



[7590-01-P]

## NUCLEAR REGULATORY COMMISSION

[Docket Nos. 52-025 and 52-026; NRC-2008-0252]

### Southern Nuclear Operating Company, Inc., Vogtle Electric Generating Plant, Units 3 and 4; Exemptions

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Exemption; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing an exemption in response to a June 27, 2018, request from Southern Nuclear Operating Company, Inc., as applicable to Vogtle Electric Generating Plant (VEGP) Units 3 and 4. Specifically, SNC requested an exemption that would modify the requirement for the level 1 and level 2 PRA for VEGP Units 3 and 4 to cover those initiating events and modes for which Regulatory Guide 1.200, Revision 2, endorses standards.

**DATES:** The exemption was issued on October 26, 2018.

**ADDRESSES:** Please refer to Docket ID **NRC-2008-0252** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2008-0252**. Address questions about Regulations.gov Docket IDs to Jennifer Borges, telephone: 301-287-9127; e-mail: [Jennifer.Borges@nrc.gov](mailto:Jennifer.Borges@nrc.gov). For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public

Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document. The request for the amendment and exemption was submitted by letter dated April 20, 2018, and available in ADAMS under Accession No. ML18110A113.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Chandu Patel, Office of New Reactors, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-3025; e-mail: [Chandu.Patel@nrc.gov](mailto:Chandu.Patel@nrc.gov).

## I. Background

Southern Nuclear Operating Company, Inc., and Georgia Power Company, Oglethorpe Power Corporation, MEAG Power SPVM, LLC, MEAG Power SPVJ, LLC, MEAG Power SPVP, LLC, and the City of Dalton, Georgia (collectively SNC) are the holder of facility Combined License (COL) Nos. NFP-91 and NPF-92, which authorize the construction and operation of Vogtle Electric Generating Plant (VEGP) Units 3 and 4. The COLs, issued under part 52 of title 10 of the *Code of Federal Regulations* (10 CFR), provide, among other things, that the facilities are subject to all rules, regulations, and orders of the NRC or the Commission now or hereafter in effect. The facilities consist of two AP1000 pressurized-water reactors located in Burke County, Georgia.

Section 10 CFR 50.71(h)(1) requires each holder of a COL, no later than the scheduled date for initial loading of fuel, to develop a level 1 and a level 2 probabilistic risk assessment (PRA) that covers those initiating events and modes for which NRC-endorsed consensus standards on PRA exist one year prior to the scheduled date for initial loading of fuel. Based on the anticipated timing of the VEGP Unit 3 fuel load, the PRA development for VEGP Units 3 and 4 is proceeding in accordance with the current PRA consensus standards in Regulatory Guide (RG) 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," Revision 2. However, the next revision to RG 1.200 may take place more than one year prior to fuel load at VEGP Unit 3 and/or VEGP Unit 4; therefore, it is possible that the PRA for VEGP Unit 3 and/or VEGP Unit 4 could be required to cover new initiating events and modes. Based on a review of the scope of work for SNC's PRA development, a requirement that SNC meet new PRA standards established one year or more prior to the scheduled fuel load date could delay fuel load until the PRA was completed. It is, therefore, not practicable for SNC to shift PRA development from Rev. 2 of RG 1.200 to newly endorsed standards as required by 10 CFR 50.71(h)(1).

## **II. Request/Action**

Pursuant to 10 CFR 50.12, "Specific exemptions," SNC requested, by letter dated June 27, 2018 (ADAMS Accession No. ML18178A533), an exemption from the requirements of 10 CFR 50.71(h)(1), as applicable to VEGP Units 3 and 4. Specifically, SNC requested an exemption that would modify the requirement for the level 1 and level 2 PRA for VEGP Units 3 and 4 to cover those initiating events and modes for which RG 1.200, Rev. 2, endorses standards. Thus, under the requested exemption, SNC

would be required to meet the PRA standards in RG 1.200, Rev. 2, for initial fuel loading at VEGP Units 3 and 4, even if the NRC endorses new standards on PRA one year or more prior to the scheduled fuel load date at VEGP Unit 3 or Unit 4. The requested exemption from 10 CFR 50.71(h)(1) applies to the development of the VEGP Units 3 and 4 level 1 and level 2 PRA, but SNC still must follow the PRA upgrade requirements in 10 CFR 50.71(h)(2). Therefore, the effect of the requested exemption would be temporary, as the upgraded PRA must cover initiating events and modes of operation contained in NRC-endorsed consensus standards on PRA in effect one year prior to each required upgrade under 10 CFR 50.71(h)(2).

### **III. Discussion**

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR part 50 when (1) the exemptions are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security; and (2) when special circumstances are present. These special circumstances include, among other things, 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 Exemption Is Authorized by Law**

This exemption would allow SNC to modify the requirement for the level 1 and level 2 PRA developed prior to initial fuel loading for VEGP Units 3 and 4 to cover those initiating events and modes for which RG 1.200, Rev. 2, endorses standards. As stated above, 10 CFR 50.12 allows the NRC to grant exemptions from the requirements of 10 CFR part 50. The NRC staff has determined that granting of SNC's proposed

exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, the exemption is authorized by law.

- **The Exemption Presents No Undue Risk to Public Health and Safety**

The proposed exemption from the requirements of 10 CFR 50.71(h)(1) would allow SNC to develop the level 1 and level 2 PRA to cover those initiating events and modes for which RG 1.200, Rev. 2, endorses standards. The change is needed to allow SNC sufficient time to fulfill the requirement.

Making the changes proposed in the exemption request would not adversely affect SNC's ability to satisfy other PRA requirements in the regulations or COLs. Using the standards currently endorsed by RG 1.200, Rev. 2, instead of potential newly endorsed standards, will continue to provide adequate protection of public health and safety. Risk insights from the design certification have already been incorporated into the design. Additionally, the proposed exemption does not introduce any new industrial, chemical, or radiological hazards that would present a public health or safety risk, nor does it modify or remove any design or operational controls or safeguards intended to mitigate any existing on-site hazards. The proposed exemption 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 would result in fuel cladding failures. Accordingly, the exemption does not present an undue risk to the public health and safety.

- **The Exemption Is Consistent with the Common Defense and Security**

The exemption would allow SNC to develop the level 1 and level 2 PRA prior to initial fuel loading for VEGP Units 3 and 4 to cover those initiating events and modes for which RG 1.200, Rev. 2, endorses standards. The change does not alter or impede the design, function, or operation of any plant structures, systems, or components

associated with the facility's physical or cyber security and, therefore, does not affect any plant equipment that is necessary to maintain a safe and secure plant status. In addition, the changes have no impact on plant security or safeguards. Therefore, the staff has determined that this exemption does not adversely impact common defense and security.

- **Special Circumstances**

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), 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 underlying purpose of 10 CFR 50.71(h) is to require COL holders to maintain and upgrade a PRA to meet endorsed standards over the lifetime of the facility. Under the proposed exemption SNC would be required to use the endorsed standards in RG 1.200, Rev. 2, which would provide sufficient time for SNC to develop the level 1 and level 2 PRA required by 10 CFR 50.71(h)(1). Subsequently, 10 CFR 50.71(h)(2) and 10 CFR 50.71(h)(3) will continue to require SNC to maintain and upgrade the VEGP Units 3 and 4 PRA to meet future endorsed standards over the lifetime of the facilities.

Moreover, the underlying purpose of 10 CFR 50.71(h)(1) is to ensure that before beginning to operate, SNC has developed a PRA that accurately models the plant as it has been built and as it will be operated. The requested exemption from 10 CFR 50.71(h)(1) serves only to remove a degree of uncertainty as to which consensus standards will apply to the PRA model for VEGP Units 3 and 4. A plant-specific PRA that meets the standards endorsed by RG 1.200, Rev. 2, has been and will remain adequate until it is upgraded in accordance with 10 CFR 50.71(h)(2). Therefore, the underlying purposes of 10 CFR 50.71(h)(1) would be achieved by requiring the level 1 and level 2 PRA to meet currently endorsed standards. For the reasons discussed

above, applying the provisions of 10 CFR 50.71(h)(1) addressed by the exemption request is not necessary to meet the underlying purpose of the rule. Therefore, the special circumstances required by 10 CFR 50.12(a)(2)(ii) for the granting of an exemption from 10 CFR 50.71(h)(1) exist.

Additionally, special circumstances, in accordance with 10 CFR 50.12(a)(2)(iii), are present whenever 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. The time required to update the PRA model to the new standards (which may include new initiating events and modes), peer review the model, resolve facts and observations from the peer review, and perform the plant walkdown is likely to take longer than one year, which could delay fuel load until the PRA was completed. In that case, compliance with 10 CFR 50.71(h)(1) would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted with no significant benefit to safety; therefore, the special circumstances required by 10 CFR 50.12(a)(2)(iii) for the granting of an exemption from 10 CFR 50.71(h)(1) exist.

- **Environmental Considerations**

The NRC staff determined that the exemption discussed herein meets the eligibility criteria for the categorical exclusion set forth in 10 CFR 51.22(c)(25) because the request seeks to change the timing of standards required by 10 CFR 50.71(h)(1) but does not make changes to the facility or operating procedures. Under 10 CFR 51.22(c)(25), granting of an exemption from the requirements of any regulation of chapter I to 10 CFR is a categorical exclusion provided that (i) there is no significant hazards consideration; (ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (iii) there is no

significant increase in individual or cumulative public or occupational radiation exposure; (iv) there is no significant construction impact; (v) there is no significant increase in the potential for or consequences from radiological accidents; and (vi) the requirements from which an exemption is sought involve certain categories of requirements, such as reporting requirements related to the timing of using NRC-endorsed consensus standards on PRA, which detail the initiating events and modes that must be covered in the PRA.

As required by 10 CFR 51.22(c)(25)(i), and using the criteria set out in 10 CFR 50.92(c), the NRC staff reviewed whether the exemption request involves no significant hazards consideration.

- (1) Does the requested exemption involve a significant increase in the probability or consequences of an accident previously evaluated?

No. The proposed exemption from the requirements of 10 CFR 50.71(h)(1) would allow SNC to develop the level 1 and level 2 PRA to cover those initiating events and modes for which RG 1.200, Rev. 2, endorses standards. The requested exemption does not alter the design, function, or operation of any plant equipment. Therefore, granting this exemption would not involve a significant increase in the probability or consequences of an accident previously evaluated.

- (2) Does the requested exemption create the possibility of a new or different kind of accident from any accident previously evaluated?

No. The requested exemption does not alter the design, function, or operation of any plant equipment. The requested exemption does not create any new failure mechanisms, malfunctions, or accident initiators. Therefore, granting this exemption does not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) Does the requested exemption involve a significant reduction in a margin of safety?

No. A PRA is an analysis to determine the relative risk (probability) of an undesirable outcome, specifically, core damage frequency and large early release frequency.

While the PRA uses the design attributes of structures, systems, and components (SSCs), the PRA does not affect SSCs. As a result, a change to the PRA description or PRA results does not affect an SSC, SSC design function, or method of performing or controlling a design function. While the PRA uses the design attributes of SSCs, the PRA is not used to establish the design bases of an SSC nor is it used in the safety analyses. Furthermore, the requested exemption does not exceed or alter a design basis or safety limit. Therefore, granting this exemption does not involve a significant reduction in a margin of safety.

As all of the responses to the above questions are in the negative, under 10 CFR 51.22(c)(25)(i), the NRC staff has concluded that the requested exemption involves no significant hazards consideration.

The requested exemption does not alter the design, function, or operation of any plant equipment. There are no changes to effluent types, plant radiological or non-radiological effluent release quantities, any effluent release path, or the functionality of any design or operational features credited with controlling the release of effluents during plant operation or construction. Therefore, under 10 CFR 51.22(c)(25)(ii), the NRC staff concludes that the proposed exemption does not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

There are no changes to plant radiation zones and no changes to controls required under 10 CFR part 20, which preclude a significant increase in occupational radiation exposure. Therefore, under 10 CFR 51.22(c)(iii), the NRC staff concludes that the proposed exemption does not involve a significant increase in individual or cumulative public or occupational radiation exposure.

The requested exemption does not alter the design, function, or operation of any plant equipment. No change to the facility is being made as a result of this exemption. Therefore, under 10 CFR 51.22(c)(iv), the NRC staff concludes that the proposed exemption does not involve a significant construction impact.

The requested exemption does not alter the design, function, or operation of any plant equipment. There are no changes to plant radiation zones and no changes to controls required under 10 CFR part 20, which preclude a significant increase in occupational radiation exposure.

Therefore, under 10 CFR 51.22(c)(v), the NRC staff concludes that the proposed exemption does not involve a significant increase in the potential for or consequences from radiological accidents.

The requested exemption involves reporting requirements related to the timing of using NRC-endorsed consensus standards on PRA which detail the initiating events and modes that must be covered in the PRA. Therefore, under 10 CFR 51.22(c)(vi)(B), the NRC staff concludes that the proposed exemption involves a reporting requirement.

Based on the evaluation above, the NRC staff concludes that the exemption meets the criteria of 10 CFR 51.22(c). Therefore, in accordance with 10 CFR 51.22(b), an environmental impact statement or environmental assessment is not required for the NRC staff's consideration of this exemption request.

#### **IV. Conclusions**

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, the exemption 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. Also, special circumstances are present. Therefore, the Commission hereby grants SNC an exemption from 10 CFR 50.71(h)(1) to modify the requirement for the level 1 and level 2 PRA for VEGP Units 3 and 4 to cover those initiating events and modes for which RG 1.200, Rev. 2, endorses standards.

Dated at Rockville, Maryland, this 26<sup>th</sup> day of October 2018.

For the Nuclear Regulatory Commission.

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