

South Carolina Electric & Gas Company

NND-13-0427

Enclosure 2

Virgil C. Summer Nuclear Station Units 2 & 3

Exemption Request

Regarding

Turbine Building Battery Room and Electrical Changes

1.0 Purpose

South Carolina Electric & Gas 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 departure from elements of the certification information in Tier 1 of the Generic 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 certification information in DCD Tier 1. The Tier 1 information for which a plant-specific departure and exemption is being requested includes changes to the onsite power system description.

This request for exemption will apply the requirements of 10 CFR 52, Appendix D, Section VIII.A.4 to allow departures from generic Tier 1 information due to the following proposed changes to the system-based design descriptions and Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) figures and tables:

- Table 2.6.2-1
 - Increase each Non-Class 1E dc and Uninterruptible Power Supply System (EDS) battery charger output current testing load from 550 amps to 900 amps, increase each EDS battery testing load from 500 amps to 850 amps, and increase each inverter testing resistive load from 35 kW to 55 kW,
- Figure 2.6.2-1
 - Delete four (EDS (1, 2, 3, and 4)-DS-11) switchboards.
- Table 2.6.2-2
 - Delete four load group 125 Vdc (EDS (1, 2, 3, and 4)-DS-11) switchboards.
- Table 2.6.3-1 & 2.6.3-4
 - Remove the Class 1E dc and Uninterruptible Power Supply System (IDS) Spare Battery 125/250 Vdc Disconnect Switch IDSS-SW-1 and Spare Termination Box IDSS-DF-6

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, and 10 CFR §§52.63, 52.7, and 50.12.

2.0 Background

The Licensee is the holder of Combined License Nos. NPF-93 and NPF-94, which authorize construction and operation of two Westinghouse Electric Company AP1000 nuclear plants, named Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3, respectively. During the detailed design phase of the onsite power system, departures from AP1000 generic DCD Tier 2 information were determined necessary to continue to maintain the existing UFSAR system design functions to provide DC and uninterruptible AC electrical power to nonsafety-related loads during normal and off-normal conditions. Specifically, a change is proposed to:

- 1) increase the EDS total equipment capacity, component rating, and protective device sizing,
- 2) EDS configuration changes which would eliminate EDS switchboards, combining them into other EDS switchboards and the deletion of the stand-alone spare EDS charger, which is not necessary because of the addition of the new EDS Spare Battery components, and
- 3) Remove the tie between the IDS battery backup and the non-class 1E EDS batteries.

An exemption from elements of the AP1000 certification (Tier 1) design information to allow a departure from the electrical design description is requested. The proposed departure would allow the increase in the EDS total equipment capacity, component ratings, and protective sizing to support increased load demand and remove the Class 1E IDS Battery Back-up tie to the Non-Class 1E EDS Battery.

3.0 Technical Justification of Acceptability

The EDS total equipment capacity, component ratings, and protective device sizing increase will continue to maintain existing system design functions to provide DC and uninterruptible AC electrical power to nonsafety-related loads during normal and off-normal conditions. In addition, removal of the tie between the Class 1E IDS spare battery and the non-Class 1E batteries with the addition of an EDS spare battery would continue to allow EDS and IDS to meet their individual system design function.

Detailed technical justification for this exemption is provided in Section 2 of the accompanying License Amendment Request in Enclosure 1.

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. Because the Licensee has identified changes to the Tier 1 information related to the Tier 2 departure 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.1].

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 §§ 50.12, 52.7, and 52.63 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 Tier 1 DCD will continue to reflect the approved licensing basis for the Licensee, and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the plant-specific DCD. Therefore, no adverse safety impact which would present any additional risk to the health and safety is present. The affected Design Description in the plant-specific Tier 1 DCD will also continue to provide the detail necessary to support the performance of the associated ITAAC.

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 exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would change elements of the plant-specific Tier 1 DCD by departing from the AP1000 certified (Tier 1) design information. The exemption does not alter the design, function, or operation of any structures or plant equipment that are 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) list 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 VCSNS Units 2 and 3 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 changes to the onsite power system description maintain the design functions of the onsite power system and the increase in equipment capacity, rating, and sizing does not change the overall functions of the system. This change does not impact the ability of any structures, systems, or components to perform their functions or negatively impact safety. Additionally, no new design functions are added and no current function is deleted. The detailed technical justification is provided in Section 2 of the accompanying License Amendment Request in Enclosure 1. 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 changes to the plant-specific Tier 1 information and the understanding that these changes support the onsite power system, it is likely that other AP1000 licensees will request this exemption. However, if this is not the case, the special circumstances continue to outweigh any decrease in safety from the reduction in standardization because the key design functions of the onsite power system associated with this request will continue to be maintained. This exemption request and the associated marked-up tables and figure demonstrate that the load demand for each of the supported systems will continue to be met and the regulatory requirements and electrical codes and standards in the generic AP1000 DCD will continue to be met. Consequently, the safety impact that may result from any reduction in standardization is minimized. The detailed technical justification is provided in Section 2 of the accompanying License Amendment Request in Enclosure 1.

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 altering the description of the onsite power system. The onsite power system continues to enable the electrical system to meet its design functions. Because these functions continue to be met, there is no reduction in the level of safety.

Therefore, the design change will not result in a significant decrease in the level of safety.

5.0 Risk Assessment

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

6.0 Precedent

None.

7.0 Environmental Consideration

A review has determined that the proposed exemption 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 amendment request in Enclosure 1. 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 be prepared in connection with the proposed exemption.

8.0 Conclusion

The proposed changes to Tier 1 are necessary to revise the onsite power system design description in the plant-specific DCD Tier 1. 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*," 10 CFR 51.22, 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, does not present a significant decrease in safety as a result of a reduction in standardization, and meets the eligibility requirements for categorical exclusion.

NND-13-0427

Enclosure 2

Exemption Request: TB Battery Room and Electrical Changes

9.0 Reference

- 1.) Westinghouse Electric Company, "AP1000 Design Control Document," Revision 19, June 2011.