

Staff Evaluation
Westinghouse Request for Exemptions
Related to the Duration of the AP1000 Design Certification
Docket No. 52-006

In a letter dated December 2, 2016¹, Westinghouse Electric Company (Westinghouse) submitted a request for the following three exemptions related to the renewal of the AP1000 Standard Design Certification (DC) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16342A975):

1. Section VII of Appendix D of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, which specifies that the AP1000 DC may be referenced by a combined license (COL) applicant for 15 years from February 27, 2006 (i.e., until February 27, 2021);
2. 10 CFR 52.55(a), which specifies that a standard DC is valid for a period of 15 years from the date of issuance; and
3. 10 CFR 52.57(a), which specifies that any person may apply for renewal of a certified design between 12 and 36 months before the date of expiration.

This evaluation provides the staff's review of these requested exemptions.

Westinghouse Exemption Request

The Westinghouse submittal requested exemptions "...that would extend the validity of the AP1000 DC for an additional 5 years beyond the current expiration date...to February 27, 2026." The Westinghouse submittal, in Section 4.0, specifically requested exemptions from 10 CFR 52.55(a), 10 CFR 52.57(a), and Section VII of Appendix D to 10 CFR Part 52. The Westinghouse submittal states that the exemptions Westinghouse is seeking would allow it to submit a DC renewal application between February 27, 2023, and February 27, 2025.

The Westinghouse submittal, in Section 5.1, provides explanations describing how its request for exemptions meets the requirements authorizing the Commission to grant exemptions in 10 CFR 50.12(a)(1). Westinghouse's submittal explains why the proposed exemptions are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security.

Additionally, the Westinghouse submittal, in Section 5.2, asserts that special circumstances are present, as required under 10 CFR 50.12(a)(2), as is necessary to permit the Commission to grant the exemptions. Specifically, the request stated that two types of special circumstances were present:

¹ Letter from R. Easterling, Vice President, Westinghouse to V. Ordaz, Deputy Director, Office of New Reactors (NRO)/ U.S. Nuclear Regulatory Commission (NRC), Request for Exemptions Related to the Duration of the AP1000® Design Certification.

- (1) Under 10 CFR 50.12(a)(2)(ii), 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.

In Section 5.2.1 of its exemption request, Westinghouse states that the underlying purpose of the rules under consideration, specifically the 15-year certification period, is "...to permit more operating experience with a given design to accumulate before the certification comes up for renewal..." as described in the April 18, 1989, final rule, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Reactors" (54 FR 15382). Westinghouse describes how application of the DC renewal regulations, which would require an application for renewal by February 27, 2020, does not meet the underlying purpose of the regulations because the timeframe for accumulation of construction and initial operating experience of four partially constructed AP1000 units—Vogtle Electric Generating Plant (Vogtle) Units 3 and 4 and Virgil C. Summer Nuclear Station (Summer) Units 2 and 3—extends well beyond the renewal deadline. Further, Westinghouse's application explained how, under the schedule for construction and initial operation of the Vogtle and Summer AP1000 units, delaying the deadline for renewal of the AP1000 DC for 5 years would allow sufficient time for lessons learned from construction and initial operation to be identified, evaluated, and considered for inclusion in an application for DC renewal.

- (2) Under 10 CFR 50.12(a)(2)(iii), compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated.

In Section 5.2.2 of its exemption request, Westinghouse states that if it were required to submit a renewal application within the window required by the DC renewal regulations, the renewal process would result in inefficiencies, undue hardship, and excessive costs. Westinghouse argues that it would not be able to account for lessons learned from construction and operating experience in an efficient manner because having to make multiple amendments to its renewal application would be inconsistent with NRC's goal of "complete and high-quality applications" that "support the NRC's goal of a 42-month safety review."

The Westinghouse request identified the following benefits:

- more efficient preparation and review of the renewal application;
- allowing Westinghouse to focus on construction of new AP1000 units at Vogtle and Summer²; and
- allowing for a more comprehensive application that would include future lessons learned from construction, startup, and early operation

² Subsequent to Westinghouse requesting the exemptions, AP1000 construction activities stopped at the Summer site.

Staff Evaluation

The Commission's regulations applicable to renewal of a DC appear in 10 CFR 52.55, "Duration of certification," and 10 CFR 52.57, "Application for renewal." The regulation 10 CFR 52.55(a) specifies that a standard DC is valid for a period of 15 years from the date of issuance (the date for the AP1000 certification is provided in 10 CFR 52, Appendix D, Section III). The regulation in 10 CFR 52.55(b) provides that a DC continues to be valid beyond the date of expiration in any proceeding on an application for a COL or operating license (OL) that references the design if the COL or OL application is docketed before the expiration date of the certification or, if a timely application for DC renewal has been filed, during the period before the Commission's decision as to whether to renew the certification. A DC also continues to be valid beyond the day of expiration in a hearing held under 10 CFR 52.103, "Operation under a combined license," before operation begins under a COL that references the DC.

The regulation in 10 CFR 52.57(a) specifies that "...any person may apply for renewal of the certification..." during the period "...[n]ot less than 12 nor more than 36 months before the expiration of the initial 15-year period..." of the certification. This time period corresponds to the "timely application for renewal" specified in 10 CFR 52.55(b). The regulation in 10 CFR 52.57(b) also addresses situations in which a certified design continues to be valid beyond the date of its expiration. Specifically, a DC for which a timely application for renewal has been filed remains in effect until the Commission has determined whether to renew the certification. If the certification is not renewed, it continues to be valid in certain proceedings in accordance with 10 CFR 52.55.

The relief Westinghouse is seeking through its request cannot be accomplished entirely by issuing exemptions to Westinghouse. While relief from the timely renewal requirements may appropriately be granted to Westinghouse as a renewal applicant, relief from requirements that relate to the ability of COL applicants to reference a DC should be requested by a COL applicant based on its own particular special circumstances. The staff will grant Westinghouse an exemption from the timely renewal requirement in 10 CFR 52.57(a). However, the staff will deny the first and second of Westinghouse's requested exemptions because the relief Westinghouse seeks by exemptions is not for itself but for unnamed future COL applicants. Therefore, as discussed below, the staff will deny those portions of the exemption request for which Westinghouse is not eligible to receive relief.

The first and second exemptions in Westinghouse's request are intended to extend the 15-year period during which the DC is valid by 5 years—that is, the period during which a COL applicant can reference the current DC in its application. The 15-year duration of a DC is established by 10 CFR 52.55(a), and 10 CFR Part 52, Appendix D, Part VII, which address when an applicant may reference the AP1000 design. These regulations pertain to future COL applicants' ability to reference the AP1000 design certified by NRC rulemaking, and exemptions from them require consideration of the particular special circumstances of the "interested person" (i.e., the COL applicant), pursuant to the provisions of 10 CFR 50.12(a). Special circumstances related to the ability to reference the DC do not pertain to Westinghouse. Westinghouse is not a prospective COL applicant, and would therefore not be the beneficiary of exemptions that affect the interests of COL applicants. Further, the DC is an NRC rule, not a license held by Westinghouse. Granting the first and second exemptions to Westinghouse would have the effect of granting exemptions to an unspecified group of prospective COL applicants. Resolving issues generically is more appropriate for a rulemaking than an exemption, which is intended for

case-specific relief based on particular circumstances. Accordingly, the staff will not grant these two exemptions.

Under the staff's decision to grant an exemption to the timely renewal filing requirement in 10 CFR 52.57(a), the current AP1000 DC would still expire on February 27, 2021, and the current design could not be referenced after its expiration. Once the NRC accepted a timely renewal application, the design proposed in the renewal application could be referenced at the COL applicant's risk, consistent with 10 CFR 52.55(c).

The Westinghouse request for exemptions contained information for completing the four AP1000 units under construction in the U.S. (two at Vogtle and two at Summer). However, this information became out of date after it was submitted.³ More recent information from the licensee for the Vogtle site is relevant and supports the staff's decision to grant the exemption to the timely renewal requirement. For the Vogtle site, Southern Company, the corporate parent of Southern Nuclear Operating Company, one of the Vogtle COL licensees, recently estimated completion of the two Vogtle units in November 2021 and November 2022, approximately 1 year and 2 years, respectively, after the latest finish date Westinghouse provided in its exemption request.⁴ The schedule information is relevant because Westinghouse provided it to support its assertion that special circumstances of 10 CFR 50.12(a)(2)(i) are present specifically regarding operating experience.

In the exemption request, Westinghouse explained that the 5-year extension it sought was based on all four domestic units beginning operation by the fourth quarter of CY 2020, and on submitting its renewal application 54 months (4½ years) later. This schedule accounted for one fuel cycle of operation, time to identify and evaluate the design changes, lessons learned, and operating experience; and time to develop and submit the renewal application.⁵ This resulted in a Westinghouse plan to submit the renewal application by the first quarter of CY 2025.

In the staff's consideration of special circumstances necessary to grant an exemption, described below, the staff considered that lessons learned from only a single unit would justify granting the exemption, and the 39-month period between the currently scheduled completion of Vogtle Unit 3 (November 2021) and the February 27, 2025, application acceptance deadline would be sufficient time to complete startup testing and initial operation, identify and evaluate lessons learned, and develop, submit, and accept a renewal application.

³ For the AP1000 units under construction at the Summer site, the staff is not considering information in the exemption request (see page 10 of the request) about the scheduled startup of Summer Unit 3 in the fourth quarter of the calendar year (CY) 2020 because AP1000 construction activities stopped at the Summer site (ADAMS Accession No. ML17229B487). At the time construction activities had stopped at the Summer Unit 2 and Unit 3 site, SCANA Corporation (SCANA is not an acronym, but is taken from the letters in South Carolina), one of the COL licensees, estimated completion of the two units in December 2022 and March 2024, reflecting a delay of over 3 years (*Power Magazine*, "UPDATED: SCANA, Santee Cooper Abandon V. C. Summer AP1000 Nuclear Units, Citing High Costs," July 31, 2017).

⁴ *Southern Company News Release*, "Southern Company subsidiary Georgia Power files recommendation to complete construction of Vogtle nuclear expansion," August 31, 2017.

⁵ For the original schedule, the period between the dates cited by Westinghouse for unit startup (October 1 to December 31, 2020), and application acceptance (before February 27, 2025), would be in the range of 50 to 53 months rather than the 54 months cited.

Authority of the Commission to Grant Exemptions

The staff reviewed the Westinghouse exemption request from the timely renewal requirement of 10 CFR 52.57(a) against the requirements in 10 CFR 50.12(a)(1) and 10 CFR 50.12(a)(2) authorizing the Commission to issue an exemption.

For 10 CFR 50.12(a)(1), as described below, the staff considered whether an exemption from the timely renewal requirement, to shift the timely renewal timeframe 5 years into the future, is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security.

For 10 CFR 50.12(a)(2), the staff considered whether special circumstances are present in that 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 (10 CFR 50.12(a)(2)(ii)). The staff's evaluation of this requirement is also provided below. The Westinghouse application discussed both this special circumstance and the special circumstance that compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated (10 CFR 50.12(a)(2)(iii)). As explained below, it was not necessary for the staff to consider Westinghouse's assertion that special circumstances under 10 CFR 50.12(a)(2)(iii) exist because the staff had already found that special circumstances under 10 CFR 50.12(a)(2)(ii) are present, and only one special circumstance is necessary to grant an exemption.

Authorized by Law

This exemption would allow Westinghouse to apply for renewal of the AP1000 design certified in 10 CFR Part 52, Appendix D, "Design Certification Rule for the AP1000 Design," at a time later than that currently allowed by 10 CFR 52.55(a), 10 CFR 52.57(a), and Section VII of Appendix D to 10 CFR Part 52. Section VII of Appendix D to 10 CFR Part 52 establishes the expiration date of the AP1000 certified design as February 27, 2021. Therefore, the time period for applying for renewal allowed by 10 CFR 52.57(a), 12 to 36 months before this date, is between February 27, 2018, and February 27, 2020. The proposed exemption would allow Westinghouse to apply for renewal 5 years later, between February 27, 2023, and February 27, 2025. This exemption is a temporary exemption that would expire on February 27, 2025. There is no provision in the Atomic Energy Act or in any other law that prohibits a change to the allowable period during which Westinghouse could apply for renewal of the AP1000 certified design or limits the validity of the certification to 15 years. Therefore, the NRC staff has determined that granting the applicant's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or any Commission regulations. Because of these factors, the staff finds that granting the exemption from the timely renewal requirement is authorized by law, as required by 10 CFR 50.12(a)(1).

No Undue Risk to Public Health and Safety

The timing provision for applying for a DC renewal is an administrative requirement. As described in CY 1989 final rule for 10 CFR Part 52 (54 FR 15382; April 18, 1989), the final rule extended the duration to 15 years to permit more operating experience with a given design to accumulate before the certification comes up for renewal or ceases to be available to COL applicants. A risk to public health and safety was not identified as a factor in determining the

15-year duration of the DC in the final or proposed rule for 10 CFR Part 52. In addition, the 5-year extension being requested in the exemption is far shorter than the 40-year duration of the COLs for Vogtle Units 3 and 4 and Summer Units 2 and 3 that incorporate by reference the AP1000 DC. Should a public health or safety issue related to the AP1000 certified design be identified, the Commission retains authority to address the issue through other regulatory mechanisms. For example, the provisions of 10 CFR 52.63, “Finality of standard design certifications,” allow the Commission to modify, rescind, or impose new requirements on a certified design if necessary to provide adequate protection of the public health and safety. COL applicants and licensees also can use—and already have used—existing processes (i.e., departures, exemptions requests, and license amendments) to revise their design bases to incorporate changes to address safety issues on a site-specific basis. Because of these factors, the staff finds that granting the exemption from the timely renewal requirement provides no undue risk to public health and safety.

Consistent with Common Defense and Security

The proposed exemption to the timely renewal requirement would allow Westinghouse to delay an application to renew the AP1000 certified design by 5 years. This delay would not alter or affect any design aspect of the current AP1000 certified design related to safety or security or affect the physical or cyber security or plant safeguards information. Additionally, should a defense or security issue related to the AP1000 certified design be identified, the Commission retains authority to address the issue through regulatory mechanisms. Similar to the provision for modifying, rescinding, or imposing new requirements for purposes of protecting public health and safety, the Commission retains the same authority in 10 CFR 52.63, if necessary, to provide for the common defense and security. Because of these factors, the staff finds that granting the exemption from the timely renewal requirement is consistent with the common defense and security.

Special Circumstances

Under 10 CFR 50.12(a)(2)(ii), special circumstances are present 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 proposed exemption would allow Westinghouse to delay its application to renew the AP1000 certified design by 5 years. The proposed delay would extend the period for timely renewal by 5 years, but not the validity period of the design such that it could be referenced by a COL applicant. The underlying purpose of the 15-year duration is, as described in the 1989 final rule for 10 CFR Part 52, to permit more operating experience with a given design to accumulate before the certification comes up for renewal or ceases to be available to COL applicants.

The staff reviewed the information pertaining to special circumstances of 10 CFR 50.12(a)(2)(ii) in Section 5.2.1 of the Westinghouse submittal. The staff also considered relevant updated schedule information for construction of the AP1000 units at the Vogtle site. The staff considered whether the current schedule requirement to apply for renewal by February 27, 2020, would not serve the underlying purpose of the DC renewal regulations or is not necessary to achieve the underlying purpose of the DC renewal regulations because the timeframe for accumulation of construction and initial operating experience of the AP1000 units at Vogtle extends well beyond the renewal deadline. The likely construction schedule and timeframe during which information would be gathered extends beyond the February 27, 2020, deadline currently established under existing regulations. The staff agrees that, in this case, a

deferred renewal timeframe is consistent with current information for the schedule for completion of construction, startup, and initial operation of Vogtle Units 3 and 4 and meets the intent of the rule because it would allow for an extended time period for collection of lessons learned and construction and operating experience.

This argument would be valid even if only one of the four reactors remained under construction and began operation, and even if the schedule for that reactor was delayed beyond the current schedule. Because the ongoing accumulation of construction and operating experience would continue beyond the currently applicable timely renewal timeframe, the staff agrees that the timely renewal requirement of 10 CFR 52.57(a) in this circumstance would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule, and, therefore, special circumstances exist.

The Westinghouse request also claimed that special circumstances are present under 10 CFR 50.12(a)(2)(iii) for undue hardship, but the staff determined that it was not necessary to evaluate this claim because the staff determined that special circumstances are present under 10 CFR 50.12(a)(2)(ii).

Overall Staff Conclusion

The staff finds that the requirements in 10 CFR 50.12 authorizing the Commission to grant an exemption from the timely renewal requirement in 10 CFR 52.57(a) have been met. The staff concluded that an exemption from 10 CFR 52.57(a) is authorized by law, provides no undue risk to public health and safety, and is consistent with the common defense and security. In addition, the staff concluded that special circumstances exist in that application of the regulation 10 CFR 52.57(a), in the particular circumstances described above, would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. Therefore, the staff grants the exemption request to 10 CFR 52.57(a) that would defer the timely renewal period for the AP1000 DC until February 27, 2023, to February 26, 2025.

For the reasons discussed herein, the staff declines to grant exemptions that would prolong the ability of the AP1000 DC to be referenced by a future COL applicant submitted beyond the current expiration date.