

SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS

RELATED TO AMENDMENT NO. 60

TO THE COMBINED LICENSE NOS. NPF-93 AND NPF-94

SOUTH CAROLINA ELECTRIC AND GAS COMPANY

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3

DOCKET NOS. 52-027 AND 52-028

1.0 INTRODUCTION

By letter dated October 24, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16298A385), South Carolina Electric & Gas Company (SCE&G), on behalf of itself and the South Carolina Public Service Authority (both hereafter called the licensee), submitted license amendment request (LAR) 16-17 requesting the U.S. Nuclear Regulatory Commission's (NRC or the Commission) approval for amendments to the combined licenses (COL) for Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3, COL Numbers NPF-93 and NPF-94, respectively, regarding the changes to Qualified Data Processing System (QDPS) and Safety Displays.

The proposed LAR 16-17 revises the Updated Final Safety Analysis Report (UFSAR) in the form of departures from the plant-specific AP1000 Design Control Document (DCD) Tier 2 information and also involves changes to plant specific Tier 1 (and associated COL Appendix C) information and Tier 2* information. The specific changes proposed in the LAR include addition of Main Control Room (MCR) safety-related display Divisions A and D to plant-specific Tier 1 (and associated COL Appendix C) and the UFSAR, clarification of the role of the QDPS and safety displays, and correction of the name of the QDPS in the UFSAR by referring to the QDPS as a system, rather than a subsystem. The licensee has also requested an exemption from the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, Appendix D, "Design Certification Rule for the AP1000 Design," Section III.B, "Scope and Contents." This exemption request will allow a departure from the corresponding portions of the certified information in Tier 1 of the generic DCD.¹

The specific changes to Tier 1 information for which a plant-specific departure and exemption is requested include clarification and correction of the roles of the QDPS and the safety displays,

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 generic 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.

and the addition of safety display Divisions A and D to the list of equipment to be addressed by the system-level Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC). In order to modify the UFSAR (the plant-specific DCD) Tier 1 information, the NRC must find the licensee's exemption request included in its submittal for this LAR to be acceptable. The NRC staff's review of the exemption request, as well as this LAR, is included in this safety evaluation (SE).

The NRC staff's proposed no significant hazards consideration determination was published in the *Federal Register* on November 22, 2016 (81 FR 83871).

2.0 REGULATORY EVALUATION

10 CFR 50 Appendix A, General Design Criterion (GDC) 13, "Instrumentation and Control," states, in relevant part, that instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems.

10 CFR 50 Appendix A, GDC 20, "Protection System Functions," states, in relevant part, that the protection system shall be designed (1) to initiate automatically the operation of appropriate systems, including the reactivity control systems, to assure that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences and (2) to sense accident conditions and to initiate the operation of systems and components important to safety.

10 CFR 50 Appendix A, GDC 22, "Protection System Independence," states, in relevant part, 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 the loss of the protection function or shall be demonstrated to be acceptable on some other defined basis

10 CFR 50.34(f)(2), "Additional TMI-related requirements," Paragraph (v) requires, in relevant part, that the plant provide automatic indication of the bypassed and operable status of safety systems. The changes proposed in this LAR just revise the description of the roles of the QDPS and the Protection and Safety Monitoring System (PMS) safety displays to describe the QDPS as not being a display, rather as the processing system that provides the required post-accident monitoring data to the safety displays. In addition, the proposed changes includes addition of Divisions A and D of the safety displays to COL Appendix C (and plant-specific Tier 1) Table 2.5.2-1 and UFSAR Tables 3.11-1 and 3I.6-2.

10 CFR 50.34(f)(2), Paragraph (xix) requires, in relevant part, that the plant provide instrumentation adequate for monitoring plant conditions following an accident that includes core damage.

10 CFR 52.98(f) requires NRC approval for any modification to, addition to, or deletion from the terms and conditions of a COL. An NRC approval is required prior to making the plant-specific changes proposed in this LAR.

10 CFR Part 52, Appendix D, Sections VIII.B.5.a and VIII.B.6 require prior NRC approval for departure from Tier 2* information and for Tier 2 information departures that involve changes to Tier 1 or Tier 2* information, respectively. The NRC staff noted that this LAR includes changes to UFSAR Tier 2 information that involve associated change to Tier 1 and Tier 2* information.

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. Because the licensee 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 information is required under 10 CFR 52.63(b)(1) to implement the LAR. Also, the exemption is needed because Section VIII.A.4 of Appendix D to 10 CFR Part 52 requires a licensee to obtain an exemption to depart from the Tier 1 information of the generic AP1000 DCD.

The Tier 1 information for which a plant-specific departure and exemption was requested includes corresponding changes to COL Appendix C information. The result of this exemption would be that the licensee could implement modifications to Tier 1 information described and justified in LAR 16-17 if, and only if, the NRC approves LAR 16-17. 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, which are 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 the 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 subparagraph 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 each of these findings is presented below.

3.1.1 AUTHORIZED BY LAW

This exemption would allow the licensee to implement a revision to Tier 1, Subsection 2.5.2 and ITAAC Table 2.5.2-1 for the inspections of MCR safety displays and Tier 1 Section 3.2 for the clarification of human-system interface components in the plant-specific DCD. This exemption

is a permanent exemption limited in scope to particular Tier 1 information. Subsequent changes to Tier 1, Subsection 2.5.2 and ITAAC Table 2.5.2-1 and Section 3.2 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. Based on 10 CFR Part 52, Appendix D, Section VIII.A.4, the NRC 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 NRC staff finds that the exemption can be 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 a licensee will construct and operate the plant based on the approved information found in the DCD incorporated by reference into a licensee's licensing basis. The exemption proposed in this LAR from the requirements of 10 CFR 52, Appendix D, Section III.B would allow changes to elements of the plant-specific Tier 1 DCD to depart from the certified AP1000 Tier 1 design information. The plant-specific DCD Tier 1 will continue to reflect the approved licensing basis for VCSNS, Units 2 and 3 and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the DCD. Therefore, the NRC staff finds that the affected plant-specific DCD Tier 1 ITAAC will continue to serve its required purpose. The clarification for the roles of the QDPS and safety displays does not represent any adverse impact to the design function of the PMS or the equipment or components therein and will continue to protect the health and safety of the public in the same manner. The above changes proposed do not introduce any new industrial, chemical, or radiological hazards that would represent a public health or safety risk, nor does it 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 fuel cladding failures. Accordingly, this change does not present an undue risk from any existing or proposed equipment or systems. Therefore, as required by 10 CFR 50.12(a)(1), the NRC staff finds that there is no undue risk from the proposed changes in this LAR to public health and safety.

3.1.3 CONSISTENT WITH COMMON DEFENSE AND SECURITY

The proposed exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow the licensee to depart from elements of the plant-specific DCD Tier 1 design information. The proposed exemption does not alter or impede the design, function, or operation of any plant structures, systems, or components associated with the facility's physical or cyber security and, therefore, does not affect any plant equipment that is necessary to maintain a safe and secure plant status. The requested exemption has no impact on plant security or safeguards procedures. Therefore, as required by 10 CFR 50.12(a)(1), the NRC staff finds that the exemption is consistent with the common defense and security.

3.1.4 SPECIAL CIRCUMSTANCES

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), 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 a licensee will safely construct and operate a plant based on the certified information found in the AP1000 DCD, which was incorporated by reference into the SCE&Gs licensing basis. The proposed changes would add MCR safety-related display Divisions A and D to plant-specific Tier 1 (and associated COL Appendix C) and the UFSAR, and also include clarification of the role of the QDPS and safety displays, and correction of the name of the QDPS in the UFSAR by referring to the QDPS as a system, rather than a subsystem. These changes will enable the licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC by clarifying the above mentioned information found in Tier 1, Tier 2*, and Tier 2 of the DCD.

Special circumstances are present in the particular circumstances discussed in LAR 16-17 because the application of the specified Tier 1 information does not serve the underlying purpose of the rule. This LAR proposes to implement changes to plant specific Tier 1 (and associated COL Appendix C) information and Tier 2* information. The NRC staff finds that the Tier 1 changes in this exemption request and the associated Tier 2 and Tier 2* changes in this LAR clarify the existing information in the DCD by ensuring that the role of the QDPS system is appropriately described. Application of the current Tier 1 material is not necessary because the purpose of the rule is to provide a correct system description and permit appropriate verification, which the changes described provide. This exemption request and associated revisions to Tier 1 and Tier 2* information demonstrate that the applicable regulatory requirements are still met. Therefore, the NRC staff finds that the special circumstances required by 10 CFR 50.12(a)(2)(ii) for the granting of an exemption from the Tier 1 information exist.

3.1.5 SPECIAL CIRCUMSTANCES OUTWEIGH REDUCED STANDARDIZATION

This exemption would allow the changes to clarify the roles of the QDPS and safety displays, for the purposes of performing ITAAC that verify the PMS is constructed in accordance with the certified design. The proposed clarification for the roles of the QDPS and safety displays, as evaluated in Section 3.2 below of this SE, maintains the required design functions of roles for the QDPS to process data and safety displays to display safety-related post-accident parameters. The proposed change of two additional safety displays provides the operator with necessary information to determine the effect of automatic and manual actions taken following reactor trips. Thus, this Tier 1 change represents an improvement over the original Tier 1 material because the changes ensure that this information is available to the operator as intended. This change is also made to maintain consistent design information in the licensing documents (i.e., between Tier 1 and the applicable technical reports), so there is little reduced standardization expected. The changes proposed in this LAR do not affect any function or feature used for the prevention and mitigation of accidents or their safety analyses. The proposed changes do not involve nor interface with any structures, systems and components (SSC) accident initiator or initiating sequence of events related to the accidents evaluated and therefore do not have an adverse effect on any SSC's design function. Accordingly, this exemption from the certification information will enable the licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR Part 52, Appendix D. Consequently, the safety impact that may result from any reduction in standardization is minimized, because the proposed design 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 NRC staff finds that the special circumstances outweigh the effects that the departure has on the standardization of the AP1000 design.

3.1.6 NO SIGNIFICANT REDUCTION IN SAFETY

This exemption would allow revision of the plant-specific DCD Tier 1 information by clarifying the design functions associated with the roles for the QDPS and safety displays. The clarification of the roles for the QDPS and safety displays do not change the design requirements of the PMS, because these functions continue to be met and the associated ITAAC items continue to verify that the affected PMS equipment is constructed and installed in accordance with the approved design. The proposed addition of two safety displays is made to be consistent with the Technical Report WCAP-16675, "AP1000 Protection and Safety Monitoring System Architecture Technical Report," included as a licensing document in the certified AP1000 design. This proposed change will not have any adverse effect on the safety functions of the safety displays. Therefore, based on the foregoing reasons and as required by 10 CFR Part 52, Appendix D, Section VIII.A.4, the NRC 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 OF PROPOSED CHANGES

The PMS is a digital Instrumentation and Control (I&C) system which detects off-normal conditions and actuates the appropriate safety-related functions necessary to achieve and maintain the plant in a safe shutdown condition. The PMS controls safety-related components in the plant that are operated from the MCR or remote shutdown workstation. In addition, the PMS provides the equipment necessary to monitor the plant safety-related functions during and following an accident. QDPS Divisions B and C provide data to support the four divisions of safety-related displays of selected parameters in the MCR. Plant data obtained from sensors and other PMS divisions is processed by Divisions B and C of QDPS and provided to the four divisions of safety displays, which provide the visual interface to the operators in the MCR.

The changes proposed in this LAR include addition of two safety-related display Divisions A and D in the MCR to plant-specific Tier 1 (and associated COL Appendix C) and the UFSAR, clarification of the role of QDPS and safety displays, and correction of the name of QDPS in the UFSAR by referring to it as a system, rather than a subsystem. The technical evaluation of the above proposed changes are provided below.

As described in Technical Report WCAP-16675, four safety displays are provided in the AP1000 PMS architecture. One safety display is associated with each of the four independent divisions of the PMS. Divisions A, B, C, and D safety displays are a subsystem of the PMS. The safety displays are located in the MCR in Environmental Zone 3, which is a mild environment. All four divisions of the safety displays are qualified for a post-accident monitoring time of two weeks.

There are two QDPS divisions provided in the PMS architecture. One QDPS division is located in Division B and the other QDPS division is located in Division C. The divisions are physically separated and electrically isolated from each other. The QDPS divisions are powered from the Class 1E dc and Uninterruptible Power Supply system for 72 hours after a loss of all alternating current power (station blackout). After 72 hours, the ancillary diesel generators provide power for the QDPS system. The two QDPS divisions are qualified for a post-accident monitoring time of two weeks.

The QDPS provides data to support the safety-related display of select parameters in the MCR. Plant data obtained from sensors and other PMS divisions is processed by Divisions B and C

QDPS and provided them to Divisions A, B, C, and D safety displays, which provide the visual interface to the operators in the MCR. As it can be seen from the above description of the roles of the QDPS and safety displays, the QDPS itself is not a display; rather it is the processing system that provides the necessary data to be displayed by the four qualified safety displays.

However, in both Technical Reports WCAP-16675-P (proprietary) and WCAP-16675-NP (non-proprietary), UFSAR Subsections 1.9.2 2(v), 1.9.3 (2)(xix), 1.9.4.2.1 I.D.5(2), 7.5.4, 18.8, 18.8.3.2, 18.12.2, and UFSAR Tables 3I.6-2, 3.11-1, 14.3-6 and 17.4-1, descriptions of QDPS displays or descriptions of data being displayed by the QDPS are included. Therefore, this LAR proposed to revise the description in the UFSAR [including incorporated by reference document WCAP-16675-P (proprietary) and WCAP-16675-NP (non-proprietary)] and COL Appendix C (and corresponding plant-specific Tier 1) to clarify that the QDPS and safety displays are not the same: the QDPS is a data processing system to provide data to be shown on the safety displays. The changes proposed in this LAR also modify the description of the verification and validation (V&V) identified in UFSAR Subsection 1.9.4.2.1 I.D.5(2) to indicate that the safety displays are subject to V&V. The V&V process documented in the references within UFSAR Subsection 18.11.2 does not specifically check the defined aspects of the QDPS itself; rather the V&V process checks the adequacy of the safety displays.

The staff also notes that with the proposed changes in this LAR do not introduce any new display parameters or adversely affect the function of any instrumentation signal or existing display parameter. Hence, the staff finds that the requirements in GDC 13 are still met. The staff also notes that the changes proposed in this LAR do not change or impact any capability or function of the PMS to automatically initiate the protective operation of appropriate systems. The proposed changes also do not adversely affect the capability of the PMS to sense accident conditions and to initiate the operation of systems and components important to safety. Therefore, the staff finds that the requirements in GDC 20 are still satisfied. The proposed changes, as described in this LAR, do not adversely impact the electrical independence or the physical separation characteristics of the PMS. Changing the design as described in the UFSAR regarding the description of the roles of QDPS and its relationship to the safety displays does not alter the design of any isolation devices utilized by the PMS. Division B QDPS provides input to Divisions B and D safety displays, whereas Division C QDPS provides input to Divisions A and C safety displays. Divisions B and C of the QDPS are electrically isolated and physically separated from each other. Therefore, the staff finds that the requirements in GDC 22 are still satisfied.

The staff finds that with all changes proposed in this LAR, the indication of any bypassed and operable status of safety systems, as required in 10 CFR 50.34(f)(2)(v), is not impacted. Also, the proposed changes do not adversely impact the function of the safety displays to show the data obtained from the two QDPS divisions. Therefore, the staff finds that the requirements in 10 CFR 50.34(f)(2)(xix), Paragraphs (v) and (xix) are still met.

The staff notes that with all the proposed changes, there is no adverse impact on the functions of the QDPS and safety displays, which will continue to meet the current licensing basis and acceptance criteria as stated in Section 2.0 of this SE. The proposed changes do not adversely affect the capability of the QDPS and safety display system to provide monitoring of plant conditions following an accident that includes core damage. The changes in the description proposed in this LAR do not adversely affect the operators' ability to prevent, diagnose or properly respond to accidents. The proposed changes to the description of the role of the QDPS and the safety displays do not adversely affect the automatic indication of the status

(i.e., bypassed or operable) of safety systems. There is no change to any equipment qualification or fission product barrier due to the above proposed changes.

Also, as already stated in Technical Report WCAP-16675-P, there are four safety displays provided in the PMS architecture. Hence, the staff finds that the proposed change to add Divisions A and D safety displays is consistent with the description in the above licensing technical report. Accordingly, the proposed changes in this LAR also include revision of the COL Appendix C (and corresponding plant-specific Tier 1) Table 2.5.2-1, and UFSAR Tables 3.11-1 and 3I.6-2 to add Divisions A and D safety displays. The proposed changes add the requirement that Divisions A and D safety displays are verified by the appropriate PMS system-based ITAAC, and identify all four divisions of the safety displays' qualification requirements in the ITAAC. The proposed changes also add Divisions A and D safety displays to the scope of ITAAC 2.5.02.02.i, 2.5.02.02.ii, 2.5.02.02.iii, 2.5.02.03, 2.5.02.04, and 2.5.02.05a. The staff finds that the proposed changes do not involve any changes to the ITAAC Design Commitment, Inspections, Tests, Analyses, or Acceptance Criteria. The proposed change to add Divisions A and D of the qualified safety displays to UFSAR Table 3.11-1 identifies the qualification requirements for these displays in the UFSAR, and the addition of Divisions A and D of the qualified safety displays to COL Appendix C (and plant-specific Tier 1) Table 2.5.2-1 adds the requirement that the displays are verified by the appropriate PMS system-level ITAAC.

The staff finds that the above changes proposed in this LAR to add Divisions A and D safety display in MCR to plant-specific Tier 1 (and associated COL Appendix C) and the UFSAR, clarify the role of QDPS and safety displays, and correct the name of the QDPS in the UFSAR by referring to the QDPS as a system, rather than a subsystem would not adversely impact any safety-related SSC, function, design analysis or safety analysis. The proposed changes would not adversely affect the function of any instrumentation signal or display parameter. The proposed changes would not result in a decrease in the level of safety otherwise provided by the design. The changes proposed in this LAR would not result in a new failure mode, malfunction or sequence of events that could affect safety-related or non-safety-related equipment. The above 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.

In addition, the staff finds that the proposed changes in this LAR are unrelated to any aspects of plant construction or operation that would introduce any changes to effluent types (e.g., effluents containing chemicals or biocides, sanitary system effluents, and other effluents) or affect any plant radiological or non-radiological effluent release quantities. Furthermore, the proposed changes would not diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. The proposed changes would not impact any accident evaluated in the UFSAR. The proposed changes would not affect any safety-related design code, function, design analysis, safety analysis input or result, or design/safety margin. No safety analysis or design basis acceptance limit/criterion would be challenged or exceeded by the proposed changes, thus, no margin of safety is reduced. The proposed changes do not affect plant radiation, and controls under 10 CFR Part 20 to preclude a significant increase in occupational radiation exposure. Consequently, these changes have no effect on individual or cumulative occupational radiation exposure during plant operation. The changes to the roles and clarification of the QDPS and safety displays as a result of this LAR request do not change the way operators interact with the system in any substantive way.

Therefore, based on the above evaluation from instrumentation and control perspectives the staff finds that the changes proposed in this LAR to clarify the roles of QDPS and safety displays, correct the name of the QDPS, add Divisions A and D of the qualified safety displays, and their affected sections in the UFSAR are acceptable.

3.3 SUMMARY

In LAR 16-17, the licensee proposed to make changes that would affect the COL Appendix C, the corresponding plant-specific Tier 1 information, as well as the UFSAR. The changes were reviewed in Section 3.2 above of this SE. The specific changes proposed in the LAR include the addition of MCR safety-related display Divisions A and D to plant-specific Tier 1 (and associated COL Appendix C) and the UFSAR, and correction and clarification of the name and roles of the QDPS in the UFSAR by referring to the QDPS as a system, rather than a subsystem.

The NRC staff reviewed the above changes in Section 3.2 of this SE and finds all the above changes and their affected sections in COL Appendix C, its corresponding plant-specific DCD Tier 1 and the UFSAR are acceptable in accordance with 10 CFR 50, Appendix A, GDC 13, 20, 22, 10 CFR 50.34(f)(2)(v) and (xix), 10 CFR 52.98(f), an 10 CFR Part 2, Appendix D, VIII.B.6 and VIII.B.5.a.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations in 10 CFR 50.91(b)(2), the South Carolina State official was notified of the proposed issuance of the amendment. The State of South Carolina 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 (*Federal Register*, 81 FR 83871, November 22, 2016). 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 to be prepared in connection with issuing 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 proposed in this LAR (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 the Tier 1 information requested by the licensee.

The staff has also concluded, based on the considerations discussed in Section 3.2 above and confirmed that these changes proposed in this LAR to add two MCR safety display Divisions A and D, clarify the role of QDPS and safety displays, and correct the name of the QDPS do not change any analysis methodology, assumptions, or the design itself, and 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 LAR are acceptable.

7.0 REFERENCES

1. Request for License Amendment and Exemption- Qualified Data Processing System and Safety Display Description Changes (LAR 16-17) letter from South Carolina Electric & Gas Company (SCE&G) dated October 24, 2016 (ADAMS Accession No. ML16298A385).
2. VCSNS UFSAR, Revision 3, Tier 1, dated July 1, 2015 (ADAMS Accession No. ML15196A196).
3. AP1000 Design Control Document, Revision 19, dated June 13, 2011 (ADAMS Accession No. ML11171A500).
4. COL NPF-93 for VCSNS Unit 2, SCE&G (ADAMS Accession No. ML14100A092).
5. COL NPF-94 for VCSNS Unit 3, SCE&G (ADAMS Accession No. ML14100A101).
6. WCAP-16675-P (Proprietary) and WCAP-16675-NP (Non-Proprietary), "AP1000 Protection and Safety Monitoring System Architecture Technical Report," Revision 5 (ADAMS Accession Nos. ML103370224 and ML103370221).