

SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS
RELATED TO EXEMPTION AND AMENDMENT NOS. 93 AND 92
TO THE COMBINED LICENSE NOS. NPF-91 AND NPF-92
SOUTHERN NUCLEAR OPERATING COMPANY, INC.
GEORGIA POWER COMPANY
OGLETHORPE POWER CORPORATION
MEAG POWER SPVM, LLC
MEAG POWER SPVJ, LLC
MEAG 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 April 27, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17118A049), and supplemented by letter dated August 3, 2017, (ADAMS Accession No. ML17215B187), the Southern Nuclear Operating Company (SNC or licensee) requested that the Nuclear Regulatory Commission (NRC) amend Vogtle Electric Generating Plant (VEGP) Units 3 and 4, Combined License (COL) Numbers NPF-91 and NPF-92, respectively. The license amendment request (LAR) 17-015 requested changes to Tier 1 Table 2.7.2-2 in the plant-specific Updated Final Safety Analysis Report (UFSAR), additional changes to corresponding Tier 2 component data in the UFSAR Chapter 9, and COL Appendix C, Table 2.7.2-2. The proposed changes revise the minimum chilled water flow rates to the supply air handling units serving the Main Control Room (MCR) and the Class 1E electrical equipment rooms, and the unit coolers serving the normal residual heat removal system (RNS) pump and chemical and volume control system (CVS) makeup pump rooms.

Pursuant to the provisions of 10 CFR 52.63(b)(1), 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." The requested exemption would allow a departure from the certified information in Tier 1 of the

generic design control document (DCD).¹ In order to grant the licensee's request to modify the UFSAR (the plant-specific design control document (PS-DCD)) Tier 1 information, the NRC must be able to determine that the exemption will comply with the requirements of 10 CFR 52.7. In addition to the factors listed in 10 CFR 52.7, the Commission shall consider whether the special circumstances that 10 CFR 52.7 requires to be present outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption. In order to grant the licensee's LAR, the NRC must also determine that its exemption request is acceptable. . The staff's review of the exemption request, as well as the LAR, is included in this safety evaluation.

In a letter dated August 3, 2017, (ADAMS Accession No. ML17215B187), the licensee provided additional information that clarified the application. This information did not expand the scope of the application, and did not change the NRC staff's original proposed "no significant hazards consideration" determination, published in the *Federal Register* on June 19, 2017 (82 FR 27891).

2.0 REGULATORY EVALUATION

The NRC staff considered the following regulatory requirements in reviewing LAR 17-015.

10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," Appendix A, "General Design Criteria for Nuclear Power Plants," General Design Criterion (GDC) 19, "Control Room," requires that a control room shall be provided from which actions can be taken to operate the nuclear power unit safely under normal conditions and to maintain it in a safe condition under accident conditions, including loss-of-coolant accidents.

10 CFR Part 50, Appendix A, GDC 44, "Cooling Water," as it relates to providing a means to transfer heat from structures, systems, and components (SSC) important to safety, to an ultimate heat sink under all plant operating conditions including postulated events. NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Section 9.2.7 (SRP 9.2.7), provides guidance on how GDC 44 requirements can be met.

10 CFR 50.90 requires that an application for an amendment to the license must fully describe the changes desired, and follow as far as applicable, the form prescribed for original applications.

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 safety otherwise provided by the design.

10 CFR Part 52, Appendix D, Section III.B, requires that a licensee referencing 10 CFR Part 52, Appendix D incorporate by reference and comply with the requirements of Appendix D, including all Tier 1 information contained in the generic AP1000 DCD.

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.

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, or the Technical Specifications, or requires a license amendment under 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 for specific exemptions, and the special circumstances present 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).

The regulation in 10 CFR 52.98(f) specifies that NRC approval is required for any modification to, addition to, or deletion from the terms and conditions of a COL. LAR 17-015 involves a change to COL Appendix C Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) information, with corresponding changes to the associated PS-DCD Tier 1 and Tier 2 information. Therefore, NRC approval is required prior to implementation of the proposed changes as described in the LAR.

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 the licensee has identified changes to PS-DCD 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 PS-DCD 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 Central Chilled Water System (VWS). The result of this exemption would be that the licensee could implement modifications to Tier 1 information to the UFSAR as well as departures from five PS-DCD Tier 2 tables and a COL Appendix C table. 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 requested for the involved Tier 1 information described and justified in LAR 17-015. 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 circumstances for which an exemption may be granted. It is necessary for one of these bases 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 these findings is presented below:

3.1.1 Authorized by Law

The requested exemption would allow the licensee to implement a revision to Tier 1, Table 2.7.2-2 in the PS-DCD. This exemption is a permanent exemption limited in scope to particular Tier 1 information. Subsequent changes to Tier 1, Table 2.7.2-2 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. 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 52.7 and 10 CFR 50.12(a)(1), the exemption is authorized by law.

3.1.2 No Undue Risk to the Public Health and Safety

The underlying purpose of Appendix D to 10 CFR 52 is to ensure that a licensee will construct and operate the plant based on the approved information found in the generic DCD incorporated by reference into a licensee's licensing basis. The changes proposed by the licensee do not add or delete systems or equipment as described in Tier 1 of the generic DCD. These changes will not impact the ability of the systems or equipment to perform their design function. Because they will not alter the operation of any plant equipment or systems, these changes do not present an undue risk from existing equipment or systems. These changes do not add any new equipment or system interfaces to the current plant design. The description 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 52.7 and 10 CFR 50.12(a)(1), the staff finds that the granting of the requested exemptions will not present an undue risk to public health and safety.

3.1.3 Consistent with Common Defense and Security

The proposed exemption would allow a change to elements of the VWS as presented in the system-based design ITAAC table in the PS-DCD Tier 1, thereby departing from the AP1000 certified (Tier 1) design information. The change 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. In addition, the changes have no impact on plant security or safeguards. Therefore, as required by 10 CFR 52.7 and 10 CFR 50.12(a)(1), the staff finds that the requested exemptions are consistent with the common defense and security.

3.1.4 Special Circumstances

Special circumstances, in accordance with 10 CFR 50.12(a)(2), are present, in part, 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 provide design information to ensure that the VWS provides adequate chilled water flow rates to the chilled water cooling coils identified in the Acceptance Criteria for ITAAC Item 2.7.02.03a for the supply air handling units (AHUs) serving the MCR/Control Support Area (CSA) and the Class 1E electrical equipment rooms, and the unit coolers serving the RNS and CVS pump rooms. The proposed changes will continue to demonstrate the ability to remove the maximum heat loads in the affected areas by providing a reliable source of chilled water from the VWS to the cooling coils in the Radiologically Controlled Area Ventilation System (VAS) and Non-Radioactive Ventilation System (VBS) and, therefore, provide the adequate chilled water flow rates that meet the underlying purpose of the Tier 1 information. The proposed changes do not adversely affect any function or feature used for the prevention and mitigation of accidents or their safety analyses. No safety-related SSC or function is involved. The proposed changes do not involve nor interface with any 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.

As described above, special circumstances are present in the particular circumstances discussed in LAR 17-015 because the application of the specified Tier 1 information does not serve the underlying purpose of the rule. The proposed change implements changes to the VWS minimum capacity, as presented in a Tier 1 ITAAC table. This exemption requests revisions to Tier 1 Table 2.7.2-2 that continue to demonstrate that the applicable regulatory requirements will be met. The changes to the VWS minimum capacity can be implemented in accordance with the purpose of the rule. Therefore, the staff finds that the special circumstances required by 10 CFR 52.7 and 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

Under 10 CFR 52.63(b)(1), "[i]n addition to the factors listed in § 52.7, the Commission shall consider whether the special circumstances that § 52.7 requires to be present outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption." This exemption would allow the implementation of changes to Tier 1, Table 2.7.2-2 in the PS-DCD that are based on the continuing development of the detailed design. The design functions of the system associated with this request will continue to be maintained

because the associated revisions to Table 2.7.2-2 demonstrate that the applicable regulatory requirements and the underlying purpose of the Tier 1 information will continue to be met. Consequently, the safety impact that may result from any reduction in standardization is minimal, because the proposed changes to the VWS ensuring adequate chilled water flow rates will not affect the design functioning or purpose of the system, and is, therefore, consistent with the purposes of the rule. The proposed design change does not result in a reduction in the level of safety. Based on the foregoing reasons, as required by 10 CFR 52.7 and 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, Table 2.7.2-2 in the PS-DCD. The exemption request proposes to depart from the certified design by allowing changes to the VWS minimum water flow as presented in Tier 1 ITAAC table. The proposed changes, which reflect the final optimized design of the VWS low-capacity subsystem that serves the main control room and various other rooms housing safety-related electrical equipment, the CVS makeup pumps, and the RNS pumps, would reduce the cooling loads on the low-capacity chiller of the VWS. The proposed changes will not impact the functional capabilities of this system or adversely affect the ability of the VWS to perform its 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, 10 CFR 52.98(f), 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 EVALUATION OF PROPOSED CHANGES

3.2.1 Proposed UFSAR and ITAAC changes:

The proposed changes would revise the Vogtle Units 3 and 4 COLs in regard to reduction of the cooling loads on the low-capacity chiller of the VWS. This reduction reflects the final optimized design of the VWS low-capacity subsystem that serves the main control room and various other rooms housing safety-related electrical equipment, the CVS makeup pumps, and the RNS pumps.

The requested amendment requires changes to the UFSAR in the form of departures from the PS-DCD Tier 2 information, and involves changes to the PS-DCD Tier 1 information and corresponding changes to COL Appendix C.

The specific change descriptions provided in the LAR are as follows:

1. UFSAR Tier 1, Table 2.7.2-2, "Acceptance Criteria for Item 3.a)," is revised to decrease the required minimum chilled water flow for the VWS cooling coils as indicated below (deleted texts are lined-out and added texts are underlined):

"Coils	Flow (gpm)
VBS MY C01A/B	138 <u>96</u>
VBS MY C02A/C	108 <u>97</u>
VBS MY C02B/D	84 <u>52</u>

VAS MY C07A/B	24 <u>12.3</u>
VAS MY C12A/B	45 <u>8.2</u>
VAS MY C06A/B	45 <u>8.2</u> "

2. UFSAR Tier 2, Table 9.2.7-1 is revised to change the component data of the central chilled water system to reflect similar information changes listed above, and to add other clarifying information as indicated below (deleted texts are lined-out and added texts are underlined):

“Air-cooled Chillers

Capacity (nominal tons)	300 <u>230</u>
Coil	
VBS MY C01A/B (<u>MCR/CSA</u>)	138 <u>101</u>
VBS MY C02A/C (<u>Class 1E Division A/C Electrical Room</u>)	108 <u>106</u>
VBS MY C02B/D (<u>Class 1E Division B/D Electrical Room</u>)	84 <u>56</u>
VAS MY C07A/B (<u>CVS Makeup Pump Room</u>)	24 <u>14</u>
VAS MY C12A/B (<u>RNS Pump Room</u>)	45 <u>10</u>
VAS MY C06A/B (<u>RNS Pump Room</u>)	45 <u>10</u> "

3. UFSAR Tier 2, Table 9.4.1-1, Sheet 1 of 2, is revised to change the component data of the Nuclear Island Nonradioactive Ventilation System – MCR/CSA heating, ventilation, and air conditioning (HVAC) subsystem as indicated below (deleted texts are lined-out and added texts are underlined):

“Supply Fan Requirements

...	
Design airflow (scfm)	22,000 <u>17,360</u>
Fan static pressure (in. wg)	9.75 <u>7.5</u>

Return Air/Smoke Purge Fan Requirements

...	
Design airflow (scfm)	20,500 <u>15,860</u>
Fan static pressure (in. wg)	6 <u>4.4</u>

Cooling Coil Requirements

...	
Capacity (Btu/hr)	960,000 <u>807,140</u>
...	

4. UFSAR Tier 2 Table 9.4.1-2, Sheets 1 and 2 of 3 are revised to change the component data of the Nuclear Island Nonradioactive Ventilation System – Class 1E Electrical Room HVAC subsystem as indicated below (deleted texts are lined-out and added texts are underlined):

“Division “A & C” Supply Air Handling Units

...	
Supply Fan Requirements	
...	
Design airflow (scfm)	18,500 <u>17,900</u>
Fan static pressure (in. wg)	6.5 <u>7.0</u>
...	

Return Air/Smoke Purge Fan Requirements

...
Design airflow (scfm) 16,000 16,280
Fan static pressure (in. wg) 6.0 4.1

Cooling Coil Requirements

...
Capacity (Btu/hr) 960,000 851,680

Division "B & D" Supply Air Handling Units

Supply Fan Requirements

...
Design airflow (scfm) 14,500 10,480
Fan static pressure (in. wg) 6.5

Return Air/Smoke Purge Fan Requirements

...
Design airflow (scfm) 12600 9,790
Fan static pressure (in. wg) 6.0 3.0

Cooling Coil Requirements

...
Capacity (Btu/hr) 550,000 450,320

5. UFSAR Tier 2, Table 9.4.3-1 is revised to change the component data of the Radiologically Controlled Area Ventilation System - Auxiliary/Annex Building Ventilation subsystem as follows:

"Normal Residual Heat Removal Pump Room Unit Coolers

Cooling Coil Requirements

...
Capacity (Btu/hr) 87,000 75,250

Chemical and Volume Control Makeup Pump Room Unit Coolers

Cooling Coil Requirements

...
Capacity (Btu/hr) 127,000 113,320

6. COL Appendix C, Table 2.7.2-1, "Acceptance Criteria for Item 3.a)," is revised to reflect the same changes as presented in Item 1 above.

3.2.2 Evaluation of UFSAR and ITAAC Changes

HVAC Systems

To perform the technical evaluation, the staff considered Revision 5 of the UFSAR Section 9.4.1, "Nuclear island Nonradioactive Ventilation System," and Section 9.4.3, "Radiological Controlled Area Ventilation System," (ADAMS Accession No. ML16180A413) and the Final Safety Evaluation Report (FSER) for the COLs for Vogtle Electric Generating Plant, Units 3 and 4 (ADAMS Accession No. ML12271A045). Acceptability was judged based upon conformance with the existing VEGP licensing bases, guidance of SRP 9.4.1, and guidance of SRP 9.4.3.

The Nuclear Island Nonradioactive Ventilation System (VBS) serves the MCR, control support area (CAS), Class 1E electric rooms, and passive containment cooling system valve room during normal plant operation. The VBS provides the following two safety-related design basis functions: (1) monitor MCR supply air for radioactive particulate and iodine concentrations, and (2) isolate the HVAC penetrations in the MCR boundary during abnormal operation as described in UFSAR Section 9.4.1.2.3.1.

The Radiological Controlled Area Ventilation System (VAS) serves the fuel handling area of the auxiliary building, and the radiologically controlled portions of the auxiliary and annex buildings, except for the health physics and hot machine shop areas. The VAS has no safety-related function.

According to LAR 17-015, heat loads have been reduced in the areas served by the VBS and VAS including the following: (1) MCR/CAS, (2) Class 1E electrical rooms, (3) RNS pump rooms, and (4) CVS makeup pump rooms.

The proposed changes to revise VBS air handling unit and VAS unit cooler parameters do not adversely impact safety-related equipment or a fission product barrier. The proposed changes do not affect the function to isolate the HVAC penetrations in the MCR boundary during abnormal operation. Therefore, the safety functions of VBS and VAS are not changed.

The proposed changes do not adversely impact VBS supply air handling units that maintain required temperatures in the MCR. Radiation monitoring capability required for the MCR/CSA are not adversely impacted as the function of monitoring the VBS supply air for radioactive particulate, iodine, and noble gas concentrations is not changed. Therefore, compliance with GDC 19 is not changed.

Based on the above, the staff concludes that the changes to the HVAC systems conform to the guidance of SRP 9.4.1 and SRP 9.4.3 because both VBS and VAS design functions are maintained, no safety-functions are impacted, and no fission product barrier are affected. Therefore, the staff finds the proposed changes in the LAR related to HVAC systems acceptable.

Central Chilled Water System

To perform the technical evaluation, the staff considered Revision 5 of the UFSAR Section 9.2.7, "Central Chilled Water System" (ADAMS Accession No. ML16180A413), and the FSER for COLs for Vogtle Electric Generating Plant, Units 3 and 4 (ADAMS Accession No. ML12271A045) documenting the staff's technical evaluation of the VEGP COL application.

The VWS supplies chilled water to the heating, ventilation and air conditioning (HVAC) systems as a cooling medium to satisfy the room air temperature requirements for the plant. The VWS is nonsafety-related and consists of two subsystems; the high-capacity subsystem and the low-capacity subsystem. The VWS serves no safety-related function other than containment isolation. The high-capacity subsystem serves a majority of HVAC systems around the plant including those in the Containment Building, while the low-capacity subsystem is dedicated to the VBS and the unit coolers for the CVS makeup pump and RNS pump compartments.

The staff notes that although the entire low-capacity subsystem is nonsafety-related as described in UFSAR Section 9.2.7, the low-capacity VWS pumps and chillers are considered important components and identified in UFSAR Table 17.4-1 to be within the scope of the design reliability assurance program (D-RAP), because they provide cooling to the chemical volume and control (CVS) makeup pump room. Therefore, the staff's evaluation of the changes that are proposed as part of this LAR focused primarily on confirming that the changes will not adversely affect safety-related SSCs, will satisfy the criteria for regulatory treatment of non-safety systems (RTNSS), and will not adversely affect the capability of the VWS to perform its defense-in-depth cooling functions. Acceptability was judged based upon conformance with the existing VEGP COL licensing bases and the guidance provided in SRP 9.2.7 (as applicable).

Evolution of system design has resulted in optimization of the low-capacity subsystem. Specifically, the licensee proposed to reduce the total capacity of the air-cooled chillers in the VWS low-capacity subsystem as a result of reduction in the required heat loads in the MCR and selected plant equipment rooms. This design change requires changes to COL Appendix C, (PS-DCD Tier 1), Table 2.7.2-2, "ITAACs," and UFSAR Sections 9.2.7, 9.4.1 and 9.4.3.

The staff reviewed the information in the LAR, as well as the VEGP UFSAR and the staff's FSER for the VEGP COLs, to confirm that the proposed changes to the VWS affect only the nonsafety-related portions of the system. Also, the staff reviewed the respective VWS component design information, to confirm that the design change does not negatively affect the defense-in-depth capability of the low-capacity VWS to provide cooling water to CVS makeup pump room.

The licensee states in the LAR that the reduced cooling capacity of the VWS low-capacity subsystem, in conjunction with the reduced heat loads in specific plant areas where it serves, does not affect the ability of the VWS to perform its specified design functions, and the system defense-in-depth functions are not affected by this change because the design of cooling coils in the respective HVAC equipment reflect a 15 percent margin over the required heat loads and the capacity of the low-capacity chillers is selected with some additional margin. The staff performed comparisons of the licensee's provided values to ensure their reasonableness and, based on this, the staff agrees with the licensee's stated position. In addition, the only safety-related function of the VWS (to provide containment isolation) is not affected by the changes proposed in the LAR because containment isolation valves exist only in the high-capacity subsystem.

Based on the above discussion, the staff finds the proposed changes to the VWS conform to the guidance of SRP 9.2.7 because they will not negatively affect or compromise the system's ability to perform its design and defense-in-depth functions, and the affected portion of the VWS does not serve any safety-related function nor affect SSCs necessary for anticipated transients or postulated accident conditions; therefore the RTNSS criteria are satisfied. Therefore, the

staff finds the proposed changes in the LAR related to the VWS acceptable and are in compliance with GDC 44 requirements.

3.3 SUMMARY

In LAR 17-015, the licensee proposed to make changes that would affect the COL Appendix C, the corresponding PS-DCD Tier 1 information, as well as the UFSAR Tier 2 information. The proposed changes do not adversely affect any safety-related equipment or function, design function, radioactive material barrier, or safety analysis. The staff documented its review of the above changes in Section 3.2 of this safety evaluation and finds the changes are in compliance with requirements of 10 CFR Part 50, Appendix A, GDCs 19 and 44.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations in 10 CFR 50.91(b)(2), the Georgia State official was notified of the proposed issuance of the amendment on September 6, 2017. 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 NRC 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 because the proposed changes do not impact radiation exposure or dose rates, and because plant radiation zones, radiation controls, and the expected amounts and types of radioactive materials are not affected by the proposed changes. 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 27891, published on June 19, 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, and (4) presents special circumstances. In addition, the staff has determined that the special circumstances outweigh the minimal reduction of standardization. Therefore, the staff grants the licensee an exemption from the Tier 1 information requested by the licensee.

The staff concludes, based on the considerations discussed in Section 3.2 and confirming that these changes do not change an analysis methodology, assumptions, or the design itself, that there is reasonable assurance that: (1) the health and safety of the public will not be endangered by construction and operation in the proposed manner, (2) 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 acceptable.

7.0 REFERENCES

1. Southern Nuclear Operating Company, Vogtle Electric Generating Plant Units 3 and 4, "Request for License Amendment and Exemption: Central Chilled Water System (VWS) Optimization Changes (LAR-17-015)" dated April 27, 2017 (ADAMS Accession No. ML17118A049).
2. Southern Nuclear Operating Company, Vogtle Electric Generating Plant Units 3 and 4, "Supplement to Request for License Amendment and Exemption: Central Chilled Water System (VWS) Optimization Changes (LAR-17-015S1)" dated August 3, 2017 (ADAMS Accession No. ML17215B187).
3. VEGP Units 3 and 4, Updated Final Safety Analysis Report, Revision 5, dated June 22, 2016 (ADAMS Accession No. ML16180A413).
4. Final Safety Evaluation Report for Combined Licenses for Vogtle Electric Generating Plant Units 3 and 4, dated August 2011 (ADAMS Accession No. ML12271A045).
5. AP1000 Design Control Document, Revision 19, dated June 13, 2011 (ADAMS Accession No. ML11171A500).
6. Combined License NPF-91 for Vogtle Electric Generating Plant Unit 3, Southern Nuclear Operating Company (ADAMS Accession No. ML14100A106).
7. Combined License NPF-92 for Vogtle Electric Generating Plant Unit 4, Southern Nuclear Operating Company (ADAMS Accession No. ML14100A135).