6, or any other Tier 1 information would be subject to the exemption process specified in Section VIII.A.4 of Appendix D to 10 CFR Part 52 and the requirements of 10 CFR 52.63(b)(1). As stated above, 10 CFR Part 52, Appendix D, Section VIII.A.4 allows the NRC to grant exemptions from one or more elements of the Tier 1 information. The staff has determined that granting of the licensee's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, as required by 10 CFR 50.12(a)(1), the exemption is authorized by law.

3.1.2 NO UNDUE RISK TO PUBLIC HEALTH AND SAFETY

The underlying purpose of Appendix D to 10 CFR Part 52 is to ensure that the licensees will construct and operate the plant based on the approved information found in the DCD incorporated by reference into the plant's licensing basis. The proposed changes for the information would revise the acceptance criteria in Table 3.3-6 for ITAAC. These changes do not add or remove any equipment from the onsite or offsite power electrical systems. These changes will enable SNC to safely construct and operate the facility consistent with the performance of the as-built components for the AP1000 design certified by the NRC by updating the information mentioned above found in Tier 1, Table 3.3-6 of the DCD. These changes will not impact the ability of the systems or equipment to perform their design function. These changes do not add any new equipment or system interfaces to the current plant design. The changes do not introduce any new industrial, chemical, or radiological hazards that would represent a public health or safety risk, nor do they modify or remove any design or operational controls or safeguards intended to mitigate any existing on-site hazards. Furthermore, the proposed changes would not allow for a new fission product release path, result in a new fission product barrier failure mode, or create a new sequence of events that would result in significant fuel cladding failures. Accordingly, these changes do not present an undue risk from any new equipment or systems. Therefore, as required by 10 CFR 50.12(a)(1), the staff finds that there is no undue risk to public health and safety.

3.1.3 CONSISTENT WITH COMMON DEFENSE AND SECURITY

The proposed exemption would allow changes to elements of the plant-specific Tier 1 DCD. This is a permanent exemption limited in scope to particular Tier 1, Table 3.3-6 information. Subsequent changes to Tier 1 information would be subject to the requirements of Section VIII.A.4 of Appendix D to 10 CFR Part 52. The proposed changes for the separation of raceways involve revisions to Tier 1, Table 3.3-6 of the DCD. The changes do not alter or impede the design, function, or operation of any plant structures, systems, and components (SSCs) associated with the facility's physical or cyber security and, therefore, do not affect any plant equipment that is necessary to maintain a safe and secure plant status. In addition, the changes have no impact on plant security or safeguards. Therefore, as required by 10 CFR 50.12(a)(1), the staff finds that the common defense and security is not impacted by this exemption.

3.1.4 SPECIAL CIRCUMSTANCES

Special circumstances, in accordance with 10 CFR 50.12(a)(2), are present whenever application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. The underlying purpose of the Tier 1 information is to ensure that SNC will safely construct and operate the plant based on the certified information found in the AP1000 DCD, which was incorporated by reference into the VEGP Units 3 and 4 licensing basis. The proposed changes and clarifications to the minimum separation distance requirements for raceway systems would allow changes to the ITAAC and UFSAR with regard to the separation of raceway systems. The changes do not impact the ability of any SSCs to perform their functions or negatively impact safety.

Special circumstances are present in the particular circumstances discussed in LAR-17-036 because the application of specified Tier 1 information is not necessary to achieve the underlying purpose of the rule. The proposed changes implement changes to Tier 1 information. This exemption request and associated revisions to Tier 1 Table 3.3-6 continue to demonstrate that the applicable regulatory requirements will be met. The proposed changes update the separation criteria, specifically for low voltage and below (instrumentation and control) cables, and in part are based upon testing done as documented in the UFSAR, and therefore ensure that the design can be implemented in accordance with the purpose of the rule. Therefore, for the above reasons, the staff finds that the special circumstances required by 10 CFR 50.12(a)(2)(ii) for the granting of an exemption from Tier 1 information exist.

3.1.5 SPECIAL CIRCUMSTANCES OUTWEIGH REDUCED STANDARDIZATION

This exemption would allow the implementation of changes to Tier 1 information as proposed in LAR-17-036. The proposed changes for updating the separation criteria involve revisions to plant-specific DCD Tier 1 Table 3.3-6. These changes will enable SNC to safely construct and operate the facility consistent with the performance of the as-built components for the AP1000 design certified by the NRC by updating the information mentioned above found in Tier 1, Table 3.3-6 of the DCD. Since the proposed physical changes to the separation criteria have been shown to provide an equivalent level of protection to that of the existing criteria that it replaces, there is no decrease in the level of safety in the presented design nor any additional failure modes introduced. The functions of the systems associated with this request are consistent with the current design of the plant in supporting the actual system functions. The functions of these systems will continue to be maintained because the associated revisions to the Tier 1 information demonstrate that the applicable regulatory requirements will continue to be met. Consequently, the safety impact that may result from any reduction in standardization is minimized, because the proposed changes do not result in a reduction in the level of safety. Based on the foregoing reasons, as required by 10 CFR Part 52.63(b)(1), the staff finds that the special circumstances outweigh the effects the departure has on the standardization of the AP1000 design.

3.1.6 NO SIGNIFICANT REDUCTION IN SAFETY

This exemption would allow the implementation of changes to Tier 1 information as proposed in LAR-17-036. The changes will not significantly impact the functional capabilities of these components. The proposed changes will not adversely affect the ability of the SSCs to perform their design functions and the level of safety provided by the current systems and equipment therein is unchanged. Therefore, based on the foregoing reasons and as required by 10 CFR 52.7, and 10 CFR Part 52 Appendix D, Section VIII.A.4, the staff finds that granting the exemption would not result in a significant decrease in the level of safety otherwise provided by the design.

3.2 TECHNICAL EVALUATION

Raceway systems are used within main alternating current and direct current (dc) power systems and various instrumentation and control (I&C) systems in the certified AP1000 design, which include safety-related and nonsafety-related systems, such as the Class 1E dc and uninterruptible power system, the safety-related protection and safety monitoring system, and nonsafety-related plant control system. Raceway systems used in the certified AP1000 design are provided to support, protect, and route electrical and instrumentation circuits.

SNC proposes to depart from Tier 2 information in UFSAR Subsection 8.3.2.4.2 which describes raceway and cable routing criteria and hazard protection and also involves commensurate changes to Tier 1 Table 3.3-6 and COL Appendix C. The basis for the request is to update the separation criteria specifically for low voltage and below I&C cables based upon testing done as documented in Reference 13 in UFSAR Subsection 8.3.2.4.2. The requested amendment involves changes and clarifications to the minimum separation distance requirements found in IEEE Std. 384-1981, UFSAR Subsection 8.3.2.4.2 and COL Appendix C Table 3.3-6 ITAAC Nos. 3.3.00.07d.i, 3.3.00.07d.ii.a, 3.3.00.07d.ii.b, and 3.3.00.07d.ii.c (and the corresponding plant-specific Tier 1 information).

IT AAC No. 3.3.00.07d.i

This ITAAC is proposed to be revised/augmented to define the minimum raceway separation requirements between Class 1E raceways of different divisions and between Class 1E raceways and non-Class 1E raceways within the main control room (MCR) and remote shutdown room (RSR) (non-hazard areas):

- For configurations involving low voltage power cables and below, open configurations to closed configurations containing low voltage power cables, the minimum vertical separation is 3 inches and the minimum horizontal separation is 1 inch.
- For configurations involving low voltage power cables with an enclosed raceway and an open raceway, the minimum vertical separation is established as 1 inch if the enclosed raceway is below the open raceway.
- For configurations involving open configurations, and an enclosed raceway and an open raceway containing I&C cables, the minimum separation is established as 1 inch in both horizontal and vertical directions.

ITAAC No. 3.3.00.07d.ii.a

This ITAAC is proposed to be revised/augmented to define the minimum raceway separation requirements between Class 1E raceways of different divisions and between Class 1E raceways and non-Class 1E raceways within other plant areas inside containment (hazard areas):

- The minimum separation of 12 inches vertical and 6 inches horizontal for low voltage power cables (\leq 2/0 AWG) and below is reduced to 3 inches vertical with a conduit above and crossing an open configuration at an angle of 45 degrees or greater.
- The minimum separation of 12 inches vertical and 6 inches horizontal for low voltage power cables (between 2/0 AWG and 750 kcmil) is reduced to 3 inches vertical with a conduit above and crossing an open tray at an angle of 45 degrees or greater.
- For configurations exclusively involving I&C cables, the minimum vertical separation is reduced to 1 inch.
- The minimum separation of 1 inch vertical and 1 inch horizontal for low voltage power cables and below is established for configurations with a non-safety conduit and a free air safety cable.

ITAAC 3.3.00.07d.ii.b

This ITAAC is proposed to be revised/augmented to define the minimum raceway separation requirements between Class 1E raceways of different divisions and between Class 1E raceways and non-Class 1E raceways within other plant areas inside the non-radiologically controlled area of the auxiliary building (limited hazard areas):

- The minimum separation of 12 inches vertical and 6 inches horizontal for low voltage power cables (\leq 2/0 AWG) and below is reduced to 3 inches vertical with a conduit above and crossing an open configuration at an angle of 45 degrees or greater.
- The minimum separation of 12 inches vertical and 6 inches horizontal for low voltage power cables (between 2/0 AWG and 750 kcmil) is reduced to 3 inches vertical with a conduit above and crossing an open tray at an angle of 45 degrees or greater.
- For configurations exclusively involving I&C cables, the minimum vertical separation is reduced to 1 inch.
- The minimum separation of 1 inch vertical and 1 inch horizontal for low voltage power cables and below is established for configurations with a non-safety conduit and a free air safety cable.

ITAAC 3.3.00.07d.ii.c

This ITAAC is proposed to be revised/augmented to define the minimum raceway separation requirements between Class 1E raceways of different divisions and between Class 1E raceways and non-Class 1E raceways within other plant areas inside the radiologically controlled area of the auxiliary building (limited hazard areas):

- The minimum separation of 12 inches vertical and 6 inches horizontal for low voltage power cables (\leq 2/0 AWG) and below is reduced to 3 inches vertical with a conduit above and crossing an open configuration at an angle of 45 degrees or greater.

- The minimum separation of 12 inches vertical and 6 inches horizontal for low voltage power cables (between 2/0 AWG and 750 kcmil) is reduced to 3 inches vertical with a conduit above and crossing an open tray at an angle of 45 degrees or greater.
- For configurations exclusively involving I&C cables, the minimum vertical separation is reduced to 1 inch.
- The minimum separation of 1 inch vertical and 1 inch horizontal for low voltage power cables and below is established for configurations with a non-safety conduit and a free air safety cable.

The staff has reviewed the clarifications and updates to the above four ITAAC as discussed in the following findings:

The editorial changes and augmented text in UFSAR Subsection 8.3.2.4.2 provides clarification as to how the newly proposed separation criteria apply only to low voltage power cables and below, as that was the scope of the referenced testing, and highlight the testing results. The staff reviewed Reference 13 of the UFSAR to verify and understand the changes in COL Appendix C Table 3.3-6 and plant-specific DCD Tier 1 information. In addition, the staff verified that the proposed changes are consistent with the remainder of the information within COL Appendix C Table 3.3-6. These changes do not impact equipment or system functionality or change the original design function of the plant. The staff reviewed the updated information, and confirmed that it provides consistency. The staff finds that the new separation criteria correspond to that presented in Reference 13 of the UFSAR and are correctly referenced. Therefore, the staff finds these changes acceptable.

The staff evaluated the information provided in the LAR, and determined that the proposed changes do not adversely affect the design of the plant electrical systems. This change does not add or remove any equipment from the onsite or offsite power electrical systems. Therefore, the functions of the specified cabling inside the MCR and RSR, inside the containment, inside the non-radiologically controlled and radiological controlled areas (respectively) of the auxiliary building are not changed and the safety equipment continues to perform its intended safety function, thus meeting the requirements of GDC 17. There are corresponding provisions of redundancy and independence in 10 CFR 50.55a(h)(3), GDC 21, GDC 22, and 24. As is the case for GDC 17, these provisions are still maintained in the design as these proposed changes provide an equivalent level of protection for redundant cables.

Since the proposed physical changes to the separation criteria have been shown to provide an equivalent level of protection to that of the existing criteria that it replaces, there is no decrease in the level of safety in the presented design nor any additional failure modes introduced.

The staff reviewed the proposed changes using guidelines from IEEE Std. 384-1992, which is endorsed by RG 1.75, Rev. 3, for this safety evaluation. As stated in the LAR, SNC uses IEEE Std. 384-1981 to justify why the proposed changes to raceway and cable routing criteria, and hazard protection as well as the affected sections in COL Appendix C are acceptable.

Based upon the review, the staff concludes that there is reasonable assurance that the requirements of 10 CFR 50.55a(h)(3), GDC 17, GDC 21, GDC 22, and GDC 24 will continue to be met, and that the design is consistent with the existing licensing basis, including RG 1.75 and IEEE Std. 384-1992 criteria (as supplemented by Reference 13 of the UFSAR) for raceway separation. Therefore, the staff finds the proposed changes to be acceptable.

The staff also evaluated the changes from the I&C perspectives. The staff finds that this LAR does not involve any change to the AP1000 design of independence and separation between redundant divisions of I&C systems and between the safety and nonsafety-related systems. In addition, the reduced minimum separation distances for the raceway systems have been tested and these tests have demonstrated that the reduced minimum separation distances between raceways do not cause a faulted cable to impact a nearby target cable.

Therefore, based on the above evaluation from the I&C perspectives, the staff concludes that the proposed changes in this LAR do not impact the compliance with the relevant regulatory requirements on independence and separation in GDC 21, 22, 24, 10 CFR 50.55a(h)(3) and its endorsed IEEE Std. 603-1991 in the certified AP1000 design. Therefore, the staff finds that the proposed changes in this LAR are acceptable.

SUMMARY

In the LAR, SNC proposed to make changes that would affect the COL Appendix C (ITAAC), the corresponding plant-specific Tier 1 information, as well as the UFSAR. The proposed changes add additional acceptable configurations for raceway separation requirements in the specified areas based upon testing and analysis documented in Reference 13 of the UFSAR. The exemptions in this LAR were incorporated into IEEE Std. 384-1992 and accepted by the NRC staff in RG 1.75, Rev. 3. These changes will enable the licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC by clarifying and augmenting the information mentioned above found in Tier 1, Table 3.3-6 of the DCD. The staff has documented the review of the applicant's proposed changes and finds the additions to the descriptions of the raceway separation criteria for the specified plant areas and cable sizes and the affected sections in COL Appendix C, its corresponding plant-specific DCD Tier 1 and the UFSAR acceptable in accordance with 10 CFR 50, Appendix A, GDC 17, 21, 22, 24, 10 CFR 50.55a(h)(3), and the guidance provided in RG 1.75 and IEEE Std. 384-1992.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations in 10 CFR 50.91(b), the Georgia State official was notified of the proposed issuance of the amendment on February 12, 2018. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20, "Standards for Protection Against Radiation." The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite. Also, there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (82 FR 55411 published on November 21, 2017). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or

environmental assessment need be prepared in connection with the issuance of the amendment.

Because the exemption is necessary to allow the changes proposed in the license amendment, and because the exemption does not authorize any activities other than those proposed in the license amendment, the environmental consideration for the exemption is identical to that of the license amendment. Accordingly, the exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the exemption.

6.0 CONCLUSION

The staff has determined that pursuant to Section VIII.A.4 of Appendix D to 10 CFR Part 52, the exemption (1) is authorized by law, (2) presents no undue risk to the public health and safety, (3) is consistent with the common defense and security, (4) presents special circumstances, (5) the special circumstances outweigh the potential decrease in safety due to reduced standardization, and (6) does not reduce the level of safety at the licensee's facility. Therefore, the staff grants the licensee an exemption from Tier 1 information requested by the licensee.

The staff has concluded, based on the considerations discussed in Section 3.2 that there is reasonable assurance that: (1) the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. Therefore, the staff finds the changes proposed in this license amendment to be acceptable.

7.0 REFERENCES

1. Vogtle Electric Generating Plant Units 3 and 4 Combined Operating License, Appendix C, "Vogtle Electric Generating Plant Unit 3 [or 4] Inspections, Tests, Analyses, and Acceptance Criteria," February 10, 2012 (ADAMS Accession No. ML112991102 and ML113060437, as applicable).
2. Vogtle Electric Generating Plant, Unit 3 Current Facility Combined License NPF-91, Revised January 24, 2018, (ADAMS Accession No. ML14100A106).
3. Vogtle Electric Generating Plant, Unit 4 Current Facility Combined License NPF-92, Revised January 24, 2018, (ADAMS Accession No. ML14100A135).
4. Vogtle Electric Generating Plant Units 3 and 4, Updated Final Safety Analysis Report, Revision 5, June 22, 2016 (ADAMS Accession No. ML16180A413).
5. AP1000 Design Control Document, Revision 19, June 13, 2012 (ADAMS Accession No. ML11171A500).
6. U.S. Nuclear Regulatory Commission, "Final Safety Evaluation Report Related to the Combined Licenses for Vogtle Electric Generating Plant, Units 3 and 4,"

NUREG-2124, Volume 1, September 30, 2012 (ADAMS Accession No. ML12271A045).

7. U.S. Nuclear Regulatory Commission, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Plant Design," NUREG-1793, Supplement 2, August 5, 2011 (ADAMS Accession No. ML112061231).
8. Southern Nuclear Operating Company, Vogtle Electric Generating Plant Units 3 and 4, Request for License Amendment and Exemption LAR-17-036, "Raceway and Cable Routing," October 6, 2017 (ADAMS Accession No. ML17279A084).
9. UFSAR Reference 13: "Cable Separation – What Do Industry Testing Programs Show?" D.L. DeYoung, et. al., IEEE Transactions on Energy Conversion, September 1990, Volume 5, No. 3, PP 585-602
10. Institute of Electrical and Electronic Engineer Std.384-1981, "Standard Criteria for Criteria for Independence of Class 1E Equipment and Circuits"
11. Institute of Electrical and Electronic Engineer Std. 603-1991, "Standard Criteria for Safety Systems for Nuclear Power Generating Stations"
12. Regulatory Guide 1.75, "Criteria for Independence of Electrical Safety Systems." Revision 3.
13. U.S. Nuclear Regulatory Commission, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Plant Design," NUREG-1793, September 30, 2004 (ADAMS Accession No. ML043570339).