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Docket Nos.: 52-025
52-026

ND-18-1460
10 CFR 50.90
10 CFR 52.63
10 CFR 50.55a

U.S. Nuclear Regulatory Commission
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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Request for License Amendment, Exemption, and Alternative:
Clarification of ASME Code Section III Compliance and Alternative Requirements for ASME
Section III Pressure Tests Conducted Following the
Completion of ASME Section III Construction Activities
(LAR-18-031) (VEGP 3&4-PSI/ISI-Alt-12)

Ladies and Gentlemen:

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC) requests an amendment to the combined licenses (COLs) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4 (License Numbers NPF-91 and NPF-92, respectively). The requested amendment proposes changes to plant-specific Tier 1 information and 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 also requested for the plant-specific DCD Tier 1 material departures.

The requested amendment proposes changes to plant-specific Tier 1 information and corresponding changes to COL Appendix C to clarify that when the Design Commitment or Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) provides that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Section III Code, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a.

Pursuant to 10 CFR 50.55a(z)(2), SNC hereby requests NRC authorization to use an alternative to the requirements of ASME Section III, NB-6221(a), NC-6221(a), ND-6221(a), NB-6321(a), NC-6321(a), and ND-6321(a) of the ASME Boiler and Pressure Vessel (B&PV) Code, 1998 Edition through the 2000 Addenda (Code of Record) for VEGP Units 3 and 4. The proposed request for alternative is applicable to pressure testing following repair and/or replacement activities that occur following the completion of all ASME Section III construction activities and application of the ASME certification marking.

SNC facilitated a technical exchange meeting on September 27, 2018 and a presubmittal meeting on November 15, 2018 with the NRC staff on the proposed Code alternative.

The details of the 10 CFR 50.55a(z)(2) alternative request are contained in Enclosure 4 to this letter.

Enclosure 1 provides the description, technical evaluation, regulatory evaluation (including the Significant Hazards Consideration Determination) and environmental considerations for the proposed changes.

Enclosure 2 provides the background and supporting basis for the requested exemption.

Enclosure 3 identifies the requested changes and provides markups depicting the requested changes to the VEGP Units 3 and 4 licensing basis documents.

Enclosure 4 includes the proposed ASME Section III Code Alternative VEGP 3&4-PSI/ISI-Alt-12.

This letter, including enclosures, has been reviewed and confirmed to not contain security-related information. This letter does not contain any regulatory commitments.

Approval of the license amendment, exemption, and alternative request are requested by May 30, 2019 to support the potential for repair and/or replacement activities that occur following the completion of all ASME Section III construction activities and application of the ASME certification marking. SNC expects to implement this proposed amendment within 30 days of approval of the requested changes.

In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR by transmitting a copy of this letter and its enclosures to the designated State Official.

Should you have any questions, please contact Corey Thomas at (205) 992-5221.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 29th of November 2018.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian H. Whitley", is written over a horizontal line.

Brian H. Whitley
Director, Regulatory Affairs
Southern Nuclear Operating Company

- Enclosures
- 1) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Request for License Amendment Regarding Clarification of ASME Code Section III Compliance (LAR-18-031)
 - 2) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Exemption Request: Clarification of ASME Code Section III Compliance (LAR-18-031)
 - 3) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Changes to Licensing Basis Documents (LAR-18-031)
 - 4) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Alternative in Accordance with 10 CFR 50.55a(z)(2) – Alternative Requirements for ASME Section III Pressure Tests Conducted Following the Completion of ASME Section III Construction Activities (VEGP 3&4-PSI/ISI-Alt-12)

U.S. Nuclear Regulatory Commission

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Southern Nuclear Operating Company

ND-18-1460

Enclosure 1

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Request for License Amendment Regarding

Clarification of ASME Code Section III Compliance

(LAR-18-031)

(This Enclosure consists of 8 pages, including this cover page)

ND-18-1460

Enclosure 1

Request for License Amendment Regarding Clarification of ASME Code Section III Compliance
(LAR-18-031)

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Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC) hereby requests an amendment to Combined License (COL) Nos. NPF-91 and NPF-92 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively.

1. SUMMARY DESCRIPTION

The requested amendment proposes changes to Tier 1 (and COL Appendix C) Section 1.2 to clarify that when the Design Commitment or inspections, tests, analyses, and acceptance criteria (ITAAC) provides that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Section III Code, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a.

The requested amendment requires changes to plant-specific Tier 1 information and corresponding changes to COL Appendix C. This enclosure requests approval of the license amendment necessary to implement the changes to COL Appendix C. Enclosure 2 requests the exemption necessary to implement the involved changes to the plant-specific Tier 1 information.

2. DETAILED DESCRIPTION

As described in UFSAR Subsection 3.9.3, pressure-retaining components that are safety-related are constructed according to the rules of the ASME Boiler and Pressure Vessel (B&PV) Code, Section III, Division 1. 10 CFR 50.55a(z) provides provisions for how to seek authorization for use of an alternative to ASME Section III. Authorization for use of an alternative to ASME Section III may be obtained when (1) the proposed alternative provides an acceptable level of quality and safety; or (2) the requirement results in a hardship without a compensating increase in the level of quality and safety.

The references in VEGP 3&4 Tier 1 (and COL Appendix C) are unclear regarding the allowance of the use of NRC-authorized alternatives for Design Commitments or ITAAC when an item or activity must comply with ASME Code Section III. Since 10 CFR 50.55a provides provisions for use of NRC-authorized alternatives, this means compliance with the ASME Code Section III, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a.

The proposed language for use of ASME Section III alternatives is consistent with language used in the APR1400 Design Control Document, Tier 1, Revision 3.

Proposed Licensing Basis Changes

The following paragraph is proposed to be added in Tier 1 (and COL Appendix C) Section 1.2 to clarify that the use of NRC-authorized alternatives is acceptable for compliance with ASME Code Section III Design Commitments and ITAAC:

When the Design Commitment or ITAAC provide that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Code Section III, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a.

3. TECHNICAL EVALUATION

A change to Tier 1 (and COL Appendix C) Section 1.2 is proposed to allow the use of NRC-authorized alternatives as satisfactorily meeting Design Commitments and ITAAC for ASME Section III compliance. This change is necessary to clarify that NRC-authorized alternatives in accordance with 10 CFR 50.55a(z), are an acceptable means for compliance with ASME Code Section III Design Commitments and ITAAC.

10 CFR 50.55a(z) provides provisions for how to seek authorization for use of an alternative to ASME Section III. Authorization for use of an alternative to ASME Section III may be obtained when (1) the proposed alternative provides an acceptable level of quality and safety; or (2) the requirement results in a hardship without a compensating increase in the level of quality and safety. The addition to Tier 1 (and COL Appendix C) is consistent with the requirements of 10 CFR 50.55a. This change is considered administrative in nature as it is consistent with the underlying regulation that mandates the use of ASME Section III for nuclear power plant construction. The proposed language for use of ASME Section III alternatives is consistent with language used in the APR1400 Tier 1 Design Control Document, Revision 3.

The proposed change is administrative in nature; therefore, it does not adversely impact any functions associated with containing, controlling, channeling, monitoring, or processing radioactive or non-radioactive materials, nor does it diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. The types and quantities of expected plant effluents are not changed. No effluent release path is impacted by this change. Therefore, neither radioactive nor non-radioactive material effluents are affected by this activity.

The proposed change does not adversely impact radiologically controlled zones. Plant radiation zones, radiation controls established to satisfy 10 CFR Part 20 requirements, and expected amounts and types of radioactive materials are not affected by the proposed change. Therefore, individual and cumulative radiation exposures are not significantly affected by this change.

The proposed change has no adverse impact on the emergency plan or the physical security plan implementation, because there are no changes to physical access to credited equipment inside the Nuclear Island (including containment or the auxiliary building) and no adverse impact to plant personnel's ability to respond to any plant operations or security event.

Summary

The proposed change to Tier 1 (and COL Appendix C) clarifies that when the Design Commitment or ITAAC provides that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Section III Code, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a. This change is administrative in nature; therefore, it will not adversely affect any safety-related equipment or function, design function, radioactive material barrier or safety analysis. As low as reasonably achievable (ALARA) objectives related to occupational doses continue to be met.

4. REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

10 CFR 52.98(c) requires NRC approval for any modification to, addition to, or deletion from the terms and conditions of a COL. This activity involves changes to Tier 1 information and COL Appendix C ITAAC; therefore, this activity requires an amendment to the COL. Accordingly, NRC approval is required prior to making the plant-specific changes in this License Amendment Request.

The proposed changes have been evaluated to determine whether applicable regulations continue to be met. It was determined that the proposed changes do not affect conformance with the general design criteria (GDC) differently than described in the plant-specific Design Control Document (DCD) or UFSAR.

4.2 Precedent

No precedent is identified.

4.3 Significant Hazards Consideration Determination

The requested amendment proposes to depart from approved AP1000 DCD Tier 1 information and associated COL Appendix C. The requested amendment proposes changes to Tier 1 (and COL Appendix C) Section 1.2 to clarify that when the Design Commitment or ITAAC provides that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Section III Code, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a.

An evaluation to determine whether or not a significant hazards consideration is involved with the proposed amendment was completed by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

4.3.1 Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change clarifies that when the Design Commitment or ITAAC provides that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Section III Code, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a. This change is administrative in nature and consistent with NRC authorized use of alternatives to ASME Section III as allowed by 10 CFR 50.55a. The proposed change does not affect the operation of any of the systems impacted by this change. These systems continue to maintain their structural integrity as evidenced by meeting the ASME Section III requirements or an NRC-authorized alternative in accordance with 10 CFR 50.55a(z).

The proposed change does not affect the operation of any systems or equipment that initiate an analyzed accident or alter any structures, systems, and components (SSCs) accident initiator or initiating sequence of events. Therefore, the probabilities of accidents previously evaluated are not affected.

The proposed change does not affect the prevention and mitigation of other abnormal events (e.g., anticipated operational occurrences, earthquakes, floods, and turbine missiles), or their safety or design analyses. Therefore, the consequences of the accidents evaluated in the UFSAR are not affected.

Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

4.3.2 Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change clarifies that when the Design Commitment or ITAAC provides that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Section III Code, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a. This change is administrative in nature and consistent with NRC authorization for use of alternatives to ASME Section III as allowed by 10 CFR 50.55a. The proposed change does not affect the operation of any systems or equipment that may initiate a new or different kind of accident, or alter any SSC such that a new accident initiator or initiating sequence of events is created.

The proposed change does not affect any other SSC design functions or methods of operation in a manner that results in a new failure mode, malfunction, or sequence of events that affect safety-related or nonsafety-related equipment. Therefore, this activity does 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 result in significant fuel cladding failures.

Therefore, the requested amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

4.3.3 Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

The proposed change clarifies that when the Design Commitment or ITAAC provides that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Section III Code, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a. This change is administrative in nature and consistent with NRC authorization for use of alternatives to ASME Section III as allowed by 10 CFR 50.55a. The proposed change does not have any effect on the ability of the safety-related SSCs to perform their design basis functions. These systems continue to maintain their structural integrity as evidenced by meeting the ASME Section III construction requirements or an NRC-authorized alternative to the ASME Section III requirements.

No safety analysis or design basis acceptance limit/criterion is challenged or exceeded by the proposed changes, and no margin of safety is reduced. Therefore, the requested amendment does not involve a significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of “no significant hazards consideration” is justified.

4.4 Conclusions

Based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission’s regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. The above evaluations demonstrate that the proposed change can be accommodated without an increase in the probability or consequences of an accident previously evaluated, without creating the possibility of a new or different kind of accident from any accident previously evaluated, and without a significant reduction in a margin of safety. Having arrived at negative declarations with regard to the criteria of 10 CFR 50.92, this assessment determined that the proposed changes do not involve a Significant Hazards Consideration.

5. ENVIRONMENTAL CONSIDERATIONS

A change to Tier 1 (and associated COL Appendix C) Section 1.2 is proposed to allow the use of NRC-authorized alternatives as satisfactorily meeting Design Commitments and ITAAC for ASME Section III compliance. This change is necessary to clarify that NRC-authorized alternatives in accordance with 10 CFR 50.55a(z), are an acceptable means for compliance with ASME Code Section III Design Commitments and ITAAC. This change is administrative in nature and consistent with NRC authorized use of alternatives to ASME Section III as allowed by 10 CFR 50.55a. The proposed change does not affect the operation of systems included in the scope of this request. These systems continue to maintain their structural integrity as evidenced by meeting the ASME Section III requirements or use of an NRC-authorized alternative to the ASME Section III requirements.

A review has determined that facility construction and operation following implementation of the requested amendment 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. Accordingly, the requested amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), in that:

(i) *There is no significant hazards consideration.*

As documented in Section 4.3, Significant Hazards Consideration Determination, of this License Amendment Request, an evaluation was completed to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92, “Issuance of amendment.” The Significant Hazards Consideration Determination determined that (1) the requested amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the requested amendment does not create the possibility of a new or different kind of accident

from any accident previously evaluated; and (3) the requested amendment does not involve a significant reduction in a margin of safety. Therefore, it is concluded that the requested amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of “no significant hazards consideration” is justified.

- (ii) *There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.*

The proposed change in the requested amendment would not adversely affect the design or function of any SSC. The proposed change is unrelated to any aspect of plant construction or operation that would introduce any change to effluent types (e.g., effluents containing chemicals or biocides, sanitary system effluents, and other effluents), or adversely affect any plant radiological or non-radiological effluent release quantities. Furthermore, the proposed change does not adversely affect any effluent release path or diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. Therefore, it is concluded that the proposed amendment does not involve a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite.

- (iii) *There is no significant increase in individual or cumulative occupational radiation exposure.*

The proposed change in the requested amendment would not adversely affect the design or function of any SSC. Plant radiation zones (in UFSAR Section 12.3) are not affected, and controls under 10 CFR 20 preclude a significant increase in occupational radiation exposure. Therefore, the proposed amendment does not involve a significant increase in individual or cumulative occupational radiation exposure.

Based on the above review of the requested amendment, it has been determined that anticipated construction and operational impacts of the requested amendment do not involve (i) a significant hazards consideration, (ii) a significant change in the types or 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. Accordingly, the requested amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed amendment is not required.

6. REFERENCES

APR1400 Tier 1 Design Control Document, Revision 3

Southern Nuclear Operating Company

ND-18-1460

Enclosure 2

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Exemption Request:

Clarification of ASME Code Section III Compliance

(LAR-18-031)

(This Enclosure consists of 6 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, *Design Certification Rule for the AP1000 Design*, Section III.B, *Scope and Contents*, to allow a plant-specific departure from elements of the certification information in Tier 1 of the generic 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 Tier 1 information for which a plant-specific departure and exemption is being requested clarifies that NRC-authorized alternatives in accordance with 10 CFR 50.55a(z), are an acceptable means for compliance with ASME Code Section III Design Commitments and inspections, tests, analyses, and acceptance criteria (ITAAC). This change is administrative in nature and consistent with NRC authorized use of alternatives to ASME Section III as allowed by 10 CFR 50.55a.

This request for exemption provides the technical and regulatory basis to demonstrate that 10 CFR 52.63, §52.7, and §50.12 requirements are met and will apply the requirements of 10 CFR 52, Appendix D, Section VIII.A.4 to allow departures from generic Tier 1 information due to proposed revision of plant-specific Tier 1 Section 1.2 to clarify that NRC-authorized alternatives in accordance with 10 CFR 50.55a(z), are an acceptable means for compliance with ASME Code Section III Design Commitments and ITAAC. This change is administrative in nature and consistent with NRC authorized use of alternatives to ASME Section III as allowed by 10 CFR 50.55a.

2.0 Background

The references in VEGP 3&4 Tier 1 (and COL Appendix C) are unclear regarding the allowance of the use of NRC-authorized alternatives for Design Commitments or ITAAC when an item or activity must comply with ASME Code Section III. Since 10 CFR 50.55a provides provisions for use of NRC-authorized alternatives, this means compliance with the ASME Code Section III, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a.

The proposed language for use of ASME Section III alternatives is consistent with language used in the APR1400 Design Control Document, Tier 1, Revision 3.

3.0 Technical Justification of Acceptability

10 CFR 50.55a(z) provides provisions for how to seek authorization for use of an alternative to ASME Section III. Authorized use of an alternative to ASME Section III may be obtained when (1) the proposed alternative provides an acceptable level of quality and safety; or (2) the requirement results in a hardship without a compensating increase in the level of quality and safety. The addition to Tier 1 (and COL Appendix C) is consistent with the requirements of 10 CFR 50.55a. This change is considered administrative in nature as it is consistent with the underlying regulation that mandates the use of ASME Section III for nuclear power plant construction. The proposed language for use of ASME Section III alternatives is consistent with language used in the APR1400 Design Control Document, Tier 1, Revision 3.

Detailed technical justification supporting this request for exemption is provided in Section 3 of the associated License Amendment Request in Enclosure 1 of this letter.

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 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 Tier 1 DCD to depart from the AP1000 certified (Tier 1) design information. The plant-specific DCD 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 allowance to allow the use of code alternatives approved for use by the NRC is consistent with the requirements of 10 CFR 50.55a. This change is considered administrative; therefore, the proposed exemption does not represent any adverse impact to the design function of these systems and will continue to protect the health and safety of the public in the same manner.

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 proposed exemption does not alter the design, function, or operation of any structure or plant equipment that is necessary to maintain a safe and secure status of the plant. 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 exemption would clarify that code alternatives may be used to satisfy ASME Section III requirements when authorized by the NRC. All other ASME Section III requirements will be met up the 10 CFR 52.103(g) finding.

The proposed change clarifies that NRC-authorized alternatives in accordance with 10 CFR 50.55a(z), are an acceptable means for compliance with ASME Code Section III Design Commitments and ITAAC.

The proposed change does not affect any function or feature used for the prevention and mitigation of accidents or their safety analyses. No safety-related structure, system, component (SSC) or function is involved. The proposed change does not involve nor interface with any SSC accident initiator or initiating sequence of events related to the accidents evaluated and therefore does not have an adverse effect on any SSC's design function. Accordingly, this exemption from the certification information will enable the Licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR 52, Appendix D.

Therefore, special circumstances are present, because application of the current generic 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 change to the plant-specific Tier 1 information and the understanding that the change supports the design function of the impacted ASME Class 1, 2, and 3 systems, it is expected that this exemption may be requested by other AP1000 licensees and applicants. However, a review of the reduction in standardization resulting from the departure from the standard DCD determined that even if other AP1000 licensees and applicants do not request this same departure, the special circumstances will continue to outweigh any decrease in safety from the reduction in standardization because the key design functions of the structures associated with this request will continue to be maintained. Furthermore, the justification provided in the License Amendment Request and this exemption request and the associated mark-ups demonstrate that there is a limited change from the standard information provided in the generic AP1000 DCD, which is offset by the special circumstances identified above.

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 exemption revises the plant-specific DCD Tier 1 information by clarifying that NRC-authorized alternatives in accordance with 10 CFR 50.55a(z), are an acceptable means for compliance with ASME Code Section III Design Commitments and ITAAC. The allowance to use NRC-authorized alternatives is consistent with 10 CFR 50.55a; therefore, there is no reduction 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 Exemptions

None

7.0 Environmental Consideration

The Licensee requests a departure from elements of the certified information in Tier 1 of the generic AP1000 DCD. The Licensee has determined that the proposed departure would require a permanent exemption from the requirements of 10 CFR 52, Appendix D, *Design Certification Rule for the AP1000 Design*, Section III.B, *Scope and Contents*, with respect to installation or use of facility components located within the restricted area, as defined in 10 CFR Part 20, or which changes an inspection or a surveillance requirement; however, the Licensee evaluation of the proposed exemption has determined that the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9).

Based on the above review of the proposed exemption, the Licensee has determined that the proposed activity does not involve (i) a significant hazards consideration, (ii) a significant change in the types or 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. Accordingly, the proposed 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), an environmental impact statement or environmental assessment of the proposed exemption is not required.

Specific details of the environmental considerations supporting this request for exemption are provided in Section 5 of the associated License Amendment Request provided in Enclosure 1 of this letter.

8.0 Conclusion

The proposed changes to DCD Tier 1 are necessary to clarify that code alternatives may be used to satisfy ASME Section III requirements when authorized by the NRC. The exemption request meets the requirements of 10 CFR 52.63, *Finality of design certifications*; 10 CFR 52.7, *Specific exemptions*; 10 CFR 50.12, *Specific exemptions*; and 10 CFR 52 Appendix D, *Design Certification Rule for the AP1000*. 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, meets the eligibility requirements for categorical exclusion, satisfies the underlying purpose of the AP1000 Design Certification Rule, and does not present a significant decrease in safety as a result of a reduction in standardization.

9.0 References

APR1400 Tier 1 Design Control Document, Revision 3

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Enclosure 3

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Proposed Changes to Licensing Basis Documents

(LAR-18-031)

**Insertions Denoted by Blue Underline
Omitted text is identified by three asterisks (***)**

(This Enclosure consists of 2 pages, including this cover page)

Tier 1 (and COL Appendix C) Section 1.2 is revised as shown below.

1.2 General Provisions

The following general provisions are applicable to the design descriptions and associated ITAAC.

Treatment of Individual Items

The absence of any discussion or depiction of an item in the design description or accompanying figures shall not be construed as prohibiting a licensee from utilizing such an item, unless it would prevent an item from performing its safety functions as discussed or depicted in the design description or accompanying figures.

If an inspections, tests, or analyses (ITA) requirement does not specify the temperature or other conditions under which a test must be run, then the test conditions are not constrained.

When the term "operate," "operates," or "operation" is used with respect to an item discussed in the acceptance criteria, it refers to the actuation and running of the item. When the term "exist," "exists," or "existence" is used with respect to an item discussed in the acceptance criteria, it means that the item is present and meets the design commitment.

[When the Design Commitment or ITAAC provides that an item or activity must comply with ASME Code Section III, this means compliance with the ASME Code Section III, as incorporated by reference in 10 CFR 50.55a with specific conditions, or in accordance with alternatives authorized by the NRC pursuant to 10 CFR 50.55a.](#)

Implementation of ITAAC

* * *

Southern Nuclear Operating Company

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Enclosure 4

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

**Proposed Alternative in Accordance with 10 CFR 50.55a(z)(2) – Alternative
Requirements for ASME Section III Pressure Tests Conducted Following the
Completion of ASME Section III Construction Activities
(VEGP 3&4-PSI/ISI-Alt-12)**

(This Enclosure consists of 6 pages, including this cover page)

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Enclosure 4

Proposed Alternative in Accordance with 10 CFR 50.55a(z)(2) – Alternative Requirements for ASME Section III Pressure Tests Conducted Following the Completion of ASME Section III Construction Activities (VEGP 3&4-PSI/ISI-Alt-12)

Plant Site-Unit:	Vogtle Electric Generating Plant (VEGP) – Units 3 and 4
Interval-Interval Dates:	Applies to construction activities for the time period between completion of the ASME Section III construction activities until the 10 CFR 52.103(g) finding for Unit 3 or 4, as applicable.
Requested Date for Approval:	Authorization is requested by 5/30/19 to support potential repair and/or replacement activities that occur following the completion of ASME Section III construction activities.
ASME Code Components Affected:	This request is limited to ASME Class 1, 2, and 3 Piping including Piping Welds.
Applicable Code Edition and Addenda:	ASME B&PV Code, Section III, 1998 Edition through the 2000 Addenda (code of record).
Applicable Code Requirements:	<p>Under 10 CFR 50.55a, facilities licensed under 10 CFR Part 52 are subject to Section III of the ASME Code prior to the 10 CFR 52.103(g) finding. Following the 10 CFR 52.103 (g) finding, the licensee is subject to ASME Section XI.</p> <p>ASME Section III, Division 1 requirements for pressure testing are in articles NB/NC/ND-6000. Pressure tests may be performed hydrostatically or pneumatically. Pneumatic pressure tests are subject to the limitations of subarticles NB/NC/ND-6112. Hydrostatic pressure tests are performed per NB/NC/ND-6200 and have a test pressure of 1.25 times the lowest Design Pressure of any component within the test boundary. Pneumatic pressure tests are performed per subarticles NB/NC/ND-6300 and have a test pressure of 1.1 times the lowest Design Pressure of any component within the test boundary.</p>

Proposed Alternative in Accordance with 10 CFR 50.55a(z)(2) – Alternative Requirements for ASME Section III Pressure Tests Conducted Following the Completion of ASME Section III Construction Activities (VEGP 3&4-PSI/ISI-Alt-12)

<p>Reason for Request:</p>	<p>Under 10 CFR 50.55a facilities licensed under 10 CFR Part 52 are subject to Section III of the ASME Code prior to the 10 CFR 52.103(g) finding. Following the 10 CFR 52.103 (g) finding, the licensee is subject to ASME Section XI. ASME Section III, Division I, Articles NB-6221(a), NC-6221(a), ND-6221(a), NB-6321(a), NC-6321(a), and ND-6321(a) contain the requirements for pressure testing of piping and components. Each article states the installed system shall be hydrostatically tested at not less than 1.1 or 1.25 times the lowest Design Pressure of any component within the boundary protected by the overpressure protection devices.</p> <p>Historically, operating plants have transitioned to ASME Section XI for repair and/or replacement activities following completion of the ASME Section III construction as certified by application of the ASME certification marking on the system. Due to construction activities, it is anticipated that piping and components will need to be repaired and/or replaced following the completion of all ASME Section III construction and application of the ASME certification marking, but prior to the 10 CFR 52.103(g) finding. Under 10 CFR 50.55a, facilities licensed under Part 52 are subject to Section III of the ASME Code prior to the 10 CFR 52.103(g) finding. These repair and/or replacement activities will result in performing ASME Section III repairs, associated nondestructive examination, and completion of an ASME Section III pressure test for piping and associated piping welds.</p> <p>There are several notable differences between ASME Sections III and XI. This request is only applicable to the differences regarding pressure testing. ASME Section III requires pressure testing be performed at 1.1 or 1.25 times the lowest Design Pressure of any component within the boundary protected by the overpressure protection devices. For Class 1 piping, ASME Section XI IWB-5221(a) requires that “the system leakage test shall be conducted at a pressure not less than the pressure corresponding to 100% rated reactor power.” This pressure will later be referenced as “nominal system operating pressure.” For Class 2 and 3 piping, ASME Section XI IWC-5221 and IWD-5221 require that “the system leakage test shall be conducted at the system pressure obtained while the system, or portion of the system, is in service performing its normal operating function or at the system pressure developed during a test conducted to verify system operability.” This pressure will also later be referenced as “nominal system operating pressure.”</p> <p>Maintaining ASME Section III requirements for pressure testing following completion of the ASME Section III construction creates a hardship due to:</p> <ol style="list-style-type: none"> 1) Reducing Class 1 hydrostatic testing allowable cycles, 2) Normal plant configuration does not support the completion of an ASME Section III pressure test, 3) Lack of isolation valves in the design and layout of the AP1000. <p>In accordance with UFSAR Subsection 3.9.1.1.5.1, the primary-side ASME Section III (Class 1) hydrostatic test is performed at a water temperature</p>
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Proposed Alternative in Accordance with 10 CFR 50.55a(z)(2) – Alternative Requirements for ASME Section III Pressure Tests Conducted Following the Completion of ASME Section III Construction Activities (VEGP 3&4-PSI/ISI-Alt-12)

	<p>compatible with reactor material ductility requirements and a test pressure of 3107 psig (1.25 times design pressure of 2485 psig). In this test, the reactor coolant system (RCS) is pressurized to 3107 psig coincident with steam generator secondary-side pressure of zero psig. The RCS is designed for 10 ASME Section III pressure test cycles. The number of cycles is independent of other operating transients. In accordance with UFSAR Table 5.4-11, nominal operating pressure for the Class 1 system is 2235 psig and design pressure is 2485 psig. Performance of additional hydrostatic tests reduces testing margins for performance of future hydrostatic tests.</p> <p>Normal plant configuration does not support the completion of an ASME Section III pressure test. Performance of an ASME Section III pressure test requires defeating pressure relief devices designed to protect the system from overpressurization. Additionally, establishment of ASME Section III test boundaries may require removal of check valve internals to pressurize portions of the system that are not normally pressurized to these higher pressures. Performance of ASME Section III pressure test requires test instrumentation outside of the design requirements for the system, which results in installation of temporary instrumentation that would not otherwise be required. Satisfactory completion of ASME Section III pressure testing must be performed prior to completing ASME Section III construction. Completion of additional elevated pressure tests following a repair and/or replacement activity requires unnecessary system alignments.</p> <p>Due to the design and layout of the AP1000, it will be excessively difficult to isolate piping and components from the remaining bulk of the system for performance of a partial elevated pressure test that tests a small portion of a system that was subject to a repair and/or replacement activity. Since the design and layout of the system may not allow for a segment of the system to be pressure tested at test pressures greater than design, performance of a pressure test will require establishing test boundaries that will likely extend to the bulk of the system. Establishment of large pressure test boundaries presents a hardship as the bulk of the system is subject to test pressures greater than the system design pressure.</p> <p>Use of the proposed alternative requires the satisfactory completion of all ASME Section III construction activities (including pressure testing) as certified by application of the ASME certification marking. ASME Section XI is a proven industry standard approved for use at operating facilities. In addition, performance of pressure testing in accordance with ASME Section XI following completion of ASME Section III construction is consistent with how plants licensed under 10 CFR 50 have performed pressure testing activities; therefore, there is a great deal of operating experience prior to and during the operational phase for performance of ASME Section XI pressure testing. Due to the operating experience with ASME Section XI for pressure testing, performance of additional pressure</p>
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Proposed Alternative in Accordance with 10 CFR 50.55a(z)(2) – Alternative Requirements for ASME Section III Pressure Tests Conducted Following the Completion of ASME Section III Construction Activities (VEGP 3&4-PSI/ISI-Alt-12)

	tests in accordance with ASME Section III does not provide a compensatory increase in the level of quality or safety.
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<p>Proposed Alternative and Basis for Use:</p>	<p>Proposed Alternative:</p> <p>In lieu of performance of a pressure test for repair and/or replacement activities following completion ASME Section III construction as required by ASME Section III, Division I, Articles NB-6221(a), NC-6221(a), ND-6221(a), NB-6321(a), NC-6321(a), and ND-6321(a), SNC proposes to perform a pressure test in accordance with the 2007 Edition and 2008 Addenda of ASME Section XI IWB-5221(a), IWC-5221, and IWD-5221. This is the Code of Record for ASME Section XI Preservice Inspection.</p> <p>The ASME Section XI pressure test (system leakage test) is performed at nominal system operating pressure in accordance with ASME Section XI IWB-5221(a), IWC-5221, and IWD-5221. Hold times are established in accordance with IWA-5213(b) which requires a 10-minute hold time for non-insulated components and a 4-hour hold time for insulated components following attaining nominal system operating pressure. The visual examination is conducted in accordance with ASME Section XI IWA-5241. Any additional corrective actions, other than further pressure tests, shall be conducted in accordance with ASME Section III.</p> <p>Documentation of pressure testing performed following completion of ASME Section III construction will be documented on a supplement to the ASME Section III N-5 data report.</p> <p>Basis for Use:</p> <p>The proposed changes are consistent with ASME Section XI rules for pressure tests for repair and/or replacement activities. This alternative is not applicable until all ASME Section III construction activities have been completed satisfactorily, including satisfactory completion of an ASME Section III pressure test. ASME Section XI is a proven industry standard approved for use at operating facilities. In addition, performance of pressure testing in accordance with ASME Section XI following the completion ASME Section III is consistent with how plants licensed under 10 CFR 50 have performed pressure tests; therefore, there is a great deal of operating experience prior to and during the operational phase for performance of ASME Section XI pressure testing to verify structural integrity.</p> <p>All other ASME Section III inspections that verify structural integrity are performed in accordance with ASME Section III (e.g., liquid penetrant, radiography, magnetic particle) and conducted in accordance with ASME Section V as required by ASME Section III. Any additional corrective</p>
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Enclosure 4

Proposed Alternative in Accordance with 10 CFR 50.55a(z)(2) – Alternative Requirements for ASME Section III Pressure Tests Conducted Following the Completion of ASME Section III Construction Activities (VEGP 3&4-PSI/ISI-Alt-12)

	<p>actions, other than pressure test pressure, shall be conducted in accordance with ASME Section III.</p> <p>Operational plants transition to ASME Section XI following completion of ASME Section III construction activities. As described above, the alternative provides reasonable assurance of structural integrity. Compliance with ASME Section III for pressure testing following completion of ASME Section III construction results in hardship without a compensating increase in the level of quality and safety; therefore, this proposed alternative provides reasonable assurance of structural integrity and should be granted pursuant to 10 CFR 50.55a(z)(2).</p>
Duration of Proposed Alternative:	Until the 10 CFR Part 52.103(g) finding for Unit 3 or 4, as applicable
Reference:	None
Status:	Awaiting NRC authorization