SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS

RELATED TO EXEMPTION AND AMENDMENT NOS. 85 AND 84

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 March 2, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17061A747), as supplemented by letter dated July 28, 2017 (ADAMS Accession No. ML17209A770), Southern Nuclear Operating Company, Inc., (SNC/licensee) requested that the U.S. 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) 17-006 requested changes to COL Appendix C and plant-specific design control document (DCD) Tier 1 to consolidate a number of Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) to improve the efficiency of the ITAAC completion and closure process.

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 corresponding portions of the certified information in Tier 1 of the generic DCD.[1] In order to modify the plant-specific DCD (PS-DCD) Tier 1 information, part of the Updated Final Safety Analysis Report (UFSAR), the NRC must find the licensee'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.

[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.

In a letter dated July 28, 2017, (ADAMS Accession No. ML17209A770), the licensee provided additional information that supplemented 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 as published in the *Federal Register* on March 28, 2017 (82 FR 15377).

2.0 REGULATORY EVALUATION

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

10 CFR 52.63(b)(1) allows the licensee 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 complies 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 if the special circumstances present outweigh the potential decrease in safety due to reduced standardization. Therefore, any exemption from Tier 1 must meet the requirements of 10 CFR 50.12, 52.7 and 52.63(b)(1).

10 CFR 52.98(f) states that any modification to, addition to, or deletion from the terms and conditions of a COL is a proposed amendment to the license. This includes any modification to, addition to, or deletion from the ITAAC contained in the license. Appendix C of COLs NPF-91 and NPF-92 contain information which the licensee is proposing to modify. Therefore, the proposed change requires a license amendment.

10 CFR 52.97(b) requires that the ITAAC included in the COL be necessary and sufficient to provide reasonable assurance that the facility has been constructed and will be operated in conformity with the license, the Atomic Energy Act of 1954, as amended (AEA), and the Commission's rules and regulations.

3.0 TECHNICAL EVALUATION

3.1 EVALUATION OF EXEMPTION

INTRODUCTION

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.

As defined in Section II of Appendix D to 10 CFR Part 52, Tier 1 information includes ITAAC and design descriptions, among other things. Therefore, a licensee referencing Appendix D incorporates by reference all Tier 1 information contained in the generic DCD. As also defined in Section II of Appendix D to 10 CFR Part 52, the PS-DCD consists of information in the generic DCD, as modified and supplemented by plant-specific departures and exemptions. The Tier 1 ITAAC and the design descriptions, along with the plant-specific ITAAC, were included in Appendix C of the COL at its issuance. The proposed amendment would allow changes to Tier 1 information. The proposed changes impact Tier 1 of the PS-DCD and Appendix C of the

COL, and therefore, pursuant to Section VIII.A.4 of Appendix D to 10 CFR Part 52, an 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.

The end result of this exemption would be that the licensee can implement modifications to Tier 1 information described and justified in LAR 17-006 if and only if the NRC approves LAR 17-006. This 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, the Commission will deny a request for an exemption from Tier 1 if it finds that the design 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, upon application by an applicant or licensee referencing a certified design, grant exemptions from one or more elements of the certification information, so long as the criteria given in 10 CFR 52.7 are met, and that the special circumstances required by 10 CFR 52.7 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. 10 CFR 52.7 further states that the Commission's consideration will be governed by 10 CFR 50.12. In accordance with 10 CFR 50.12, an exemption may be granted when: (1) the exemption is authorized by law, will not present an undue risk to public health and safety, and is consistent with the common defense and security; and (2) special circumstances are present. 10 CFR 50.12(a)(2) lists six special circumstances for which an exemption may be granted. It is necessary for one of these special circumstances to be present in order for NRC to consider granting an exemption request. The licensee stated that the requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii). That subsection defines special circumstances as when "[a]pplication of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." The staff's analysis of each of the required exemption criteria is presented below.

3.1.1 AUTHORIZED BY LAW

This exemption would allow the licensee to implement changes to COL Appendix C and corresponding Tier 1 information. This is a permanent exemption limited in scope to particular Tier 1 information evaluated in Section 3.2 of this safety evaluation. Subsequent changes to the Tier 1 Tables discussed in 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. 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 the licensee's proposed exemption will not result in a violation of the AEA or the Commission's regulations. Therefore, as required by 10 CFR 50.12(a)(1), the exemption is authorized by law.

3.1.2 NO UNDUE RISK TO PUBLIC HEALTH AND SAFETY

The underlying purpose of Appendix D to 10 CFR Part 52 is to ensure that the licensee will construct and operate the plant based on the approved information found in the DCD incorporated by reference into the licensee's licensing basis. As explained below in Section 3.2, the proposed changes only consolidate existing ITAAC without substantively changing what the existing ITAAC are intended to verify. The changes proposed by the licensee do not add, delete, or modify systems or equipment as described in Tier 1 of the AP1000 DCD. These changes will not impact the ability of the structures to perform their design function. Because the changes 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 50.12(a)(1), the staff finds that there is no undue risk to the public health and safety.

3.1.3 CONSISTENT WITH COMMON DEFENSE AND SECURITY

The proposed exemption would allow changes to elements of the PS-DCD Tier 1 that do not substantively change what the existing ITAAC are intended to verify. The changes do not alter or impede the design, function, or operation of any plant structure, system, or component (SSC) 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 50.12(a)(1), the staff finds that the common defense and security is not impacted by this exemption.

3.1.4 SPECIAL CIRCUMSTANCES

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), 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 purposes of the Tier 1 information is to ensure that the 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 licensee's licensing basis. The proposed changes to consolidate and relocate ITAAC, including elimination of redundant Inspections, Tests, Analyses (ITA) and Acceptance Criteria (AC), maintain the design functions of these systems and do not substantively change what the existing ITAAC are intended to verify. The proposed changes do not impact the ability of any SSC to perform its function or negatively impact safety, as discussed in Section 3.2. Therefore, because the application of the specified Tier 1 information in this circumstance is not necessary to serve the underlying purpose of the rule, the

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 implementation of changes to COL Appendix C and corresponding Tier 1 information proposed in the LAR. The changes to the PS-DCD Tier 1 information do not substantively change what the existing ITAAC are intended to verify and do not change the design in any way. Therefore, the changes do not result in a reduction in standardization. Thus, the staff finds that 10 CFR Part 52.63(b)(1) is satisfied.

3.1.6 NO SIGNIFICANT REDUCTION IN SAFETY

This exemption would allow the implementation of changes to COL Appendix C and corresponding Tier 1 information proposed in the LAR. The changes to consolidate and relocate ITAAC, including elimination of redundant ITA and AC, in PS-DCD Tier 1 will not impact the functional capabilities of the components identified in the affected ITAAC. The proposed changes will not modify the design or operation of any systems or equipment, there are no new failure modes introduced by these changes and the level of safety provided by the current structures, systems, and components will be unchanged. Therefore, as required by 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

The licensee states that the purpose of the LAR is to consolidate a number of ITAAC to improve the efficiency of the ITAAC completion and closure process. Therefore, the information presented by the licensee in this LAR was evaluated by NRC staff to confirm that the requested changes to the ITAAC Tables in Tier 1 do not substantively change what the existing ITAAC are intended to verify. For the ITAAC proposed for consolidation, the associated UFSAR design information is consistent with the current plant design, therefore, no SSC, design function, or analysis, as described in the UFSAR, is affected by the proposed changes.

In the LAR the licensee grouped the ITAAC in six categories. For each Category below, multiple ITAAC are proposed for consolidation to allow a single completion package and ITAAC Closure Notification (ICN) for each consolidated ITAAC.

- Reference ITAAC, which provide a reference to another location, such as a section, subsection, or ITAAC table entry.
- American Society of Mechanical Engineers (ASME) Component and Piping ITAAC, which verify the completion of design and construction activities in accordance with ASME Code requirements and the AP1000 licensing basis.
- Located-on-the-Nuclear-Island ITAAC, which verify that the seismic Category I equipment or components are located on the seismic Category I Nuclear Island.
- Equipment Qualification ITAAC, which demonstrate that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function and that the Class 1E equipment identified as being qualified for a harsh environment can withstand environmental conditions without loss of safety function.

- Valve Qualification ITAAC, which demonstrate the capability of motor-operated and check valves to operate under their design conditions.
- Instrumentation and Control (I&C) and Electrical Functional Arrangement ITAAC, which verify that the as-built system conforms with the functional arrangement, as described in the system-based Design Description.

As explained below, the staff reviewed the proposed changes and determined that they do not substantively change what the ITAAC are intended to verify. The proposed changes to the ITAAC Tables of Appendix C of the COL are considered administrative in nature for consolidation purposes. There are no changes to the design, functional capabilities, method for performing a function, design analysis, safety analysis, or UFSAR Tier 2 information involved; and thus, the requested Tier 1 changes do not affect any design functions. Also, the proposed changes do not involve a change to the method of evaluation for establishing design bases or safety analyses. Finally, tests, experiments and procedures described in the licensing basis were not changed by the proposed departures.

3.2.1 Category 1 – Reference ITAAC

Section 10.6 of Nuclear Energy Institute (NEI) guidance, NEI 08-01, Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52, as endorsed by Regulatory Guide 1.215, "Guidance for ITAAC Closure Under 10 CFR Part 52," provides the following discussion of Reference ITAAC:

> Some design control documents contain "Reference ITAAC," which are ITAAC that have an entry in the "Design Commitment" column in the DCD, but the "Inspections, Tests, Analyses" and "Acceptance Criteria" fields contain only a reference to another ITAAC. Completion of these Reference ITAAC is accomplished when the referenced ITAAC are completed. When referenced ITAAC are completed and the Reference ITAAC is ready to be closed, the licensee should submit an ITAAC Closure Notification that briefly describes the referenced ITAAC, and lists their ITAAC Closure Notification(s) as references.

Given this description, Reference ITAAC should not require the completion of additional ITAAC verifications.

LAR 17-006 proposed to delete numerous Reference ITAAC, but it was not apparent to the staff how the Design Commitments for the following deleted ITAAC would be verified by the remaining ITAAC: ITAAC Nos. 2.1.02.12a.vi (ITAAC Index No. 58), 2.1.02.12a.vii (ITAAC Index No. 59), 2.1.01.03 (ITAAC Index No. 3), 2.2.03.08a (ITAAC Index No. 174), 2.2.04.08c (ITAAC Index No. 239), 2.3.01.02 (ITAAC Index No. 279), 2.3.02.07a (ITAAC Index No. 298), 2.3.04.03 (ITAAC Index No. 329), 2.3.06.08a (ITAAC Index No. 370), 2.3.07.07a (ITAAC Index No. 401), 2.3.10.06a (ITAAC Index No. 441), 2.3.13.07 (ITAAC Index No. 469), 2.3.14.02 (ITAAC Index No. 478), 2.3.15.02 (ITAAC Index No. 482), 2.7.02.02 (ITAAC Index No. 702), 2.7.06.02.i (ITAAC Index No. 724), 2.5.01.05 (ITAAC Index No. 520), 2.7.01.07 (ITAAC Index No. 689), 2.7.01.08a (ITAAC Index No. 690), 2.7.01.08b (ITAAC Index No. 691), 2.7.03.02a (ITAAC Index No. 708), 2.7.03.02b (ITAAC Index No. 709), 2.7.04.02a (ITAAC Index No. 713), 2.7.04.02b (ITAAC Index No. 714), 2.7.04.02c (ITAAC Index No. 715), 2.7.01.08c (ITAAC Index No. 692), 3.3.00.02d (ITAAC Index No. 772) and 3.3.00.02e (ITAAC Index No. 773). Therefore, in a letter dated July 18, 2017, (ADAMS Accession No. ML17199F853), the staff issued a Request for Additional Information (RAI) requesting that the licensee discuss how the Design Commitments of the aforementioned ITAAC are being verified by the remaining ITAAC.

In its RAI response dated July 28, 2017, the licensee discussed how the remaining ITAAC will verify the Design Commitments of the aforementioned deleted ITAAC. In its response to RAI Questions 2.a and b, the licensee indicates that several ITAAC provide verification of the operation of the valves in the automatic depressurization system (ADS). For example, the licensee indicated that ITAAC Nos 2.1.02.12a.i (ITAAC Index No. 53) and 2.1.02.12a.iii (ITAAC Index No. 55) verify the operation of the ADS Stages 1, 2, and 3 valves, such that the Design Commitment in ITAAC No. 2.1.02.12a.vi (ITAAC Index No. 58) specifying operation of these valves will be verified. Similarly, the Design Commitment in ITAAC No. 2.1.02.12a.vii (ITAAC Index No. 59) regarding performance of the ADS Stage 4 valves will be verified by other ITAAC such as ITAAC No. 2.1.02.12a.v (ITAAC Index No. 57). The staff finds that the licensee has adequately explained how the Design Commitments of the deleted ITAAC referenced in RAI Questions 2.a and b will be verified by other ITAAC.

In its response to RAI Question 2.c, the licensee described how the Design Commitments for various deleted ITAAC regarding preserving containment integrity will be verified. For example, the licensee provided a description of how the Design Commitment of ITAAC No. 2.1.01.03 (ITAAC Index No. 3), which requires the Fuel Handling and Refueling System to preserve containment integrity by isolation of the fuel transfer tube penetrating containment, will be verified by performing the ITA and meeting the AC of ITAAC No. 2.2.01.01 (ITAAC Index No. 90), ITAAC No. 2.2.01.07.i (ITAAC Index No. 107) and ITAAC No. 2.2.01.07.ii (ITAAC Index No. 108). In its response, the licensee described the action required to meet the AC for ITAAC Index Nos. 90, 107 and 108 and explained how satisfying ITAAC Index No. 107 verifies that containment integrity is preserved with the fuel transfer tube containment isolation device in its post-accident position. The staff finds that the Design Commitment in ITAAC No. 2.1.01.03 (ITAAC Index No. 3) will be verified by the remaining ITAAC.

Similarly, the licensee explained how the Design Commitments in ITAAC Nos. 2.2.03.08a (ITAAC Index No. 174), 2.2.04.08c (ITAAC Index No. 239), 2.3.01.02 (ITAAC Index No. 279), 2.3.02.07a (ITAAC Index No.298), 2.3.04.03 (ITAAC Index No. 329), 2.3.06.08a (ITAAC Index No. 370), 2.3.07.07a (Index No. 401), 2.3.10.06a (Index No. 441), 2.3.13.07 (Index No. 469), 2.3.14.02 (Index No. 478), 2.3.15.02 (Index No. 482), 2.7.02.02 (Index No. 702) and 2.7.06.02.i (Index No. 724) will be verified by the remaining ITAAC. The staff finds that the licensee has adequately explained how the Design Commitments of the deleted ITAAC referenced in RAI Question 2.c will be verified by other ITAAC.

The Design Commitment for ITAAC No. 2.5.01.05 (ITAAC Index No. 520), which the licensee proposes to delete, requires that the diverse actuation system (DAS) manual actuation of ADS, in-containment refueling water storage tank (IRWST) injection, and containment recirculation can be executed correctly and reliably. In its response to RAI Question 2.d, the licensee indicates that although the substance of the Design Commitment for ITAAC Index No. 520 is not specifically called out for verification and validation (V&V) in NUREG-0711, “Human Factors Engineering [HFE] Program Review Model,” the Design Commitment is being verified via other ITAAC. APP-OCS-GBH-001, “AP1000 Human Factors Engineering Program Plan Proposal,” was developed per NUREG-0711. ITAAC Nos. 3.2.00.01a (ITAAC Index No. 739), 3.2.00.01b (ITAAC Index No. 740), 3.2.00.01c.i (ITAAC Index No. 741), 3.2.00.01c.ii (ITAAC Index No. 742), 3.2.00.01d (ITAAC Index No. 743) and 3.2.00.01e (ITAAC Index No. 744) will each have their own HFE V&V plan that is based on APP-OCS-GBH-001. These plans include APP-OCS-GEH-320, “AP1000 Human Factors Engineering Integrated System Validation Plan,” which is proprietary and contains the method for completing the integrated systems validation (ISV). The ISV is the performance-based test of the HFE design and is the subject of ITAAC Nos.

3.2.00.01c.i and 3.2.00.01c.ii (ITAAC Index Nos. 741 and 742). The licensee completed the ISV and documented the results in APP-OCS-GER-320, "Human Factors Engineering Integrated System Validation Report," which is proprietary. The staff reviewed APP-OCS-GER-320 and confirmed that the actuation of containment recirculation, IRWST actuation, and ADS actuations from the DAS panel were performed during the ISV. Additionally, APP-OCS-GEH-420, "AP1000 Human Factors Engineering Discrepancy Resolution Process," which is proprietary, and APP-OCS-GEH-320 together contain the criteria for identifying and resolving human engineering discrepancies (i.e., HFE design issues) as well as retesting resolutions to human engineering discrepancies. Resolution and retesting of human engineering discrepancies in accordance with APP-OCS-GEH-420 and APP-OCS-GEH-320 are the subject of ITAAC Index No. 743.

The execution of the approved plans ensures that the DAS actions are included in the HFE validation scenarios and any human engineering discrepancies associated with the DAS actions are identified, resolved, and retested in accordance with the approved implementation plans. Successful completion of these scenarios and resolution of identified human engineering discrepancies are required to close the HFE ITAAC. Thus, the Design Commitments of the deleted ITAAC will be verified by the remaining ITAAC. The staff finds the licensee's explanation to be acceptable.

The Design Commitment for ITAAC No. 2.7.01.07 (ITAAC Index No. 689) requires that the Nuclear Island Nonradioactive Ventilation System (VBS) and Sanitary Drainage System (SDS) provide the safety-related function to isolate the pipe that penetrates the Main Control Room (MCR) pressure boundary. In its response to RAI Question 2.e, the licensee indicated that all valves in the VBS and SDC pipes that penetrate the MCR are included in COL Appendix C Table 2.7.1-1. The AC for ITAAC Index No. 696 requires that the valves identified in Table 2.7.1-1 perform their active safety function. Therefore, the Design Commitment of ITAAC Index No. 689 that the VBS and SDS provide the safety-related function to isolate the pipe that penetrates the MCR pressure boundary is satisfied by completion of ITAAC Index No. 696. The staff finds the licensee's explanation to be acceptable.

In its response to RAI Question 2.f, the licensee explained how the Design Commitments of deleted ITAAC Nos 2.7.01.08a (ITAAC Index No. 690), 2.7.01.08b (ITAAC Index No.691), 2.7.03.02a (ITAAC Index No. 708), 2.7.03.02b (ITAAC Index No. 709), 2.7.04.02a (ITAAC Index No. 713), 2.7.04.02b (ITAAC Index No. 714), and 2.7.04.02c (ITAAC Index No. 715), regarding ventilation systems, are verified by completion of the remaining ITAAC. For example, the Design Commitment for ITAAC Index No. 690 requires that the Nuclear Island Nonradioactive Ventilation System (VBS) provides cooling to the Main Control Room (MCR), Control Support Area (CSA), remote shutdown room, and Class 1E electrical rooms. ITAAC Index No. 698, which is referenced by ITAAC Index No. 690, requires testing of the controls in the MCR that cause the components required for cooling to run and demonstration that cooling is provided to the stated areas. Therefore the Design Commitment of ITAAC Index No. 690 is verified by completion of ITAAC Index 698. Similarly, the licensee demonstrated how the Design Commitments for ITAAC Index Nos. 691, 708, 709, 713, 714 and 715 are met by completion of the remaining ITAAC. The staff finds that the licensee has adequately explained how the Design Commitments of the deleted ITAAC referenced in RAI Question 2.f will be verified by other ITAAC.

In its response to RAI Question 2.g, the licensee explained how the Design Commitment of deleted ITAAC No. 2.7.01.08c (ITAAC Index No. 692) will be met by completion of ITAAC No.

2.7.01.12 (ITAAC Index No. 698). The Design Commitment for ITAAC Index Number 692 requires that the VBS maintain MCR and CSA habitability when radioactivity is detected. As part of completion of ITAAC Index Number 698 the components required to maintain MCR and CSA habitability are tested to prove that the components perform their required functions. Therefore the Design Commitment of ITAAC Index No. 692 is verified by completion of the Reference ITAAC. The staff finds that the licensee's explanation is acceptable.

In its response to RAI Question 2.h, the licensee explained how the Design Commitment of deleted ITAAC No. 3.3.00.02d (ITAAC Index No. 772) will be met by completion of ITAAC No. 2.2.01.04a.i (ITAAC Index No. 95), 2.2.01.04a.ii (ITAAC Index No. 96), and ITAAC No. 2.2.01.04b (ITAAC Index No. 97). The Design Commitment for ITAAC Index No. 772 requires that the containment and its penetrations retain their pressure boundary integrity associated with the design pressure. The Design Commitment for ITAAC Index No. 95 and ITAAC Index No. 96 requires that the components identified in Tier 1 Table 2.2.1-1 as ASME Code Section III retain their pressure boundary integrity at their design pressure. The licensee stated that the containment vessel (including its penetrations) is identified in Table 2.2.1-1. The licensee also stated that ITAAC Index No. 97 addresses containment penetrations where a portion of the Class 2 process piping sleeve within the containment penetration interfaces directly with the containment vessel penetration Class MC boundary jurisdiction. The Design Commitment for this ITAAC requires that this piping retains its pressure boundary integrity at its design pressure. Based on the above, the staff concludes that, although ITAAC Index 772 would be deleted, ITAAC Index Nos. 95, 96 and 97 adequately verify that the containment and its penetrations retain their pressure boundary integrity.

Similarly, the licensee explained how the Design Commitment of deleted ITAAC 3.3.00.02e (ITAAC Index Number 773) will be verified by completion of ITAAC No. 2.2.01.04a.i (ITAAC Index No. 95), ITAAC No. 2.2.01.04a.ii (ITAAC Index No. 96), ITAAC No. 2.2.01.04b (ITAAC Index No. 97), ITAAC No. 2.2.01.07.i (ITAAC Index No. 107) and ITAAC No 2.2.01.07.ii (ITAAC Index No. 108). Therefore, the staff finds that the licensee has adequately explained how the Design Commitments of the deleted ITAAC referenced in RAI Question 2.h will be verified by other ITAAC.

Based on the above discussions, the staff concludes that Reference ITAAC may be deleted because the remaining ITAAC verify the Design Commitments for the Reference ITAAC. The changes do not require additional ITA to be performed, because the ITA are performed by the referenced ITAAC, and do not substantively alter the acceptance criteria that the relevant SSCs must meet.

The Reference ITAAC listed below were proposed to be removed from the associated ITAAC table.

Reference ITAAC Index Number	Reference ITAAC Number	ITAAC Items Referenced by the Reference ITAAC
3	2.1.01.03	Table 2.2.1-3, items 1 and 7
27	2.1.02.07c	Table 3.3-6, item 7.d
58	2.1.02.12a.vi	Table 2.1.2-4, item 8.d.i
59	2.1.02.12a.vii	Table 2.1.2-4, item 8.d.ii

Reference ITAAC Index Number	Reference ITAAC Number	ITAAC Items Referenced by the Reference ITAAC
84	2.1.03.09c	Table 3.3-6, item 7.d
104	2.2.01.06c	Table 3.3-6, item 7.d
134	2.2.02.06c	Table 3.3-6, item 7.d
143	2.2.02.07e.i	Table 2.2.2-3, item 1
149	2.2.02.08c	Table 2.3.4-2, items 1 and 2
173	2.2.03.07c	Table 3.3-6, item 7.d
174	2.2.03.08a	Table 2.2.1-3, items 1 and 7
234	2.2.04.07c	Table 3.3-6, item 7.d
237	2.2.04.08b.i	Table 2.2.4-4, item 11
239	2.2.04.08c	Table 2.2.1-3, item 7
242	2.2.04.09b.i	Table 2.4.1-2, item 2
264	2.2.05.06b	Table 3.3-6, item 7.d
279	2.3.01.02	Table 2.2.1-3, items 1 and 7
297	2.3.02.06c	Table 3.3-6, item 7.d
298	2.3.02.07a	Table 2.2.1-3, item 7
299	2.3.02.07b	Table 2.3.2-4, item 10b
300	2.3.02.07c	Table 2.3.2-4, item 10b
329	2.3.04.03	Table 2.2.1-3, items 1 and 7
369	2.3.06.07c	Table 3.3-6, item 7.d
370	2.3.06.08a	Table 2.2.1-3, item 7
371	2.3.06.08b	Table 2.3.6-4, item 1
400	2.3.07.06b	Table 3.3-6, item 7.d
401	2.3.07.07a	Table 2.2.1-3, items 1 and 7
404	2.3.07.07b.iii	Table 2.3.7-4, item 1
405	2.3.07.07b.iv	Table 2.2.2-3, item 7.f
406	2.3.07.07b.v	Table 2.2.2-3, item 7.f
407	2.3.07.07b.vi	Table 2.2.2-3, items 8.a and 8.b
441	2.3.10.06a	Table 2.2.1-3, items 1 and 7
442	2.3.10.06b	Table 2.3.10-4, item 9
468	2.3.13.06c	Table 3.3-6, item 7.d
469	2.3.13.07	Table 2.2.1-3, item 7
478	2.3.14.02	Table 2.2.1-3, items 1 and 7
482	2.3.15.02	Table 2.2.1-3, items 1 and 7
520	2.5.01.05	Table 3.2-1, item 1

Reference ITAAC Index Number	Reference ITAAC Number	ITAAC Items Referenced by the Reference ITAAC
528	2.5.02.05b	Table 3.3-6, items 7.d and 7.e
571	2.5.05.03c	Table 3.3-6, item 7.d
583	2.6.01.03b	Table 3.3-6, item 7.d
585	2.6.01.04b	Table 2.6.4-1, item 2.a
600	2.6.03.03	Table 3.3-6, item 7.d
632	2.6.05.04	Table 3.3-6, item 7.d
641	2.6.09.01	Table 3.3-6, item 14
642	2.6.09.03	Table 3.3-6, item 16
643	2.6.09.04	Table 3.3-6, item 17
688	2.7.01.06b	Table 3.3-6, item 7.d
689	2.7.01.07	Table 2.7.1-4, item 10.b
690	2.7.01.08a	Table 2.7.1-4, item 12
691	2.7.01.08b	Table 2.7.1-4, item 12
692	2.7.01.08c	Table 2.7.1-4, item 12
702	2.7.02.02	Table 2.2.1-3, items 1 and 7
708	2.7.03.02a	Table 2.7.3-2, item 3
709	2.7.03.02b	Table 2.7.3-2, item 3
713	2.7.04.02a	Table 2.7.4-2, item 3
714	2.7.04.02b	Table 2.7.4-2, item 3
715	2.7.04.02c	Table 2.7.4-2, item 3
724	2.7.06.02.i	Table 2.2.1-3, items 1 and 7
738	3.1.00.06	Table 2.7.1-4, items 1, 8.a, 8.c, 12, and 13
746	3.2.00.03.i	Subsection 2.7.1
747	3.2.00.03.ii	Subsection 2.2.5
748	3.2.00.03.iii	Subsection 2.6.3
749	3.2.00.03.iv	Subsection 2.6.5
750	3.2.00.03.v	Subsection 2.3.19
753	3.2.00.06.i	Subsection 2.7.1
754	3.2.00.06.ii	Subsection 2.6.5
755	3.2.00.06.iii	Subsection 2.3.19
771	3.3.00.02c	Table 2.2.1-3, items 2.a, 2.b, 3.a, and 3.b
772	3.3.00.02d	Table 2.2.1-3, items 4.a and 4.b
773	3.3.00.02e	Table 2.2.1-3, items 4.a, 4.b, and 7
828	3.5.00.03	Table 3.3-6, item 7.d

Reference ITAAC Index Number	Reference ITAAC Number	ITAAC Items Referenced by the Reference ITAAC
834	3.6.00.01.i	Table 2.3.10-4, item 7.a
835	3.6.00.01.ii	Table 3.5-6, item 1
836	3.6.00.01.iii	Table 2.1.2-4, items 5.a, 7.a, and 10
837	3.6.00.01.iv	Table 2.1.2-4, items 5.a and 7.a
838	3.6.00.01.v	Table 2.1.2-4, items 5.a, 7.a, and 10
839	3.6.00.01.vi	Table 2.3.2-4, item 13
840	3.6.00.01.vii	Table 2.3.10-4, item 10

The staff reviewed the proposed changes to remove these Reference ITAAC from the associated ITAAC table and confirmed that the Reference ITAAC refer to another ITAAC and that the Design Commitments for the Reference ITAAC would be verified by the remaining ITAAC. Therefore, the staff confirmed that the requested changes do not substantively change what the existing ITAAC are intended to verify.

3.2.2 Category 2 - ITAAC Related to ASME Activities

Several ITAAC verify the completion of design and construction activities in accordance with ASME Code requirements, as well as additional AP1000 requirements. These ITAAC (hereafter referred to collectively as “ASME” ITAAC) require completion of the same or similar processes (e.g., ASME Code Section III Design Reports, ASME Code Section III Data Reports) in order to close each individual ASME ITAAC.

The first two columns in the table below identify the ASME ITAAC that are to be consolidated into the ITAAC listed in the third column. The licensee proposes to consolidate the ITAAC by moving the design commitments, ITA, and AC from the ITAAC listed in the first two columns to the consolidated ITAAC, sometimes with minor, non-substantive changes aimed at simplification.

ITAAC Index Number	ITAAC Number	Consolidated ITAAC Number (Index Number)
14	2.1.02.02b	2.1.02.02a (13)
15	2.1.02.03a	
16	2.1.02.03b	
17	2.1.02.04a	
18	2.1.02.04b	
22	2.1.02.05b	
23	2.1.02.06	
73	2.1.03.04	2.1.03.03 (72)

ITAAC Index Number	ITAAC Number	Consolidated ITAAC Number (Index Number)
74	2.1.03.05	
92	2.2.01.02b	2.2.01.02a (91)
93	2.2.01.03a	
94	2.2.01.03b	
95	2.2.01.04a.i	
97	2.2.01.04b	
121	2.2.02.02b	2.2.02.02a (120)
122	2.2.02.03a	
123	2.2.02.03b	
124	2.2.02.04a	
125	2.2.02.04b	
129	2.2.02.05b	
160	2.2.03.02b	2.2.03.02a (159)
161	2.2.03.03a	
162	2.2.03.03b	
163	2.2.03.04a	
164	2.2.03.04b	
168	2.2.03.05b	
169	2.2.03.06	

221	2.2.04.02b	2.2.04.02a (220)
222	2.2.04.03a	
223	2.2.04.03b	
224	2.2.04.04a	
225	2.2.04.04b	
229	2.2.04.05b	
230	2.2.04.06	
254	2.2.05.02b	2.2.05.02a (253)
255	2.2.05.03a	
256	2.2.05.03b	
257	2.2.05.04a	
258	2.2.05.04b	
262	2.2.05.05b	
286	2.3.02.02b	2.3.02.02a (285)

ITAAC Index Number	ITAAC Number	Consolidated ITAAC Number (Index Number)
287	2.3.02.03a	
288	2.3.02.03b	
289	2.3.02.04a	
290	2.3.02.04b	
356	2.3.06.02b	2.3.06.02a (355)
357	2.3.06.03a	
358	2.3.06.03b	
359	2.3.06.04a	
360	2.3.06.04b	
364	2.3.06.05b	
365	2.3.06.06	
393	2.3.07.02b	2.3.07.02a (392)
394	2.3.07.03	
395	2.3.07.04	
432	2.3.10.02b	2.3.10.02a (431)
433	2.3.10.03a	
434	2.3.10.03b	
435	2.3.10.04a	
436	2.3.10.04b	
440	2.3.10.05b	
460	2.3.13.03	2.3.13.02 (459)
461	2.3.13.04	
679	2.7.01.02b	2.7.01.02a (678)
680	2.7.01.03a	
681	2.7.01.03b	
682	2.7.01.04a	
683	2.7.01.04b	

The staff reviewed the proposed change to consolidate these ITAAC and confirmed that the consolidated ITAAC require completion of the same processes and have substantively identical acceptance criteria as the existing ITAAC. Therefore, the staff confirmed that the requested changes do not substantively change what the existing ITAAC are intended to verify.

3.2.3 Category 3 - “Located-on-the-Nuclear-Island” ITAAC

Category 3 ITAAC, Located-on-the-Nuclear-Island ITAAC, are one of several ITAAC used to verify that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function. This is accomplished by (1) verifying the seismic Category I equipment

or components are located on the Nuclear Island, which is a seismic Category I structure, (2) demonstrating the ability of the equipment or components to withstand seismic loads by type testing and/or analysis, and (3) verifying that the seismic qualification of equipment at its final location is bounded by previous type testing/analysis. The "Located-on-the-Nuclear-Island" ITAAC are the first of these three verifications.

LAR 17-006 proposes that instead of closing these ITAAC individually based on separate walkdowns or early on based on design documentation and the "Released for Construction" drawings (which finalize equipment locations and release the associated documents for installation/construction) and submittal of separate ITAAC Completion Packages,[2] these ITAAC would be consolidated with ITAAC performed subsequently, and the Located-on-the-Nuclear-Island ITAAC would be performed at that later time. LAR 17-006 proposes to consolidate the Located-on-the-Nuclear-Island ITAAC without changing the content of these ITAAC. Therefore, consolidation of the Located-on-the-Nuclear-Island ITAAC with subsequently performed ITAAC does not reduce the scope of ITA that are required to be performed for these ITAAC, does not eliminate the need to perform the required ITA for each impacted system, and does not impact the scope of the 10 CFR 52.103(g) finding that the AC in COL Appendix C are met.

The Located-on-the-Nuclear-Island ITAAC listed below were proposed for consolidation with the Equipment Qualification ITAAC described in Category 4 (i.e., design commitments, ITA, and AC from the Equipment Qualification ITAAC are being moved to the same ITAAC as the Located-on-the-Nuclear-Island ITAAC).

ITAAC Index Number	ITAAC Number
19	2.1.02.05a.i
75	2.1.03.06.i
98	2.2.01.05.i
126	2.2.02.05a.i
165	2.2.03.05a.i
226	2.2.04.05a.i
259 *	2.2.05.05a.i *
291	2.3.02.05.i
340 *	2.3.05.02.i *
361	2.3.06.05a.i

ITAAC Index Number	ITAAC Number
396 *	2.3.07.05.i *
437 *	2.3.10.05a.i *
450 *	2.3.11.02.i *
462	2.3.13.05.i
522	2.5.02.02.i
565	2.5.05.02.i
579 *	2.6.01.02.i *
597 *	2.6.03.02.i *
684 *	2.7.01.05.i *
823	3.5.00.01.i

[2] The staff notes that Located-on-the-Nuclear-Island ITAAC cannot be closed until the SSCs in question are verified as being physically located on the nuclear island.

*Note: In the Tables above, changes to any ITAAC that contain an asterisk (*) are only applicable to COL Appendix C. No change to PS-DCD Tier 1 is needed because these ITAAC are already consolidated in accordance with the organization of the AP1000 generic DCD.

The staff reviewed the proposal to consolidate this group of ITAAC and confirmed that no changes were made to the Located-on-the-Nuclear-Island design commitments or ITAAC. The staff finds this acceptable. The evaluation of changes to the Equipment Qualification ITAAC is presented below in Section 3.2.4.

The Located-on-the-Nuclear-Island ITAAC identified in the first two columns in the table below would be consolidated into the ITAAC identified in the third column since both ITAAC confirm the same design commitment regarding location of light fixtures:

ITAAC Index Number	ITAAC Number	Consolidated ITAAC Number (Index Number)
631 *	2.6.05.03.ii *	2.6.05.03.i (630) *

*Note: In the Table above, changes to any ITAAC that contain an asterisk (*) are only applicable to COL Appendix C. No change to plant-specific DCD Tier 1 is needed because these ITAAC are already consolidated in accordance with the organization of the AP1000 generic DCD.

The staff reviewed the proposed change to consolidate this group of ITAAC and confirmed that no changes are made to the text of the design commitments or ITAAC. Therefore, the staff finds that the proposed change is acceptable.

3.2.4 Category 4 - Equipment Qualification ITAAC

Category 4 ITAAC, Equipment Qualification ITAAC, are performed for equipment qualification to demonstrate that the seismic Category I equipment can withstand seismic design basis loads without loss of safety function and that the Class 1E equipment being qualified for a harsh environment can withstand the environmental conditions without loss of safety function. This is accomplished by including (1) an ITAAC for verifying that the equipment is located on the Nuclear Island (Category 3 ITAAC), (2) an ITAAC for performance of the seismic and harsh environment type testing and/or analysis (Category 4 ITAAC), and (3) a subsequent ITAAC for verifying that the qualification of equipment at its final location is bounded by previous type testing/analysis (Category 4 ITAAC).

LAR 17-006 proposes to consolidate these ITAAC because these ITAAC depend on the same set of documents (i.e., Equipment Qualification Data Packages (EQDP), Equipment Qualification Summary Reports (EQSR) for closure, plus the Equipment Qualification As-built Reconciliation Report). As stated above in Section 3.2.3, the licensee proposes to consolidate the Equipment Qualification ITAAC with Located-on-the-Nuclear-Island ITAAC. LAR 17-006 proposes to consolidate these ITAAC without changing the content of the design commitments, ITA, or AC. Therefore, consolidation of the “Equipment Qualification” ITAAC does not reduce the scope of ITA that are required to be performed for these ITAAC, does not eliminate the need

to perform the required ITA for each impacted system, and does not impact the scope of the 10 CFR 52.103(g) finding that the AC in COL Appendix C are met.

The first two columns in the table below identify the Equipment Qualification ITAAC that are to be consolidated into the ITAAC listed in the third column. The licensee proposes to consolidate the ITAAC by moving the design commitments, ITA, and AC from the ITAAC listed in the first two columns to the consolidated ITAAC.

ITAAC Index Number	ITAAC Number	Consolidate With ITAAC Number (Index Number)
20	2.1.02.05a.ii	2.1.02.05a.i (19)
21	2.1.02.05a.iii	
24	2.1.02.07a.i	
25	2.1.02.07a.ii	
76	2.1.03.06.ii	2.1.03.06.i (75)
77	2.1.03.06.iii	
81	2.1.03.09a.i	
82	2.1.03.09a.ii	
99	2.2.01.05.ii	2.2.01.05.i (98)
100	2.2.01.05.iii	
101	2.2.01.06a.i	
102	2.2.01.06a.ii	
105	2.2.01.06d.i	
106	2.2.01.06d.ii	
127	2.2.02.05a.ii	2.2.02.05a.i (126)
128	2.2.02.05a.iii	
131	2.2.02.06a.i	
132	2.2.02.06a.ii	
166	2.2.03.05a.ii	2.2.03.05a.i (165)
167	2.2.03.05a.iii	
170	2.2.03.07a.i	
171	2.2.03.07a.ii	

ITAAC Index Number	ITAAC Number	Consolidate With ITAAC Number (Index Number)
227	2.2.04.05a.ii	2.2.04.05a.i (226)
228	2.2.04.05a.iii	
231	2.2.04.07a.i	
232	2.2.04.07a.ii	
260 *	2.2.05.05a.ii *	2.2.05.05a.i (259) *
261 *	2.2.05.05a.iii *	
292	2.3.02.05.ii	2.3.02.05.i (291)
293	2.3.02.05.iii	
294	2.3.02.06a.i	
295	2.3.02.06a.ii	
341 *	2.3.05.02.ii *	2.3.05.02.i (340) *
342 *	2.3.05.02.iii *	
362	2.3.06.05a.ii	2.3.06.05a.i (361)
363	2.3.06.05a.iii	
366	2.3.06.07a.i	
367	2.3.06.07a.ii	
397 *	2.3.07.05.ii *	2.3.07.05.i (396) *
398 *	2.3.07.05.iii *	
438 *	2.3.10.05a.ii *	2.3.10.05a.i (437) *
439 *	2.3.10.05a.iii *	
451 *	2.3.11.02.ii *	2.3.11.02.i (450) *
452 *	2.3.11.02.iii *	
463	2.3.13.05.ii	2.3.13.05.i (462)
464	2.3.13.05.iii	
465	2.3.13.06a.i	
466	2.3.13.06a.ii	

ITAAC Index Number	ITAAC Number	Consolidate With ITAAC Number (Index Number)
523	2.5.02.02.ii	2.5.02.02.i (522)
524	2.5.02.02.iii	
525	2.5.02.03	
526	2.5.02.04	
566	2.5.05.02.ii	2.5.05.02.i (565)
567	2.5.05.02.iii	
568	2.5.05.03a.i	
569	2.5.05.03a.ii	
580 *	2.6.01.02.ii *	2.6.01.02.i (579) *
581 *	2.6.01.02.iii *	
598 *	2.6.03.02.ii *	2.6.03.02.i (597) *
599 *	2.6.03.02.iii *	
685 *	2.7.01.05.ii *	2.7.01.05.i (684) *
686 *	2.7.01.05.iii *	
824	3.5.00.01.ii	3.5.00.01.i (823)
825	3.5.00.01.iii	
826	3.5.00.02.i	
827	3.5.00.02.ii	

*Note: In the Table above, changes to any ITAAC that contain an asterisk (*) are only applicable to COL Appendix C. No change to PS-DCD Tier 1 is needed because these ITAAC are already consolidated in accordance with the organization of the AP1000 generic DCD.

The staff reviewed the proposed change to consolidate these ITAAC and confirmed that these ITAAC depend on the same set of documents for closure plus the Equipment Qualification As-built Reconciliation Report and that no changes are made to the content of the design commitment, ITA, or AC. Therefore, the staff finds that the proposed change is acceptable.

3.2.5 Valve Qualification ITAAC

Category 5 ITAAC, Valve Qualification ITAAC, are performed for valve qualification to demonstrate the capability of the valve to operate under its design conditions. These ITAAC require inspection to show that the as-built valves are bounded by the tested conditions and each valve changes position under design conditions.

Similar to the Equipment Qualification ITAAC (Category 4), in order to close these ITAAC, an EQDP and an EQSR are generated along with a report demonstrating that as-built conditions are bounded by the testing.

LAR 17-006 proposes to consolidate these ITAAC because these ITAAC depend on the same set of documents (i.e., EQDPs/EQSRs) for closure and any needed as-built verification. LAR 17-006 proposes to consolidate these ITAAC without changing the content of the design commitments, ITA, or AC. The consolidation of the Valve Qualification ITAAC does not reduce the scope of the ITA that are required to be performed for these ITAAC, does not eliminate the need to perform the required ITA for each impacted system, and does not impact the scope of the 10 CFR 52.103(g) finding that the AC in COL Appendix C are met.

The first two columns in the table below identify the Equipment Qualification ITAAC that are to be consolidated into the ITAAC listed in the third column. The licensee proposes to consolidate the ITAAC by moving the design commitments, ITA, and AC from the ITAAC listed in the first two columns to the consolidated ITAAC.

ITAAC Index Number	ITAAC Number	Consolidated ITAAC Number (Index Number)
54 *	2.1.02.12a.ii *	2.1.02.12a.i (53) *
57 *	2.1.02.12a.v *	2.1.02.12a.iv (56) *
115 *	2.2.01.11a.ii *	2.2.01.11a.i (114) *
155 *	2.2.02.11a.ii *	2.2.02.11a.i (154) *
215 *	2.2.03.12a.ii *	2.2.03.12a.i (214) *
249 *	2.2.04.12a.ii *	2.2.04.12a.i (248) *
310 *	2.3.02.11a.ii *	2.3.02.11a.i (309) *
385 *	2.3.06.12a.ii *	2.3.06.12a.i (384) *

*Note: In the Table above, the proposed changes are only applicable to COL Appendix C. No change to PS-DCD Tier 1 is needed because these ITAAC are already consolidated in accordance with the organization of the AP1000 generic DCD.

The staff reviewed the proposed change to consolidate this group of ITAAC and confirmed that no changes are made to the text of the design commitments or ITAAC. Therefore, the staff finds that the proposed change is acceptable.

3.2.6 Category 6 – I&C and Electrical Functional Arrangement

Category 6 ITAAC, for functional arrangement of I&C and Electrical systems (referred to as "Functional Arrangement" ITAAC), require the performance of inspections of the as-built system to verify that the as-built system conforms with the functional arrangement, as described in the Design Description. The Design Description, in general, includes a figure and/or a table of components. The figure graphically displays the correct as-built arrangement and connection of the applicable systems and/or components and the tables provide the component names and locations. The functional arrangement ITAAC inspection will verify that the applicable systems and/or components are physically arranged and connected as described and shown in the

Design Description; however, these Functional Arrangement ITAAC do not provide a demonstration or verification of system or component functionality.

LAR 17-006 states that the listed Functional Arrangement ITAAC do not require testing to verify that these systems and components perform their intended functions which include generating the required indications and actuations based on the inputs. LAR 17-006 states that the functionality of these systems and components are demonstrated by the testing performed in subsequent ITAAC within the same system. These ITAAC will perform the functional testing which will ultimately demonstrate and verify that the required systems and components exist and that they are connected and arranged in the correct manner necessary to perform the intended function. As such, the scope of Functional Arrangement ITAAC is bounded by the subsequent ITAAC which verify and demonstrate the applicable system and component's functionality. Therefore, reliance on the subsequent ITAAC does not reduce the scope of ITA that are required to be performed for the Functional Arrangement ITAAC, does not eliminate the need to perform the required ITA for each impacted system, and does not substantively impact the scope of the 10 CFR 52.103(g) finding that the AC in COL Appendix C are met.

Thus, LAR 17-006 proposes to remove the listed Functional Arrangement ITAAC. Only the I&C and Electrical Functional Arrangement ITAAC that have associated functional testing ITAAC have been included in the scope of this change. The Functional Arrangement ITAAC listed below in the first two columns were proposed to be removed from the associated ITAAC table.

ITAAC Index Number	**ITAAC Number**	**ITAAC Demonstrating Functionality**	
505	2.5.01.01	506	2.5.01.02a
		507	2.5.01.02b
		508	2.5.01.02c.i
		509	2.5.01.02c.ii
		510	2.5.01.02d
521	2.5.02.01	527	2.5.02.05a
		529	2.5.02.06a.i
		530	2.5.02.06a.ii
		531	2.5.02.06b
		532	2.5.02.06c.i
		533	2.5.02.06c.ii
		539	2.5.02.08a.i
		540	2.5.02.08a.ii
		541	2.5.02.08a.iii
		543	2.5.02.08b.ii
		545	2.5.02.09a
		546	2.5.02.09b
		547	2.5.02.09c
		548	2.5.02.09d

ITAAC Index Number	ITAAC Number	ITAAC Demonstrating Functionality	
554	2.5.03.01	555	2.5.03.02
592	2.6.02.01	593	2.6.02.02a
		594	2.6.02.02b
		595	2.6.02.02c
596	2.6.03.01	601	2.6.03.04a
		603	2.6.03.04c
		604	2.6.03.04d
		605	2.6.03.04e
		606	2.6.03.04f
		607	2.6.03.04g
		608	2.6.03.04h
		609	2.6.03.04i
		876	2.6.03.04j
		610	2.6.03.05a
		611	2.6.03.05b
		612	2.6.03.05c
		613	2.6.03.05d.i
		614	2.6.03.05d.ii
627	2.6.05.01	628	2.6.05.02.i
		633	2.6.05.05.i
		634	2.6.05.05.ii
		635	2.6.05.06.i
		636	2.6.05.06.ii

The staff reviewed the proposed change to remove these Functional Arrangement ITAAC from the associated ITAAC table and confirmed that both the ITA and AC for these ITAAC are duplicated by other ITAAC. Therefore, the staff finds that the proposed change does not substantively change what the ITAAC are intended to verify.

3.2.7. Presentation of Consolidated ITAAC in Appendix C of the COL

As a result of consolidation, numerous ITAAC numbers will no longer be used. In LAR 17-006 as originally submitted, the licensee proposed to delete the ITAAC number for numerous ITAAC and retain only an ITAAC Index Number. The licensee's ITAAC Index Number has not been used to track the ITAAC in all documents. For this reason, in a Request for Additional Information (RAI), dated July 18, 2017, the staff asked the licensee retain the original ITAAC number for each deleted ITAAC (in addition to its Index Number) with a cross-reference to the

consolidated ITAAC number (with reference to LAR 17-006) to support ITAAC close-out and NRC inspection.

In its response to RAI Question 1, dated July 28, 2017, the licensee stated that the ITAAC Number and ITAAC Index Number will be retained for each ITAAC consolidated into other ITAAC. In addition, the licensee indicated that a reference will be provided for each consolidated ITAAC to specify the amendment number if LAR 17-006 is accepted by the NRC. The NRC staff finds that the retention of the ITAAC Number and ITAAC Index Number as well as a reference to the applicable amendment number for each consolidated ITAAC will ensure that the tracking and close-out of those ITAAC that are referenced in previous licensee and NRC documentation will be accomplished.

3.3 SUMMARY

In LAR 17-006, the licensee proposed to make changes that would affect the COL Appendix C and corresponding PS-DCD Tier 1 information. None of the above proposed changes represent any technical changes to the design, construction, or operation of the plant. No structure, system, component, design function, or analysis, as described in the UFSAR, is affected. Finally, the staff finds that the proposed changes do not substantively alter what the ITAAC are intended to verify. Therefore, within the scope of this license amendment, the NRC finds that 10 CFR 52.97(b) is satisfied. The NRC documented its review of the above changes in Section 3.2 of this safety evaluation and finds the changes acceptable.

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. 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. 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 15377, published on March 28, 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 needs to be prepared in connection with the issuance of the amendment.

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

environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the exemption.

6.0 CONCLUSION

The staff has determined that pursuant to Section VIII.A.4 of Appendix D to 10 CFR Part 52, the exemption (1) is authorized by law, (2) presents no undue risk to the public health and safety, (3) is consistent with the common defense and security, (4) presents special circumstances, (5) justifies that the special circumstances outweigh any 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 specified by the licensee in LAR 17-006 and evaluated in Section 3.2 of this safety evaluation.

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

7.0 REFERENCES

1. Southern Nuclear Operating Company, Vogtle Electric Generating Plant Units 3 and 4, "Request for License Amendment and Exemption: Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Consolidation (LAR 17-006)" dated March 2, 2017 (ADAMS Accession No. ML17061A747).
2. Southern Nuclear Operating Company, Vogtle Electric Generating Plant Units 3 and 4, "LAR 17-006S1 ─ Supplement to VEGP Units 3 and 4 Request for License Amendment and Exemption: Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Consolidation," dated July 28, 2017 (ADAMS Accession No. ML17209A770).
3. Vogtle Units 3 and 4, Updated Final Safety Analysis Report, Revision 5 and Tier 1 dated April 6, 2016 (ADAMS Accession No. ML16174A168).
4. AP1000 Design Control Document, Revision 19, dated June 13, 2011 (ADAMS Accession No. ML11171A500).
5. Combined License NPF-91 for Vogtle Electric Generating Plant Unit 3, Southern Nuclear Operating Company (ADAMS Accession No. ML14100A106).
6. Combined License NPF-92 for Vogtle Electric Generating Plant Unit 4, Southern Nuclear Operating Company (ADAMS Accession No. ML14100A135).
7. NEI 08-01, Revision 5 - Corrected, Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52, dated June 2014 (ADAMS Accession No. ML14182A160).