

Southern Nuclear Operating Company

ND-19-1023

Enclosure 5

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Revised Exemption Request:

Consolidation of Structural Building ITAAC

(LAR-19-005R1)

(Enclosure 5 consists of 9 pages, including this cover page)

1.0 PURPOSE

Southern Nuclear Operating Company (the Licensee) requests a permanent exemption from the provisions of 10 CFR 52, Appendix D, Section III.B, *Design Certification Rule for the AP1000 Design, Scope and Contents*, to allow a plant-specific departure from elements of the certification information in Tier 1 of the plant-specific AP1000 Design Control Document (DCD). The regulation, 10 CFR 52, Appendix D, Section III.B, requires an applicant or licensee referencing Appendix D to 10 CFR Part 52 to incorporate by reference and comply with the requirements of Appendix D, including certified information in DCD Tier 1. The proposed changes would modify COL Appendix C (and corresponding plant-specific Tier 1) information. The changes include consolidating Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) for structural buildings and clarifying as-built deviations in wall thickness will be addressed by the appropriate structural building ITAAC.

This request for exemption will apply the requirements of 10 CFR 52, Appendix D, Section VIII.A.4 to allow departures from Tier 1 information due to the proposed changes, as described below.

Table 3.3-1

- Add Note 15 to clarify that reconciliation of construction deviations in the nuclear island structures from the thickness and tolerances specified in this table is included in the reconciliation reports, and demonstrate that the as-built structures will withstand design basis loads without loss of structural integrity or safety functions and without impacting compliance with the radiation protection licensing basis, such as GDC 19, established radiological zoning and equipment qualification in accordance with ITAAC 3.3.00.02a.i.a, 3.3.00.02a.i.b, 3.3.00.02a.i.c, or 3.3.00.02a.i.d. Construction deviations from the thicknesses and tolerances specified in COL Appendix C Table 3.3-1 are individually evaluated through the nonconformance processes and are included in the as-built building reports as part of the nonconformance reconciliation.
- Add Note 16 to clarify that the construction deviations in the annex building from the thickness and tolerances specified in this table are evaluated in the thickness report to demonstrate that the as-built structures will withstand design basis loads without loss of structural integrity or safety functions and without impacting compliance with the radiation protection licensing basis, such as GDC 19, established radiological zoning and equipment qualification in accordance with ITAAC 3.3.00.02a.ii.e. Construction deviations from the thicknesses and tolerances specified in COL Appendix C Table 3.3-1 are individually evaluated through the nonconformance processes and are included in the as-built building reports as part of the nonconformance reconciliation.
- Add Note 17 to clarify that the construction deviations of the turbine building structural thicknesses from the table are evaluated in the thickness report which demonstrates that the structural function specified in the associated ITAAC is met.
- Add Note 18 to clarify that nonconformances from the thicknesses and tolerances specified in Table 3.3-1 (i.e. out of tolerance conditions) are addressed under the 10 CFR Part 50, Appendix B process and are subsequently screened in accordance with the 10 CFR Part 52, Appendix D, Section VIII process, to ensure that the licensing basis is adequately maintained. Construction deviations will continue to be

assessed against licensing basis requirements and will be addressed in accordance with licensee procedures and regulatory requirements and, if applicable, a license amendment will be obtained prior to implementation of the change.

Table 3.3-6, ITAAC Number 3.3.00.02a.i.a, containment internal structures

- Add the shielding attribute in “Design Commitment.”
- Add the requirement for analysis of deviations due to as-built conditions for radiation shielding in “Inspections, Tests and Analyses.”
- Add requirement for verification of no impact to compliance with radiation protection licensing basis, in the reconciliation report in “Acceptance Criteria.”
- Clarify in “Acceptance Criteria” that the thickness deviations from Table 3.3-1 are reconciled in the reconciliation report.

Table 3.3-6 ITAAC Number 3.3.00.02a.i.b, shield building

- Add the shielding attribute in “Design Commitment.”
- Add the requirement for analysis of deviations due to as-built conditions for radiation shielding in “Inspections, Tests and Analyses.”
- Add requirement for verification of no impact to compliance with the radiation protection licensing basis in the reconciliation report in “Acceptance Criteria.”
- Clarify in “Acceptance Criteria” that the thickness deviations from Table 3.3-1 are reconciled in the reconciliation report.

Table 3.3-6 ITAAC Number 3.3.00.02a.i.c, auxiliary building (non-radiologically controlled)

- Add the shielding attribute in “Design Commitment.”
- Add the requirement for analysis of deviations due to as-built conditions for radiation shielding in “Inspections, Tests and Analyses.”
- Add requirement for verification of no impact to compliance with the radiation protection licensing basis in the reconciliation report in “Acceptance Criteria.”
- Clarify in “Acceptance Criteria” that the thickness deviations from Table 3.3-1 are reconciled in the reconciliation report.

Table 3.3-6 ITAAC Number 3.3.00.02a.i.d, auxiliary building (radiologically controlled)

- Add the shielding attribute in “Design Commitment.”
- Add the requirement for analysis of deviations due to as-built conditions for radiation shielding in “Inspections, Tests and Analyses.”
- Add requirement of verification of no impact to compliance with the radiation protection licensing basis in the reconciliation report in “Acceptance Criteria.”
- Clarify in “Acceptance Criteria” that the thickness deviations from Table 3.3-1 are reconciled in the reconciliation report.

Table 3.3-6 ITAAC Number 3.3.00.02a.ii.a, containment internal structures

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC No. 3.3.00.02a.ii.b, shield building structures

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC Number 3.3.00.02a.ii.c, auxiliary building (non-radiologically controlled)

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC Number 3.3.00.02a.ii.d, auxiliary building (radiologically controlled)

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC Number 3.3.00.02a.ii.e, annex building

- Add the shielding attribute in “Design Commitment.”
- Modify “Acceptance Criteria” to clarify that the thickness report also includes evaluations of thickness deviations identified during construction and demonstrates that the as-built structures will withstand the design basis loads without loss of structural integrity and without impacting the radiation protection licensing basis.

Table 3.3-6 ITAAC Number 3.3.00.02a.ii.f, turbine building

- Modify “Acceptance Criteria” to clarify that the thickness report also includes evaluations of thickness deviations identified during construction and demonstrates that the as-built structures will withstand the design basis loads without loss of structural integrity.

Table 3.3-6 ITAAC Number 3.3.00.03a, containment internal structures

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC Number 3.3.00.03b, shield building

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC Number 3.3.00.03c, auxiliary building (non-radiologically controlled)

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC Number 3.3.00.03d, auxiliary building (radiologically controlled)

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC Number 3.3.00.04a, annex building

- Delete the ITAAC by identifying it as “Not used per Amendment No. [XXX].”

Table 3.3-6 ITAAC Number 3.3.00.04b, waste accumulation room in the radwaste building

- Modify “Acceptance Criteria” to clarify that the thickness report also includes evaluations of thickness deviations identified during construction and demonstrates there is no impact to compliance with the radiation protection licensing basis.

This request will provide for the application of the requirements for granting exemptions from design certification information, as specified in 10 CFR Part 52, Appendix D, Section VIII.A.4, 10 CFR 52.63, §52.7, and §50.12.

2.0 BACKGROUND

The Licensee is the holder of Combined License numbers NPF-91 and NPF-92, which authorize construction and operation of two Westinghouse Electric Company AP1000 nuclear plants, named Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively. SNC proposes to revise COL Appendix C (and plant-specific Tier 1 information) to consolidate duplicative ITAAC Acceptance Criteria for certain structures and clarify the evaluations of thickness deviations in the reconciliation and thickness reports described in ITAAC. An exemption from elements of the AP1000 certified (Tier 1) design information to allow a departure from the Design Description is requested.

3.0 TECHNICAL JUSTIFICATION OF ACCEPTABILITY

An exemption is requested to depart from AP1000 plant-specific DCD Tier 1 material with regard to consolidating, removing, and clarifying NI, annex building, turbine building, and radwaste building ITAAC.

The proposed changes to NI, annex building, turbine building, and radwaste building ITAAC presented in plant-specific Tier 1 are at a level of detail that is consistent with the information currently provided therein. The proposed changes neither adversely impact the ability to meet the design functions of the components, nor involve a significant decrease in the level of safety provided by the components. The proposed changes to information in plant-specific Tier 1 continue to provide the detail necessary to implement the corresponding ITAAC.

4.0 JUSTIFICATION OF EXEMPTION

10 CFR Part 52, Appendix D, Section VIII.A.4 and 10 CFR 52.63(b)(1) govern the issuance of exemptions from elements of the certified design information for AP1000 nuclear power plants. Since SNC has identified changes to the Tier 1 information related to structural building ITAAC, as discussed in Enclosure 1 of the accompanying License Amendment Request, an exemption from the certified design information in Tier 1 is needed.

10 CFR Part 52, Appendix D, and 10 CFR 50.12, §52.7, and §52.63 state that the NRC may grant exemptions from the requirements of the regulations provided six conditions are met:

1) the exemption is authorized by law [§50.12(a)(1)]; 2) the exemption will not present an undue risk to the health and safety of the public [§50.12(a)(1)]; 3) the exemption is consistent with the common defense and security [§50.12(a)(1)]; 4) special circumstances are present [§50.12(a)(2)]; 5) the special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption [§52.63(b)(1)]; and 6) the design change will not result in a significant decrease in the level of safety [Part 52, App. D, VIII.A.4].

The requested exemption satisfies the criteria for granting specific exemptions, as described below.

1. This exemption is authorized by law

The NRC has authority under 10 CFR 52.63, §52.7, and §50.12 to grant exemptions from the requirements of NRC regulations. Specifically, 10 CFR 50.12 and §52.7 state that the NRC may grant exemptions from the requirements of 10 CFR Part 52 upon a proper showing. No law exists that would preclude the changes covered by this exemption request. Additionally, granting of the proposed exemption does not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations.

Accordingly, this requested exemption is "authorized by law," as required by 10 CFR 50.12(a)(1).

2. This exemption will not present an undue risk to the health and safety of the public

The proposed exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow changes to elements of the plant-specific DCD Tier 1 to depart from the AP1000 certified (Tier 1) design information. The plant-specific Tier 1 will continue to reflect the approved licensing basis for VEGP Units 3 and 4 and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the DCD. Therefore, the affected plant-specific DCD Tier 1 ITAAC will continue to serve its required purpose.

The proposed changes to the NI, annex building, turbine building, and radwaste building ITAAC will not impact the ability of the structures, systems, or components (SSCs) to perform their design functions. The SSCs will be constructed in accordance with the design certification as verified by plant-specific Tier 1 Table 3.3-6 ITAAC. Because the changes will not alter the operation of any plant equipment or system's ability to perform their design function, these changes do not present an undue risk to existing equipment or systems. The changes do not introduce any new industrial, chemical, or radiological hazards that would represent a public health or safety risk, nor do they modify or remove any design or operational controls or safeguards that are 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, the requested exemption from 10 CFR 52, Appendix D, Section III.B, would

not present an undue risk to the health and safety of the public.

3. The exemption is consistent with the common defense and security

The requested exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow the Licensee to depart from elements of the plant-specific DCD Tier 1 design information. The requested exemption does not alter or impede the design, function, or operation of any plant SSCs that is necessary to maintain a safe and secure plant status. The proposed exemption has no impact on plant security or safeguards procedures.

Therefore, the requested exemption is consistent with the common defense and security.

4. Special circumstances are present

10 CFR 50.12(a)(2) lists six “special circumstances” for which an exemption may be granted. Pursuant to the regulation, it is necessary for one of these special circumstances to be present in order for the NRC to consider granting an exemption request. The requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii). That subsection defines special circumstances as when “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 rule under consideration in this request for exemption is 10 CFR 52, Appendix D, Section III.B, which requires that a licensee referencing the AP1000 Design Certification Rule (10 CFR Part 52, Appendix D) shall incorporate by reference and comply with the requirements of Appendix D, including Tier 1 information. The VEGP Units 3 and 4 COLs reference the AP1000 Design Certification Rule and incorporate by reference the requirements of 10 CFR Part 52, Appendix D, including Tier 1 information. The underlying purpose of Appendix D, Section III.B is to describe and define the scope and contents of the AP1000 design certification, and to require compliance with the design certification information in Appendix D.

The proposed consolidation and clarification changes to NI, annex building, turbine building, and radwaste building ITAAC ensure that the SSCs related to this amendment are constructed in accordance with the design certification as verified by plant-specific Tier 1 Table 3.3-6 ITAAC. These changes do not impact the ability of any SSCs to perform their functions or negatively impact safety. Accordingly, this exemption from the certification information will enable the licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR 52, Appendix D.

Therefore, special circumstances are present, because application of the current plant-specific certified design information in Tier 1 as required by 10 CFR Part 52, Appendix D, Section III.B in the particular circumstances discussed in this request is not necessary to achieve the underlying purpose of the rule.

5. The special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

Based on the nature of the changes to the plant-specific Tier 1 information in this area

and the understanding that these changes are not related to system functions, these changes will not have a negative impact. Nevertheless, if other AP1000 licensees do not elect to request this exemption, the special circumstances continue to outweigh any decrease in safety from the reduction in standardization because the key design functions associated with this request will continue to be maintained. This exemption request and the associated marked-up table demonstrate that there is a minimal change from the plant-specific AP1000 DCD, minimizing the reduction in standardization and consequently the safety impact from the reduction.

Therefore, the special circumstances associated with the requested exemption outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

6. The design change will not result in a significant decrease in the level of safety.

The proposed exemption would allow consolidation of duplicative ITAAC Acceptance Criteria for certain structures, and clarify that evaluations of thickness deviations will be included in the reconciliation and thickness reports. The changes to NI, annex building, turbine building, and radwaste building ITAAC will not impact the functional capabilities of the structures. Because the proposed changes to ITAAC associated with this exemption request 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 SSCs will be unchanged.

The proposed changes require revisions to plant-specific Tier 1 information; there is no technical design change or plant function change associated with this exemption. Because the proposed changes associated with this exemption request will not adversely affect the ability of any systems or equipment to perform their design functions and the level of safety provided by the current systems and equipment is unchanged, it is concluded that the changes associated with this proposed exemption will not result in a significant decrease in the level of safety.

5.0 RISK ASSESSMENT

A risk assessment was not determined to be applicable to address the acceptability of this proposal.

6.0 PRECEDENT

None identified.

7.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed exemption does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Specific justification is provided in Section 5 of the corresponding license amendment request.

Accordingly, the proposed exemption meets the eligibility criterion 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 need to be prepared in connection with the proposed exemption.

8.0 CONCLUSION

The proposed changes to DCD Tier 1 are necessary to consolidate duplicative ITAAC Acceptance Criteria for certain structures and clarify that evaluations of thickness deviations will be included in the reconciliation and thickness reports. The exemption request meets the requirements of 10 CFR 52.63, 10 CFR 52.7, 10 CFR 50.12, 10 CFR 51.22 and 10 CFR 52 Appendix D. Specifically, the exemption request meets the criteria of 10 CFR 50.12(a)(1) in that the request is authorized by law, presents no undue risk to public health and safety, and is consistent with the common defense and security. Furthermore, approval of this request does not result in a significant decrease in the level of safety, presents special circumstances, does not present a significant decrease in safety as a result of a reduction in standardization, and meets the eligibility requirements for categorical exclusion.

9.0 REFERENCES

None.