**Southern Nuclear Operating Company**

**ND-21-0991**

**Enclosure**

**Vogtle Electric Generating Plant (VEGP) Units 3 and 4**

**Exemption Request:**

**Applicability of 10 CFR 26.3, Scope, Until Initial Fuel Load**

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

**Table of Contents**

## 1.0 PURPOSE

In accordance with the provisions of 10 CFR 26.9, Southern Nuclear Operating Company (SNC), as a Combined License (COL) holder under 10 CFR 52, hereby requests an exemption from the requirements of 10 CFR 26.3(a) and 10 CFR 26.3(c)(2), as applicable to Vogtle Electric Generating Plant (VEGP) Units 3 and 4. Specifically, SNC requests a schedular exemption from the 10 CFR 26.3(a) and 10 CFR 26.3(c)(2) milestones:

- *after the Commission has made the finding under 10 CFR 52.103(g)*
- *before the Commission has made the finding under § 52.103(g)*

The requested exemption would implement the following milestones in lieu of the above milestones:

- *after initial loading of fuel into the reactor vessel*
- *before initial loading of fuel into the reactor vessel*

During the window between the 10 CFR 52.103(g) finding and initial fuel loading into the reactor vessel, the proposed exemption would allow the licensee (i.e., VEGP Unit 3 and Unit 4) to continue to utilize the options provided in 10 CFR 26, Subpart K—FFD Programs for Construction, as allowed by 10 CFR 26.3(c).

SNC has submitted a separate exemption request to address milestone changes for establishing the operational protected area (ND-21-0977 submitted on November 1, 2021, "Physical Protection Program and Access Authorization Program Implementation") (Reference 1); however, the exemption requested herein (ND-21-0991) is irrespective of whether that prior request is granted. Conversely, the exemption requested herein (ND-21-0991) has no impact on the prior requested exemption ND-21-0977).

Requirements for individuals per 10 CFR 26.4, FFD program applicability to categories of individuals, has additional milestones for implementing an FFD program that meets all of the requirements of Part 26, except Subpart K, upon granting unescorted access to a nuclear power reactor protected area (regardless of when the protected area is operational). Each paragraph of § 26.4 continues to apply to the stated category of individuals under the stated conditions during the proposed exemption window (i.e., between the 10 CFR 52.103(g) finding and initial fuel loading into the reactor vessel). These categories of individuals and conditions specified in § 26.4 are unaffected by the Commission finding in accordance with 10 CFR 52.103(g).

SNC recognizes that the protected area will be operational at some point prior to initial loading of fuel into the reactor vessel. The timing of declaring the protected area operational is not impacted by this requested exemption (ND-21-0991). For example, when VEGP Unit 3 declares its protected area, personnel previously considered "construction personnel" meeting a Subpart K FFD Program who will access the Unit 3 protected area, will no longer be required to meet Subpart K FFD Program, but instead comply with the requirements for the FFD program that meets all of the requirements of 10 CFR Part 26, except subpart K. The schedular exemption to 10 CFR 26.3 will not have any effect on these 10 CFR 26.4 provisions.

Additionally, § 26.205, Work hours, is imposed on any individual who performs duties identified in § 26.4(a)(1) through (a)(5), which currently only includes security personnel identified in (a)(5). For other than these security personnel, the applicability of § 26.205 for the remainder of individuals required by § 26.4(a) and (b) apply when the conditions

stated in each paragraph apply. The schedular exemption to 10 CFR 26.3 will not have any effect on these 10 CFR 26.4 provisions.

VEGP Units 3 and 4 personnel are expected to continue performing construction activities after the 10 CFR 52.103(g) finding. Imposing Part 26 requirements, except those in subpart K, after the 10 CFR 52.103(g) finding, but before any significant change in risk (i.e., loading fuel into the reactor vessel and commencing plant operations) is a costly and inefficient burden. Construction workers meeting § 26.4(f) (i.e., "[a]ny individual who is constructing or directing the construction of safety- or security-related SSCs") are those individuals that come under subpart K until it is excepted by § 26.3(a). These individuals are not required to be subjected to the program elements of Part 26 subpart B and subpart C. These subpart B and subpart C elements represent a significant cost, and administrative and training burden beyond that allowed by subpart K.

## 2.0 BACKGROUND and TECHNICAL JUSTIFICATION OF ACCEPTABILITY

10 CFR Part 26 prescribes requirements and standards for the establishment, implementation, and maintenance of fitness-for-duty (FFD) programs.

In a September 22, 2015, staff requirements memorandum (SRM) (Agencywide Documents Access and Management System [ADAMS] Accession No. ML15266A023) (Reference 2), the Commission directed the NRC staff to proceed with a rulemaking on the alignment of licensing requirements of Parts 50 and 52. The Commission directed the NRC staff to also pursue rulemaking to incorporate lessons learned from recent new power reactor licensing reviews.

On January 15, 2021, the NRC issued "Alignment of Licensing Processes and Lessons Learned from New Reactor Licensing" (ADAMS Accession No. ML20149K680) (Reference 3). Portions of the NRC assessment are cited in italics in the following technical justification, specifically from Appendix F, Section 2.2.2, Changing Part 26 Implementation Based on Risk Insights Learned from Reactor Plant Construction, Section 2.3, Discussion of Alternatives, and 2.6, Impacts. Additional bolding is added to emphasize certain portions of particular applicability to this request.

> *Based on operating experience and associated insights learned from the construction of VEGP 3&4 and [*V.C. Summer*] Units 2 and 3 (VCSNS 2&3), the NRC reassessed the risks presented during the construction of these commercial nuclear power reactors and finds that implementation of paragraphs 26.3(a) and (c) is not commensurate with current risk insights. Paragraph 26.3(a) requires licensee implementation of an FFD program that meets all Part 26 requirements, except those in Subpart K, after the licensee is authorized to operate the commercial power reactor plant* [i.e., after the 10 CFR 52.103(g) finding]*. Paragraph 26.3(c) and (a) require holders of a COL to implement an FFD program that meets all Part 26 requirements, except those in Subpart K, after the Commission has made the finding under paragraph 52.103(g) .... These provisions are therefore associated with the risk created by reactor operation ....*
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> *... **[S]afety and security risks associated with unirradiated nuclear fuel only begin to increase after the nuclear fuel begins to be placed in the reactor vessel** following the authorization to operate or the Commission's finding under paragraph 52.103(g). There is also some operational risk as the nuclear fuel is*

*moved from transit, dry storage, and finally to the reactor vessel, but this risk is mitigated by security, operator training and qualification, and the safety-related and security-related SSCs designed to provide for safe wet storage and safe transfer of fuel into the reactor vessel.*

***The conduct of construction activities after the authorization to operate (or the Commission's Paragraph 52.103(g) finding) and before initial fuel load would also be expected to present a very low risk.*** *This very low risk is based on a significant reduction in the number, type, and complexity of construction activities being performed during this period. As such, extending the implementation milestone of an FFD program that meets all Part 26 requirements except Subpart K, would not present an undue risk to safety and security. For example, although individuals may continue fabricating, erecting, integrating, and testing safety- and security- related SSCs in accordance with licensee-approved procedures that ensure design requirements are met, these activities will have a significantly low chance of causing an unreviewed safety question, a condition adverse to quality, an adverse safety impact, a security impact, an environmental impact, or an unreviewed change to an NRC-approved plan (such as quality assurance, security, fire protection, or emergency preparedness). This assessment is based on the defense-in-depth regulatory frameworks established in Parts 26, 50, 52, and 73; licensee procedures and controls; NRC reviews conducted to support the authorization to operate and the Commission's paragraph 52.103(g) finding; and NRC oversight of licensee activities as the licensee transitions from construction to reactor operation.*

*The NRC finds that the implementation of an FFD program that is not based on risk is inconsistent with one of the NRC's Principles of Good Regulation (NRC 2014-TN6227), "Reliability," which states, in part, that NRC regulations should be based on the best available knowledge from research and operational experience, and the NRC's Strategic Plan (NUREG-1614, Volume 7, "Strategic Plan, Fiscal Years 2018-2022;" NRC 2018-TN6382), Safety Strategy 2, which states as a Contributing Activity, the NRC uses "risk-informed . . . approaches to enhance the effectiveness and efficiency of the regulatory framework that appropriately consider defense-in-depth, risk insights, and margins of safety." In addition, requiring implementation of a more robust FFD program without a corresponding regulatory need is inconsistent with the graded approach incorporated into FFD requirements, which imposes requirements that are commensurate with the potential risks to public health and safety and the common defense and security that construction activities may pose when a plant begins operations.*

***Implementation of an FFD program that meets all Part 26 requirements except those in Subpart K during this period of construction would also place an unnecessary burden and cost on the licensee ... before any significant change in risk*** *warranting the need to implement an FFD program that meets all Part 26 requirements, except those in Subpart K. This burden and cost occur because a more comprehensive FFD program would be implemented on a larger population of construction workers for a longer period.*

***The NRC would require implementation of an FFD program that meets all Part 26 requirements, except Subpart K, at initial fuel load.*** *... This alternative would also defer the time by which licensees or other entities must implement an*

> *FFD program that meets all Part 26 requirements, except Subpart K ...* [and] *would reduce licensee burden and costs by maintaining Subpart K FFD program requirements for a longer period of time than is currently required.*
>
> *Because the NRC* ***recommendations [described above] are administrative and do not change how a licensee or other entity constructs, operates, or maintains a nuclear power facility and Parts 26, 50, 52, and 73 regulatory frameworks are currently risk-informed and provide defense- in-depth, there would be no adverse impacts on public health, safety, and security****.*

SNC concurs with this NRC assessment and particularly notes the bolded portions directly in support of the request. SNC recognizes that the specific NRC anticipated language change to 10 CFR 26.3(a) and 10 CFR 26.3(c)(2) presented in the "Discussion of Alternatives" differs slightly from the SNC proposed exemption request language; however, the effect is the same – that is to extend the allowed period to utilize Subpart K from until the 10 CFR 52.103(g) finding milestone to the milestone of commencing fuel loading into the reactor vessel.

## 3.0 JUSTIFICATION FOR EXEMPTION

10 CFR 26.9, Specific exemptions, states that the Commission may grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

Each of these criteria are addressed below.

### 3.1 This exemption is authorized by law

The NRC has authority under 10 CFR 26.9 to grant this exemption. 10 CFR 26.9 states that the Commission may grant exemptions from the requirements of 10 CFR Part 26 if the specific requirements are met. 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 26.9.

### 3.2 This exemption will not endanger life or property

The proposed exemption from the requirements of 10 CFR 26.3 would allow SNC to continue to utilize Subpart K until the milestone of commencing fuel loading into the reactor vessel.

The proposed change in which SNC will extend the allowed period to utilize Subpart K from the 10 CFR 52.103(g) finding milestone to the milestone of commencing fuel loading into the reactor vessel does not represent any adverse impact to SNC's ability to satisfy other requirements in the regulations or License. The change is needed to allow SNC to complete construction activities prior to fuel load without imposing an unnecessary burden and cost on SNC. This burden and cost occur because a more comprehensive FFD program would be implemented on the larger population of construction workers for the period between the 10 CFR 52.103(g) finding milestone to the milestone of commencing fuel loading into the reactor vessel. 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. Furthermore, the proposed exemption would 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, this proposed exemption does not present an undue risk from any existing or proposed equipment or systems.

Therefore, the requested exemption from 10 CFR 26.3 would not endanger life or property.

### 3.3 This exemption is consistent with the common defense and security

The proposed exemption from the requirements of 10 CFR 26.3 would allow SNC to continue construction activities until fuel load without imposing all Part 26 requirements, except those in Subpart K. 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.

During the period between the 10 CFR 52.103(g) finding milestone and the milestone of commencing fuel loading into the reactor vessel, portions of SNC's NRC-approved Physical Security Plan are implemented as required to provide the necessary protection for the common defense and security.

Therefore, the requested exemption is consistent with the common defense and security.

### 3.4 This exemption is in the public interest

The public has an interest in the efficient execution of regulatory activities. VEGP Unit 3 and Unit 4 personnel are expected to continue performing construction activities after the 10 CFR 52.103(g) milestone. Requiring construction workers under Subpart K to meet alternate and additional Part 26 requirements to continue working after the 10 CFR 52.103(g) finding would impose an unnecessary burden on both the construction workers and the administrative staff due to the additional work needed to meet the appropriate elements of Part 26 Subpart B and Subpart C. This would ultimately result in additional cost and loss of efficiency.

After the 10 CFR 52.103(g) finding until commencing fuel loading into the reactor vessel, there is a significant reduction in the number, type, and complexity of construction activities being performed. As such, extending the implementation milestone of an FFD program that meets all Part 26 requirements except Subpart K, would not present an undue risk to safety and security. Plant procedures and controls, including NRC oversight of licensee activities as the VEGP transitions from construction to reactor operation, continue to assure the exemption would not present an undue risk to safety and security.

## 4.0 RISK ASSESSMENT

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

## 5.0 PRECEDENT EXEMPTIONS

None.

## 6.0 SIGNIFICANT HAZARDS DETERMINATION AND ENVIRONMENTAL CONSIDERATIONS

The proposed exemption has been evaluated against the criteria of 10 CFR 51.21, *Criteria for and identification of licensing and regulatory actions requiring environmental assessments*, and has been determined to meet the categorical exclusion criteria of 10 CFR 51.22, *Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review*, as described below, which evaluates the change against the criteria of 10 CFR 51.22(c)(25).

The requested schedular exemption from 10 CFR 26.3(a) and 10 CFR 26.3(c)(2) to extend the allowed period to utilize Part 26 Subpart K from until the 10 CFR 52.103(g) finding milestone to the milestone of commencing fuel loading into the reactor vessel, does not make any changes to the facility or operating procedures and:

i) Does not involve a significant hazards consideration *[10 CFR 51.22(c)(25)(i)]*. The standards set forth in 10 CFR 50.92(c) were used to determine whether the requested exemption involved a significant hazards consideration:

**(1) Does the proposed licensing action involve a significant increase in the probability or consequences of an accident previously evaluated?**

Response: No.

The proposed schedular exemption would extend the allowed period to utilize Part 26 Subpart K until the milestone of commencing fuel loading into the reactor vessel. The requested exemption does not alter the design, function, or operation of any plant equipment. There are no design basis accidents applicable prior to initial fuel loading into the reactor vessel.

Therefore, granting this exemption would not involve a significant increase in the probability or consequences of an accident previously evaluated.

**(2) Does the proposed licensing action create the possibility of a new or different kind of accident from any accident previously evaluated?**

Response: 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. There are no design basis accidents applicable prior to initial fuel loading into the reactor vessel.

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 proposed licensing action involve a significant reduction in a margin of safety?**

Response: No.

The requested exemption does not adversely affect any structure, system, and component (SSC), SSC design function, or method of performing or controlling a design function. The requested 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 requested exemption. There is no margin of safety applicable prior to initial fuel loading into the reactor vessel.

Therefore, granting this exemption does not involve a significant reduction in a margin of safety.

Therefore, it is concluded that granting the proposed exemption 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) Does not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite *[10 CFR 51.22(c)(25)(ii)]*.

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, it is concluded 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 is no increased potential for radioactive effluents prior to initial fuel loading into the reactor vessel.

iii) Does not involve a significant increase in individual or cumulative public or occupational radiation exposure *[10 CFR 51.22(c)(25)(iii)]*.

There are no changes to plant radiation zones, nor any change to controls required under 10 CFR Part 20. There is no increased potential for radioactivity prior to initial fuel loading into the reactor vessel.

Therefore, it is concluded that the proposed exemption does not involve a significant increase in individual or cumulative public or occupational radiation exposure.

iv) Does not involve a significant construction impact *[10 CFR 51.22(c)(25)(iv)]*.

The requested exemption does not alter the materials or methods of constructing or testing of any SSCs. No change to the design or construction of the facility is being made as a result of this exemption.

The requested exemption will have a insignificant, but beneficial, impact on construction of VEGP Unit 3 and Unit 4 by allowing personnel to continue to efficiently perform construction activities between the 10 CFR 52.103(g) finding and the fuel load milestone. Allowing such individuals to utilize Part 26 Subpart K until the milestone of commencing fuel loading into the reactor vessel effectively mitigates a costly and an unnecessary burden.

Therefore, it is concluded that the proposed exemption does not involve a significant construction impact.

v) Does not involve a significant increase in the potential for or consequences from radiological accidents *[10 CFR 51.22(c)(25)(v)]*.

The requested exemption does not alter the design, function, or operation of any plant equipment. There are no changes to plant radiation zones, nor any change to controls required under 10 CFR Part 20. There are no design basis accidents applicable prior to initial fuel loading into the reactor vessel.

Therefore, it is concluded that the proposed exemption does not involve a significant increase in the potential for or consequences from radiological accidents.

vi) Involves scheduling requirements. *[10 CFR 51.22(c)(25)(vi)(G)]*.

The requested exemption would allow utilization of Part 26 Subpart K until the milestone of commencing fuel loading into the reactor vessel. This is a change to the timing milestone to comply with Part 26 exclusive of Subpart K.

Accordingly, the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(25). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this exemption.

## 7.0 CONCLUSION

The proposed schedular exemption from 10 CFR 26.3(a) and 10 CFR 26.3(c)(2) would extend the allowed period to utilize Part 26 Subpart K from the 10 CFR 52.103(g) finding milestone to the milestone of commencing fuel loading into the reactor vessel.

The proposed change does not represent any adverse impact in SNC's ability to protect the health and safety of the public.

The exemption request meets the requirements of 10 CFR 26.9, *Specific exemptions*, in that the request is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest. Furthermore, approval of this request meets the eligibility requirements for categorical exclusion from requiring an environmental assessment.

## 8.0 REFERENCES

1. SNC Letter ND-21-0977, "Physical Protection Program and Access Authorization Program Implementation," November 1, 2021
2. Staff Requirements SECY-15-0002 – "Proposed Updates of Licensing Policies, Rules and Guidance for Future New Reactor Applications," September 22, 2015 [ML15266A023]
3. NRC "Alignment of Licensing Processes and Lessons Learned from New Reactor Licensing," January 15, 2021 [ML20149K680]