



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

SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS
RELATED TO AMENDMENT NOS. 162 AND 160
TO THE COMBINED LICENSE NOS. NPF-91 AND NPF-92, RESPECTIVELY
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 December 13, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18347B484), the Southern Nuclear Operating Company (SNC) requested that the U.S. Nuclear Regulatory Commission (NRC or the Commission) amend Vogtle Electric Generating Plant (VEGP) Units 3 and 4, Combined License (COL) Numbers NPF-91 and NPF-92, respectively. In License Amendment Request (LAR) 18-030 SNC proposes to depart from information in the Updated Final Safety Analysis Report (UFSAR) (which includes the plant-specific Design Control Document (PS-DCD) Tier 2 information) and involves related changes to plant-specific Tier 1 information, with corresponding changes to the associated COL Appendix C information.

The requested amendment proposes changes that would revise the COL and licensing basis documents to identify passive residual heat removal (PRHR) heat exchanger (HX) inlet isolation and control valve status as requiring main control room (MCR) and remote shutdown workstation (RSW) display and alert indications. Additionally, in LAR 18-030 SNC proposed to remove duplicate Tier 2 information from Technical Report (TR) WCAP-15776, "Safety Criteria for the AP1000 Instrumentation and Control Systems," Revision 0, that is incorporated by reference (IBR) into the UFSAR. SNC is submitting Technical Specifications (TS) bases changes to reflect the changes in the LAR.

Pursuant to Section 52.63(b)(1) of Title 10 of the *Code of Federal Regulations* (10 CFR), SNC also requested an exemption from the provisions of 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 In order to modify the UFSAR (the PS-DCD) Tier 1 information, the NRC must find SNC's exemption request included in its submittal for the LAR to be acceptable. The staff's review of the exemption request, as well as the LAR, is included in this safety evaluation.

2.0 REGULATORY EVALUATION

The passive core cooling system (PXS) provides core cooling during abnormal plant conditions. The PXS includes the PRHR HX and the in-containment refueling water storage tank (IRWST). During design basis events, the PRHR HX transfers heat from the reactor coolant system (RCS) to the IRWST. The IRWST is the credited heat sink for accident analysis. The IRWST is the heat sink for conditions where the steam generators are not available. The requested amendment revises display and alert indications in the MCR and RSW for PRHR HX valve status. The staff considered the following regulatory requirements in reviewing the LAR that included the proposed changes:

10 CFR Part 52, Appendix D, Section VIII.A.4 states that exemptions from Tier 1 information are governed by the requirements of 10 CFR 52.63(b)(1) and 10 CFR 52.98(f). It also states that the Commission will deny such a request if the design change causes a significant reduction in 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, or the TS, or requires a license amendment under paragraphs B.5.b or B.5.c of the section.

10 CFR Part 52, Appendix D, VIII.C.6 states that after issuance of a license, "Changes to the plant-specific TS will be treated as license amendments under 10 CFR 50.90." 10 CFR 50.90 addresses the applications for amendments of licenses, construction permits, and early site permits. The proposed LAR requires changes in the TS, and therefore a LAR is required to be submitted for NRC approval.

10 CFR 50.34(f)(2)(iii) states that "Provide, for Commission review, a control room design that reflects state-of-the-art human factor principles prior to committing to fabrication or revision of fabricated control room panels and layouts."

10 CFR 50.34(f)(2)(xix) states that "Provide instrumentation adequate for monitoring plant conditions following an accident that includes core damage."

¹ While SNC 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 PS-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 50.36, TS impose limits, operating conditions, and other requirements upon reactor facility operation for the public health and safety. The TS are derived from the analyses and evaluations in the safety analysis report. In general, TS must contain: (1) safety limits and limiting safety system settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls.

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. In addition to the factors listed in 10 CFR 52.7, the Commission shall consider whether the special circumstances 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 any modification to, addition to, or deletion from the terms and conditions of a COL, including any modification to, addition to, or deletion from the Inspections, Tests, Analysis, and Acceptance Criteria contained in the license. Therefore, the proposed changes require a license amendment and NRC approval is required prior to making the plant-specific proposed changes in this LAR.

The specific NRC technical requirements applicable to LAR 18-030 are the general design criteria (GDC) in Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR 50. In particular, these technical requirements include the following GDC:

GDC 13, "Instrumentation and control," requires that instrumentation 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.

GDC 20, "Protection system functions," requires, in 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.

GDC 22, "Protection system independence," requires, in 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.

Regulatory Guide (RG) 1.97, "Instrumentation for Light-Water Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," requires, in part, that the Category 1 variables for the post-accident monitoring system (PAMS) meet the criterion of redundancy and single failure, so no single failure within either the accident-monitoring instrumentation, its auxiliary supporting features, or its power sources concurrent with the failure that are a condition or result of a specific accident should prevent the operators from being

presented the information necessary for them to determine the safety status of the plant and to bring the plant to and maintain it in a safe condition following that accident.

3.0 TECHNICAL EVALUATION

3.1 TECHNICAL EVALUATION OF THE REQUESTED CHANGES

In the LAR, SNC proposed to use PRHR HX inlet isolation valve status and PRHR HX outlet control valve status to replace the PRHR HX outlet temperature in the PAMS as the backup diverse indication of flow in the PRHR HX system in the MCR and RSW.

In this LAR, the licensee specifically proposes to:

- Change the PAM classification of the valve position indications of normally-open, motor-operated inlet isolation valve (PXS-V101) upstream of the PRHR HX and two normally-closed, air-operated outlet control valves (PXS-V108A/B). UFSAR Table 7.5-7 currently identifies the PRHR HX inlet isolation valve status and outlet control valve status as PAMS Type D, Category 3 and Type D, Category 2 variables, respectively. Since SNC is proposing to use these valve position indications as diverse variables to the PRHR flow indication, they are being given an additional classification of Type B, Category 1 for heat sink maintenance. These variables are Type B because they will indicate whether plant safety functions are being accomplished (i.e., PRHR actuation), and are Category 1 because they would be used as a primary variable to indicate the accomplishment of the safety function. There are no Type A variables for the AP1000 design. Additional classification of Type B, Category 1 (B1) for these valve position variables will require MCR and RSW display and alert indications. The TS Bases 3.3.17, Function 12 description is also proposed to be updated accordingly to reflect the above proposed changes.
- Change PAMS classification of the PRHR HX outlet temperature variable (RCS-TE161) from Type/Category “B1” to “B2,” since it will no longer be used as a primary source for verification of PRHR flow.
- Change current licensing basis description in the PAMS from “PRHR Outlet Temperature” to “PRHR HX Outlet Temperature,” which is being proposed to be consistent with the description provided in UFSAR Table 7.5-1.
- Remove duplicate information from TR WCAP-15776, which is IBR into the UFSAR. Information regarding the Minimum Inventory of Fixed Position Controls, Displays, and Alerts is duplicated in the VEGP Units 3 and 4 licensing bases between TR WCAP-15776, Table 2-3 and UFSAR Table 18.12.2-1. To remove this duplicate information in the licensing basis, a change is proposed to delete Table 2-3 from TR WCAP-15776.

For the proposed change to replace the description of the “PRHR Outlet Temperature” with “PRHR HX Outlet Temperature” in the current licensing basis documents, the staff finds that the two descriptions have the same meaning and refer to the same PAMS variable, so the change is of an editorial nature, which makes the description of this variable consistent in all related sections in the UFSAR. Hence, the staff finds this editorial change to be acceptable.

The technical evaluation of the remaining changes proposed in this LAR is presented below.

3.1.1 Technical Evaluation from Instrumentation and Control Perspectives

The current AP1000 design has a common pitot tube flow element and two redundant flow transmitters classified as the primary PAM parameter for verifying that the PRHR safety function is being accomplished. The two redundant PRHR HX system flow transmitters are classified as PAM Type B, Category 1 variables for heat sink maintenance. The current AP1000 design also has the PRHR HX outlet temperature indication credited as a backup to the PRHR flow indication to meet the redundancy/single failure criterion for Type/Category B1 PAMS variables. Therefore, the PRHR HX outlet temperature is also classified as a PAM Type/Category B1 variable. The intent of the current design is to rely on the PRHR HX outlet temperature indication to resolve any ambiguity in cases when a single primary flow transmitter fails and introduces a difference between the two primary flow transmitter indications.

However, the PRHR HX outlet temperature alone is not adequate to detect flow through the PRHR HX system. The change in temperature (ΔT) across the PRHR HX could be an adequate means for detecting flow through the PRHR HX. Although there is a PRHR HX inlet temperature element available, it is, however, not qualified to the criteria required for PAM Type/Category B1 variables. Therefore, this ΔT information cannot be credited and used as a Type/Category B1 variable for the PAM function of heat sink maintenance.

To remedy the above issue proposed in this LAR to use the valve position indications of the PRHR HX inlet isolation valve (PXS-V101) and the two PRHR HX outlet control valves (PXS-V108A/B) as diverse, backup means to determine whether there is flow through the PRHR HX system.

The PRHR HX inlet isolation valve is a normally open, motor-operated valve located upstream of the PRHR HX. The two normally closed, air-operated outlet control valves are located downstream of the PRHR HX in a parallel configuration. When the PRHR HX inlet isolation valve is open and one of the two outlet control valves is open, then a flow path through the PRHR HX exists. Conversely, when the PRHR HX inlet isolation valve is closed or both PRHR HX outlet control valves are closed, a flow path through the PRHR HX does not exist. Because PRHR is a passive function in the AP1000 design, the safety function of PRHR, i.e., heat sink maintenance, can be confirmed by using these valve position indications. The proposed PAM classification change to the valve position variables provides backup means (either Valves PXS-V101/PXS-V108A or PXS-V101/PXS-V108B valve position indications) to detect if there is any flow through the PRHR HX system. Therefore, the staff finds that the proposed PAM classification change provides reliable diverse backup means than the current design to detect flow through the PRHR HX indicating performance of the heat sink maintenance safety function. In addition, the staff finds that these proposed PAM classification changes are in accordance with RG 1.97, Revision 3 and are also in compliance with requirements in GDC 13 on instrumentation for monitoring and indication.

The PRHR HX system is actuated during an accident when the normally-closed PRHR HX outlet control valves are opened by a signal from the protection and safety monitoring system (PMS). Once the outlet control valves are open, the relatively hot reactor coolant in the core flows upward and the relatively cold reactor coolant from the PRHR HX flows downward into the core due to natural circulation. The heat from the coolant that flows through the PRHR HX is transferred to the water in the IRWST. So, the PRHR HX flow is a primary indication for the heat sink maintenance safety function during an accident. However, in the current AP1000 design the PRHR HX outlet temperature alone is used as the backup, diverse indication of the PRHR HX flow, which is evaluated above as inadequate. The proposed change to replace the

PRHR HX outlet temperature with the PRHR HX inlet isolation valve and outlet control valve positions can provide a reliable backup indication of the PRHR HX flow. Based on the above, the staff finds that the proposed replacement of the backup flow indication meets the requirements in 10 CFR 50.34(f)(2)(xix) on instrumentation for use in monitoring plant conditions following an accident.

The valve position indications of the PRHR HX inlet isolation valve and the PRHR HX outlet control valves are currently classified as PAM Type D and Category 2. SNC proposed in this LAR to re-classify these three valve positions as PAM Type B and Category 1 and use as diverse backup variables to demonstrate that the safety function of heat sink maintenance is being accomplished. Because the PRHR HX outlet temperature element is no longer credited as a backup for the PRHR HX flow indication, it is being re-classified from Type/Category B1 to B2. The staff reviewed the safety classification of these valve position indications outlined in the revised USFAR Table 7.5-1 for the "Post-Accident Monitoring System" and confirmed that their quality and equipment qualification requirements are consistent with the PAM Type/Category B1.

The position indications of the PRHR HX inlet isolation valve and the two outlet control valves are provided through a set of external stem-mounted limit switches, which are qualified for a harsh environment and are also classified as seismic Category I. Power is provided for the PAM display from the Class 1E DC and uninterruptible power supply system (IDS) Divisions B and C for 72 hours after a loss of all ac power. After 72 hours, the ancillary diesel generators provide the necessary onsite standby power for the PAM display. If there is a loss of any one PMS or IDS division, it would not prevent an operator from unambiguously determining if there is flow through the PRHR HX system because each parameter is displayed on both Division B and Division C safety displays and the displays are powered by IDS Divisions B and C. Based on the above, the staff finds that the proposed changes still comply with the guidance in RG 1.97, Revision 3 on qualification and power sources for Type/Category B1 variables.

The changes proposed in this LAR to use the valve position status of the PRHR HX inlet and outlet valves, instead of the PRHR HX outlet temperature, do not adversely impact the ability of the PAMS instrumentation to monitor the safety function of heat sink maintenance in the MCR and RSW during post-accident. So, the functionality of the PAMS will not be impacted adversely by the proposed changes. The proposed changes in this LAR do not adversely impact either the original electrical independence or the physical separation characteristics of the PAMS. The changes proposed in this LAR do not alter the design of any isolation devices or the Class 1E electrical divisions that power the PAMS instrumentation or the associated displays in the MCR or RSW. Therefore, the staff finds that the requirements in GDCs 20 and 22 on protection system functions and independence are still met.

Based on the above technical evaluations and from the instrumentation and control perspectives, the staff finds that the proposed reclassification of the PRHR HX inlet isolation valve and two outlet control valves position indications to PAM Type/Category B1 variables for verifying flow through the PRHR HX system is acceptable.

The staff also evaluated the change to remove duplicated Tier 2 information from TR WCAP-15776, Revision 0, which is IBR into the VEGP Units 3 and 4 UFSAR. SNC proposed to delete Table 2-3, "Minimum Inventory of Fixed Position Controls, Displays, and Alerts" from TR WCAP-15776, Revision 0 because its content is duplicated in the VEGP Units 3 and 4 UFSAR Table 18.12.2-1. The staff finds that it is not necessary to have duplicated information regarding the Minimum Inventory of Fixed Position Controls, Displays, and Alerts in different sets of the

licensing basis documents. Therefore, the staff finds that the proposed change to remove Table 2-3 from TR WCAP-15776, Revision 0 is acceptable.

3.1.2 Technical Evaluation from Human Factor Engineering Perspectives

Implementation of this LAR updates the licensing basis documents, but it does not cause any changes to the alarms, displays, or controls (collectively referred to as human-system interfaces or HSIs) used by the operators. Since there are only minor changes to the HSIs, additional analyses and/or validation activities as part of the design implementation process is unnecessary. Therefore, the staff focused the evaluation on the use of valve indication as an unambiguous indication of flow through the PRHR HX. The staff considered operational conditions that could potentially confuse operators. The staff assessed credible circumstances in which the operator may see that the inlet and outlet valves are open and there would also be no flow or restricted flow through the valves. The staff assessed the valve position as an indication of flow through the PRHR HX.

The staff assessed the circumstance where Valve PXS-V101 is normally open and Valves PXS-V108A and B are normally closed. When Valves PXS-V101 and either of Valves PXS-V108A or B are opened, it completes a loop in which gravity will force cool water through the outlet control valves. Subsequently, hot water from the hot leg will rise to PRHR HX through the PRHR HX inlet valve. Therefore, it is expected that there will be flow when both valves are open, and the associated piping remains intact.

The staff finds the use of valve positions as a backup indication of flow through the PRHR HX to be unambiguous because the passive flow through the PRHR HX is reliable when the valves listed above are open except for during a loss of coolant accident (LOCA) in this system. However, in the case of a LOCA, operators can use other indications to identify the location of the leak. Operators can deduce that, if there is a leak in the PRHR HX system, flow through this system may be affected. In other words, operators would not presume to have flow through the PRHR HX if the system had a LOCA regardless of the valve position. 10 CFR 50.34(f)(2)(iii) requires human factors principles be applied prior to modification. Since there are no modifications to the MCR HSI, the staff finds that the proposed change in this LAR still complies with the requirement in 10 CFR 50.34(f)(2)(iii).

3.1.3 Technical Evaluation from TS Perspectives

SNC proposed a change to update the TS Bases 3.3.17, Function 12 description to clarify that two channels of PRHR flow, or alternatively, two channels of PRHR HX control valve status with the confirmation that the PRHR HX inlet isolation valve is open, are provided to monitor primary system heat removal during accident conditions when the steam generators are not available. Also, discussion pertaining to PRHR outlet temperature will be deleted from the TS Bases 3.3.17, Function 12 description as this variable would no longer perform a primary PRHR heat removal PAMS function.

The regulation in 10 CFR 50.36(a)(1) states that a summary statement of the Bases or reasons for such specifications, other than those covering administrative controls, shall also be included in the application, but shall not become part of the TS. Consistent with 10 CFR 50.36(a)(1), SNC submitted corresponding TS Bases changes that provide consistency with the proposed design changes. The staff concludes that the proposed TS Bases changes describe the bases for the affected TSs and follow the "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (58 FR 39132).

3.2 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 changes to COL Appendix C (with corresponding changes to plant-specific Tier 1 information) and licensing basis documents, that would allow changes to identify PRHR HX inlet isolation valve status and PRHR HX control valve status as requiring MCR and RSW display and alert indications and plant-specific Tier 1 Section 2.5.2, Table 2.5.2-5 and Section 2.5.4, Table 2.5.4-1. The result of this exemption would be that SNC could implement the requested modifications to Tier 1 information, with corresponding changes to COL Appendix C. 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 18-030. 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. SNC 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.

3.2.1 AUTHORIZED BY LAW

The requested exemption would allow SNC to implement the amendment described above. This exemption is a permanent exemption limited in scope to particular Tier 1 information. Subsequent changes to COL Appendix C (with corresponding changes to plant-specific Tier 1 information) in Section 2.5.2, Table 2.5.2-5 and Section 2.5.4, Table 2.5.4-1 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 SNC'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.

3.2.2 NO UNDUE RISK TO PUBLIC HEALTH AND SAFETY

As discussed above in the technical evaluation, the proposed changes comply with the NRC's substantive safety regulations. Therefore, there is no undue risk to the public health and safety.

3.2.3 CONSISTENT WITH COMMON DEFENSE AND SECURITY

The proposed exemption would allow changes to identify PRHR HX inlet isolation valve status and PRHR HX control valve status as requiring MCR and RSW display and alert indications, and as presented in plant-specific Tier 1 information, 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 common defense and security is not impacted by this exemption.

3.2.4 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 ensure that a licensee 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 bases. The proposed changes described in the above technical evaluation do not impact the ability of any structures, systems, and components to perform their functions or negatively impact safety.

Special circumstances are present in the particular circumstances discussed in LAR 18-030 because the application of the specified Tier 1 information is not necessary to achieve the underlying purpose of the rule. The proposed exemption would allow changes to COL Appendix C (with corresponding changes to plant-specific Tier 1 information) that would allow changes to identify PRHR HX inlet isolation valve status and PRHR HX control valve status as requiring MCR and RSW display and alert indications. This exemption requests revisions to Tier 1, Section 2.5.2, Table 2.5.2-5 and Section 2.5.4, Table 2.5.4-1 that continue to

demonstrate that the applicable regulatory requirements will be met. Therefore, for the above reasons, 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.

3.2.5 SPECIAL CIRCUMSTANCES OUTWEIGH REDUCED STANDARDIZATION

This exemption would allow the implementation of changes to Tier 1 information in the PS-DCD and corresponding changes to Appendix C. The justification provided in LAR 18-030, the exemption request, and the associated licensing basis mark-ups demonstrate that there is a limited change from the standard information provided in the generic AP1000 DCD. The design functions of the system associated with this request will continue to be maintained because the associated revisions to the Tier 1 information support the design function of the safety systems. Consequently, the safety impact that may result from any reduction in standardization is minimized, because 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 Part 52.63(b)(1), the staff finds that the special circumstances outweigh any decrease in safety that may result from the reduction of standardization of the AP1000 design.

3.2.6 NO SIGNIFICANT REDUCTION IN SAFETY

This exemption would allow the implementation of changes discussed above. The exemption request proposes to depart from the certified design by allowing changes discussed above in the technical evaluation. The proposed changes will not adversely affect safety-related equipment or a fission product barrier, and do not impact the functional capabilities of the safety-related equipment 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.

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 April 25, 2019. 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. 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, and that 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 (84 FR 3504, dated February 12, 2019). 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 needs 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) is a special circumstance that outweighs the reduction in standardization, and (5) does not significantly reduce the level of safety at SNC's facility. Therefore, the staff grants SNC an exemption from Tier1 information specified by SNC.

The staff has concluded, based on the considerations discussed in Section 3.1 and the staff's confirmation that the changes proposed in this LAR do not change an analysis methodology, or assumptions 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 acceptable.

7.0 REFERENCES

1. Vogtle Electric Generating Plant, Units 3 and 4, Request for License Amendment (LAR-18-030): Changes to Passive Residual Heat Removal (PRHR) Instrumentation Minimum Inventory Displays, December 13, 2018 (ADAMS Accession No. ML18347B484).
2. Vogtle Electric Generating Plant Units 3 and 4 Updated Final Safety Analysis Report, Revision 7 and Tier 1, Revision 6, June 15, 2018 (ADAMS Accession No. ML18179A227).
3. AP1000 Design Control Document, Revision 19, June 13, 2011 (ADAMS Accession No. ML11171A500).
4. Combined License NPF-91 for Vogtle Electric Generating Plant Unit 3, Southern Nuclear Operating Company (ADAMS Accession No. ML14100A106).
5. Combined License NPF-92 for Vogtle Electric Generating Plant Unit 4, Southern Nuclear Operating Company (ADAMS Accession No. ML14100A135).