

NUCLEAR REGULATORY COMMISSION

[Docket No. 52-026; NRC-2008-0252]

Southern Nuclear Operating Company Inc

Vogtle Electric Generating Plant Unit 4

AGENCY: Nuclear Regulatory Commission.

ACTION: Exemption; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has issued an exemption in response to a March 6, 2020, request from Southern Nuclear Operating Company, Inc. (SNC), as applicable to Vogtle Electric Generating Plant (VEGP) Unit 4. Specifically, the NRC has exempted SNC from the requirement for VEGP Unit 4 to conduct an emergency preparedness exercise prior to its initial fuel load.

DATES: This exemption was issued on July 21, 2020.

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 <https://www.regulations.gov> and search for Docket ID **NRC-2008-0252**. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; e-mail: Stacy.Schumann@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 <https://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. 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 exemption was submitted by letter dated March 6, 2020 and is available in ADAMS under Package Accession No. ML20066G902.

FOR FURTHER INFORMATION CONTACT: Cayetano Santos Jr., Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-7270; e-mail: Cayetano.Santos@nrc.gov.

- **Attention:** The PDR, where you may examine and order copies of public documents, is currently closed. You may submit your request to the PDR via e-mail at pdr.resource@nrc.gov or call 1-800-397-4209 or 301-415-4737, between 8:00 a.m. and 4:00 p.m. (EST), Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

I. Background

Southern Nuclear Operating Company, Inc., 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 holders of facility Combined License (COL) Nos. NFP-91 and NPF-92, which authorize the construction and operation of 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.

Section IV.F.2.a.(iii) of appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to part 50 of 10 CFR states, in part, that for a

combined license issued under 10 CFR part 52, if the applicant currently has an operating reactor at the site, an exercise, either full or partial participation, shall be conducted for each subsequent reactor constructed on the site. VEGP Units 3 and 4 are of the same reactor design (Westinghouse Electric Company (Westinghouse) AP1000 pressurized-water reactor), and VEGP Units 1, 2, 3, and 4 share the same operating site. In a letter dated March 6, 2020, SNC requested an exemption from the requirement to perform an emergency preparedness exercise for VEGP Unit 4.

The NRC staff's evaluation of SNC's exemption request for Unit 4 is based on VEGP Unit 3 first successfully completing an emergency preparedness exercise as required by section IV.F.2.a.(iii) of appendix E, and establishing an 8-calendar-year emergency preparedness exercise cycle that incorporates both VEGP Units 3 and 4 drill and exercise requirements prior to VEGP Unit 4 commencing initial fuel load. The justification for the exemption is that the successful completion of the VEGP Unit 3 partial participation exercise demonstrate all aspects of emergency response capabilities for both units, thereby making a separate exercise for VEGP Unit 4 to meet the requirements of section IV.F.2.a.(iii) of appendix E unnecessary.

In Part 5, "Emergency Plan," of its December 31, 2008, Early Site Permit (ESP) Application (Revision 5) for VEGP Units 3 and 4, SNC included a complete and integrated emergency plan for VEGP Units 3 and 4, referred to as the "ESP Plan" (Docket No. 52-011; ADAMS Accession No. ML091540898). The NRC staff documented its review of the ESP Plan in Section 13.3, "Emergency Planning," of NUREG-1923, "Safety Evaluation Report for an Early Site Permit (ESP) at the Vogtle Electric Generating Plant (VEGP) ESP Site," July 2009 (ADAMS Accession No. ML092290650), and included an evaluation of the emergency plan's description of proposed Units 3 and 4 exercises in Section 13.3.3.2.14, "Exercises and Drills

(10 CFR 50.47(b)(14); NUREG-0654/FEMA-REP-1, planning standard N).”

The NRC issued Early Site Permit No. ESP-004 for the VEGP ESP Site (i.e., for Units 3 and 4) on August 26, 2009 (ADAMS Accession No. ML092290157). ESP-004, including the ESP Plan, was incorporated by reference into SNC’s June 24, 2011, COL application for VEGP Units 3 and 4 (Docket Nos. 52-025 and 52-026, respectively; ADAMS Accession No. ML11180A086), and the Units 3 and 4 COLs were issued on February 10, 2012 (ADAMS Accession Nos. ML14100A106 and ML14100A135, respectively). The NRC staff documented its review of the COL application in Section 13.3, “Emergency Planning,” of NUREG-2124, “Final Safety Evaluation Report – Related to the Combined Licenses for Vogtle Electric Generating Plant, Units 3 and 4,” Volume 2, September 2012 (ADAMS Accession No. ML12271A048).

The NRC staff’s reasonable assurance finding for the ESP Plan was subject to the satisfactory completion of the inspections, tests, analyses, and acceptance criteria (ITAAC) that were listed in NUREG-1923 Section [Table] 13.3.6, “VEGP Unit 4 ITAAC,” which includes ITAAC 8.0, “Exercises and Drills.” ITAAC 8.0 requires a limited participation exercise for Unit 4, in order to demonstrate the various emergency preparedness capabilities listed in the associated ITAAC acceptance criteria. The ESP Plan and Unit 4 ITAAC were included in SNC’s Unit 4 COL application, and ITAAC 8.0 (consisting of Unit 4 ITAAC Nos. 870, E.3.9.08.01.01; 871, E.3.9.08.01.02; and 872, E.3.9.08.01.03) was included in Appendix C, Table E.3.9-8 of the Unit 4 COL.

Unit 4 COL ITAAC 870, 871, and 872, which address exercise-related aspects of emergency preparedness and response for Unit 4, were subsequently deleted by Unit 4 License Amendment No. 161 (September 5, 2018; ADAMS Package

Accession No. ML19213A288). Prior to their deletion, ITAAC 870, 871, and 872 had been revised by Unit 4 License Amendment No. 94 (ADAMS Package Accession No. ML17256A028) (referenced by SNC in its exemption request) to change the ITAAC Program Commitment to conduct a partial participation exercise, and to consolidate duplicated or redundant ITAAC. Finally, while License Amendment 161 deleted the Unit 4 COL requirement in ITAAC 870, 871, and 872 to conduct a partial participation exercise, the separate exercise requirement in section IV.F.2.a.(iii) of appendix E to 10 CFR part 50 remained applicable to Unit 4 and is the subject of this exemption request.

II. Request/Action

Pursuant to 10 CFR 50.12, "Specific exemptions," SNC requested, by letter dated March 6, 2020 (ADAMS Accession No. ML20066G904), an exemption from the requirements of section IV.F.2.a.(iii) of appendix E to 10 CFR part 50, as applicable to VEGP Unit 4. Enclosure 1 to this letter includes the supporting justification for SNC's request (ADAMS Accession No. ML20066G906). Specifically, SNC requested an exemption for VEGP Unit 4 from the requirement in section IV.F.2.a.(iii) to appendix E of 10 CFR part 50 for an applicant who currently has an operating reactor at the site to perform an exercise, either full or partial participation, for each subsequent reactor constructed on the site. The exemption removes the requirement to perform an emergency preparedness exercise at VEGP Unit 4 prior to its initial fuel load.

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 the health and safety of the public, and are consistent with the

common defense and security; and (2) special circumstances are present. These special circumstances include, among other things, when the 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.

1. The Exemption is Authorized by Law

The exemption removes the requirement in section IV.F.2.a.(iii) of appendix E to 10 CFR part 50 for SNC to perform an emergency preparedness exercise, either full or partial participation, at VEGP Unit 4 prior to initial fuel load. The VEGP Unit 4 emergency preparedness response capabilities, emergency response facilities, and emergency response organization (ERO) are common to both VEGP Units 3 and 4 and have been evaluated during a VEGP Unit 3 partial participation exercise. These emergency preparedness response capabilities will continue to be evaluated under the 8-calendar-year emergency preparedness exercise cycle for the VEGP site (Units 1, 2, 3, and 4). The NRC staff has determined that granting SNC's requested exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations and that no other law precludes the requested changes. Therefore, the exemption is authorized by law.

2. The Exemption Presents No Undue Risk to Public Health and Safety

The NRC staff considered SNC's detailed justification supporting the proposed exemption from section IV.F.2.a.(iii) of appendix E to 10 CFR part 50 for VEGP Unit 4's exercise prior to its initial fuel load. Based on its review of the information submitted with SNC's requested exemption, the NRC staff concluded that VEGP Unit 4 shares emergency preparedness program response capabilities with Vogtle Unit 3 under a common VEGP Emergency Plan Annex, which was subsequently demonstrated during VEGP Unit 3's initial partial participation exercise. In addition,

future Unit 4 exercises will be conducted as part of the 8-calendar-year exercise cycle for the VEGP site (Units 1, 2, 3, and 4).

The VEGP Unit 4 capabilities that will have been demonstrated during the VEGP Unit 3 exercise comprise various principal functional areas of emergency response, as they are described in the applicable exercise-related requirements and guidance. Specifically, areas of demonstration during exercises are described in 10 CFR 50.47(b)(14), which identifies major portions of emergency response capabilities, and in sections IV.F.2.b and IV.F.2.j of appendix E to 10 CFR part 50, which identify key skills necessary to implement the principal functional areas of emergency response. In addition, section IV.F.2.a of appendix E calls for conducting an exercise that will test as much of the emergency plans as is reasonably achievable for each reactor site without mandatory public participation. The scope of exercise demonstrations is also addressed in related guidance, consisting of Section II.N.1 of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980 (ADAMS Accession No. ML040420012), which states that exercises should test the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations, and verify the capability to respond to an accident scenario requiring response. The successful completion of the Unit 3 partial participation exercise means that the exercise requirements addressed in this notice have been evaluated, and any deficiencies have been corrected.

The NRC staff finds that Units 3 and 4 are of the same reactor type and design (i.e., Westinghouse AP1000 reactor), and that they share the same resources, requirements, capabilities, emergency response facilities, procedures, and ERO,

which is facilitated by VEGP Units 3 and 4 being located side-by-side on the VEGP site. In addition, the NRC staff finds that the identified, shared emergency planning resources, requirements, capabilities, etc., are consistent with the requirements of the applicable regulations and guidance for demonstration of the principal functional areas of emergency response during an exercise. Further, inclusion of the VEGP Unit 4 exercise into the 8-calendar-year exercise cycle for the VEGP site would postpone its first exercise until after initial fuel load. This option is consistent with section IV.F.2.a.(iii) of appendix E to 10 CFR part 50, which states, in part, that this exercise may be incorporated in the exercise requirements of sections IV.F.2.b and IV.F.2.c of appendix E (which address the timing and coordination of exercises at reactor sites). Therefore, the NRC staff has determined that conducting a VEGP Unit 4 partial participation exercise prior to Unit 4's initial fuel load will not demonstrate any new aspects of emergency planning resources, capabilities, emergency response facilities, procedures, or ERO used to accomplish the principal functional areas of emergency response that were not already demonstrated during the VEGP Unit 3 partial participation exercise.

Because the VEGP Unit 4 emergency preparedness response capabilities and ERO were already demonstrated during a VEGP Unit 3 partial participation exercise and will continue to be evaluated under the 8-calendar-year emergency preparedness exercise cycle for the VEGP site, there is no change in risk to public health and safety. Therefore, the exemption does not present an undue risk to public health and safety.

3. The Exemption is Consistent with the Common Defense and Security

The exemption from section IV.F.2.a.(iii) of appendix E to 10 CFR part 50 removes the requirement for SNC to perform an emergency preparedness exercise at

VEGP Unit 4 prior to initial fuel load. The licensee's successful completion of the Unit 3 partial participation exercise demonstrates the adequacy of emergency preparedness response capabilities and ERO for both Units 3 and 4. Units 3 and 4 would also be incorporated into the 8-calendar-year emergency preparedness exercise cycle for the VEGP site. In addition, this exemption does not involve changes to the SNC Standard Emergency Plan or the VEGP Units 3 and 4 Standard Emergency Plan Annex and has no impact on plant security or safeguards. Therefore, the NRC staff has determined that this exemption does not affect the common defense and security.

4. 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. Section IV.F.2.a.(iii) of appendix E to 10 CFR part 50 requires, in part, that an emergency preparedness exercise be conducted for each subsequent reactor constructed on an existing reactor site. The underlying purpose of section IV.F.2.a.(iii) of appendix E to 10 CFR part 50 for VEGP Unit 4 is to ensure that an adequate state of emergency preparedness response capability exists for VEGP Unit 4 through the conduct of an emergency preparedness exercise prior to Unit 4 initial fuel load. In addition, as the Commission described in the statement of consideration for the 2007 final rule (72 FR 49351, 49401, August 28, 2007) that added section IV.F.2.a.(iii) to appendix E to 10 CFR part 50, the requirement for emergency preparedness exercises for each subsequent reactor constructed at a site was intended to provide for the demonstration of ITAAC for various emergency preparedness requirements (e.g., programs and facilities) that did not warrant their

own specific, detailed ITAAC (separate from the exercise).

The exemption removes the requirement to perform an emergency preparedness exercise at VEGP Unit 4 prior to initial fuel load. Since all the emergency preparedness exercise ITAAC for VEGP Unit 4 were previously deleted by License Amendment 161, and the VEGP Unit 4 emergency preparedness response capabilities and ERO were demonstrated during the Unit 3 partial participation exercise, the underlying purpose of section IV.F.2.a.(iii) for the VEGP Unit 4 exercise is met under the terms of the exemption. Therefore, the NRC staff has determined that the special circumstances required by 10 CFR 50.12(a)(2)(ii) for the granting of the exemption from section IV.F.2.a.(iii) exist because requiring a separate exercise for Unit 4 is not necessary to meet the underlying purpose of the rule.

5. Environmental Consideration

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). The requested exemption seeks to remove the requirement in section IV.F.2.a.(iii) of appendix E to 10 CFR part 50 to conduct either a full or partial participation emergency preparedness exercise for VEGP Unit 4 prior to its initial fuel load, but does not make any physical changes to the facility, the approved SNC Standard Emergency Plan, the VEGP Units 3 and 4 Standard Emergency Plan Annex, or the facility operating procedures. Under 10 CFR 51.22(c)(25), granting 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 scheduling requirements related to the performance of an emergency preparedness exercise.

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 exemption to 10 CFR part 50, appendix E, section IV.F.2.a.(iii) removes the requirement to perform an emergency preparedness exercise at VEGP Unit 4 prior to initial fuel load. The exemption does not alter the design, function, or operation of any plant equipment and does not involve or interface with any structure, system or component (SSC) accident initiator or initiating sequence of events, so the probabilities of the accidents evaluated in the Updated Final Safety Analysis Report (UFSAR) are not affected. The exemption does not allow for a new fission product release path, nor does it result in a new fission product barrier failure mode or create a new sequence of events that would result in fuel cladding failures. The exemption does not involve any safety-related SSCs or functions used to mitigate an accident, thus the consequences of the accidents evaluated in the UFSAR are not affected. Therefore, granting this exemption does 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 exemption does not alter the design, function, or operation of any plant equipment. The exemption does not create any new failure mechanisms, malfunctions, or accident initiators. The exemption does not affect the operation of any systems or equipment such that a new or different kind of accident, failure mode, or malfunction is created, or alter any SSC such that a new accident initiator or initiating sequence of events is created. 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. The exemption does not affect an SSC, SSC design function, or method of performing or controlling a design function. The exemption does not affect safety-related equipment or fission product barriers. No safety analysis or design basis acceptance limit or criterion is challenged or exceeded by the exemption. The exemption does not involve changes to the SNC Standard Emergency Plan or the VEGP Units 3 and 4 Standard Emergency Plan Annex, and therefore, there is no reduction in effectiveness in emergency planning, pursuant to 10 CFR 50.54(q). 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 exemption involves no significant hazards consideration.

The 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 exemption does not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The exemption does not change plant radiation zones, radiological effluent release pathways and release quantities, or cause any changes to the controls required under 10 CFR part 20 that preclude a significant increase in public dose or occupational radiation exposure. Therefore, under 10 CFR 51.22(c)(25)(iii), the NRC staff concludes that the exemption does not involve a significant increase in individual or cumulative public or occupational radiation exposure.

The 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)(25)(iv), the NRC staff concludes that the exemption does not involve a significant construction impact.

The exemption does not alter the design, function, or operation of any plant equipment, and does not involve any safety-related SSCs or functions used to mitigate an accident. No change to the facility is being made as a result of this exemption. Therefore, under 10 CFR 51.22(c)(25)(v), the NRC staff concludes that the exemption does not involve a significant increase in the potential for or consequences from radiological accidents.

The exemption involves scheduling requirements related to the performance of an emergency preparedness exercise. Therefore, under 10 CFR 51.22(c)(25)(vi)(G), the NRC staff concludes that the exemption involves a scheduling requirement.

Based on the evaluation above, the NRC staff concludes that the exemption meets the criteria of 10 CFR 51.22(c)(25). 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. Conclusion

Based on the above, the NRC staff concludes that, with the VEGP Unit 4 exemption from section IV.F.2.a.(iii) of appendix E to 10 CFR part 50, there is reasonable assurance that adequate protective measures can, and will, be taken in the event of a radiological emergency at VEGP Unit 4, and that VEGP Unit 4 continues to demonstrate compliance with 10 CFR 50.47(b)(14) and appendix E to 10 CFR part 50.

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 health and safety of the public, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, given that a partial participation exercise for VEGP Unit 3 was successfully completed, the Commission has granted SNC an exemption from section IV.F.2.a.(iii) of appendix E to 10 CFR part 50, to eliminate the requirement to perform an emergency preparedness exercise at VEGP Unit 4 prior to its initial fuel load.

Dated: May 11, 2021.

For the Nuclear Regulatory Commission.

/RA/

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