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52-026

ND-18-0121
10 CFR 50.90

U.S. Nuclear Regulatory Commission
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Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Preliminary Amendment Request (PAR):
Changes to the Building Gap between the Nuclear Island and Adjacent Buildings (PAR-18-002)

Ladies and Gentlemen:

The U.S. Nuclear Regulatory Commission (NRC) issued the Vogtle Electric Generating Plant (VEGP) Unit 3 and Unit 4 combined licenses (COLs) (License Nos. NPF-91 and NPF-92, respectively) to Southern Nuclear Operating Company (SNC) on February 10, 2012.

SNC submitted a License Amendment Request (LAR)-18-002 on February 1, 2018 via SNC letter ND-18-0106 [ADAMS Accession Number ML18032A359]. The LAR proposes to amend the VEGP Units 3 and 4 Updated Final Safety Analysis Report (UFSAR) and corresponding COL Appendix C (and associated plant-specific Tier 1) information to relax the minimum gap requirement above grade between the nuclear island and the annex building/turbine building and remove the minimum gap requirement for the radwaste building from the Inspections, Tests, Analyses and Acceptance Criteria (ITAAC).

SNC is submitting this Preliminary Amendment Request (PAR), PAR-18-002, to minimize construction delays for VEGP Units 3 and 4 during the NRC's evaluation of the related LAR. The determination of whether the NRC has any objection to SNC proceeding with construction based on the proposed licensing basis changes identified in the LAR is requested on or before March 16, 2018. Delayed determination regarding this PAR could result in delay of the completion of the column line 11 wall and the column line I wall for VEGP Units 3 and 4.

A description of the proposed change and the reason for the change are contained in the Enclosure to this letter. This PAR has been developed in accordance with guidance provided in the most recent revision to the Interim Staff Guidance on Changes during Construction Under 10 CFR Part 52, COL-ISG-25 [ADAMS Accession Number ML15058A377], and corresponds accurately and technically with the above-mentioned LAR-18-002. The technical scope of this PAR is consistent with the subject LAR. Section 7 of the Enclosure further identifies and details the scope of the "no objection" finding sought in this PAR.

This letter does not contain any NRC commitments. This letter has been reviewed and confirmed to not contain security-related information.

Should you have any questions, please contact Ms. Paige Ridgway at (205) 992-7516.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 1st of February 2018.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian H. Whitley", is written over a horizontal line.

Brian H. Whitley
Director, Regulatory Affairs
Southern Nuclear Operating Company

Enclosure: Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Preliminary Amendment Request: Changes to the Building Gap between the Nuclear Island and Adjacent Buildings (PAR-18-002)

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Southern Nuclear Operating Company

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Enclosure

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Preliminary Amendment Request:

**Changes to the Building Gap between the Nuclear Island and Adjacent Buildings
(PAR-18-002)**

(This Enclosure consists of 5 pages, including this cover page.)

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Enclosure

PAR-18-002: Changes to the Building Gap between the Nuclear Island and Adjacent Buildings

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) to change the Vogtle Electric Generating Plant (VEGP) Units 3 and 4 licensing basis documents associated with Combined License Nos. NPF-91 and NPF-92, respectively.

Accordingly, SNC requests the determination of whether the NRC has any objection to SNC proceeding with construction of VEGP Units 3 and 4 column line 11 wall (wall between the nuclear island and the turbine building) and the column line I wall (wall between the nuclear island and the annex building) subject to the changes proposed in LAR-18-002. Delayed determination regarding this PAR will result in delay in the construction completion of VEGP Units 3 and 4 structures, as identified in the Preliminary Amendment Request (PAR) provided below, to be provided by the date shown below.

PAR Request Number: SNC PAR-18-002	Station Name: VEGP	Unit Number(s): <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4	PAR Request Date: February 1, 2018
1. NRC PAR Notification Requested Date (see Block 7 for basis): March 16, 2018			
2. License Amendment Request References (as applicable): <input checked="" type="checkbox"/> LAR submittal date and SNC Correspondence Number: LAR-18-002 – February 1, 2018 / ND-18-0106 <input type="checkbox"/> Expected LAR submittal date: _____			
3. Brief Description of Proposed Change: <p>The structures adjacent to the nuclear island are the annex building, the radwaste building, and the turbine building. As described in the Combined License (COL) Appendix C (and associated plant-specific Tier 1) Table 3.3-6 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) No. 3.3.00.13, Updated Final Safety Analysis Report (UFSAR) Appendix 2.5E Section 5.2 and UFSAR Subsections 3.7.2.8.1, 3.7.2.8.2 and 3.8.5.1, there is a 4 inch minimum gap above grade (grade is defined as Elevation 100'-0" in the licensing basis) between the nuclear island and adjoining buildings. The purpose of the gap is to avoid contact between the nuclear island and seismic Category II structures (annex building/turbine building) when the buildings deflect during a safe shutdown earthquake (SSE) event. The non-seismic radwaste building is assumed to not impair the integrity of the nuclear island if it were to impact the nuclear island or collapse during an SSE event, as discussed in UFSAR Subsection 3.7.2.8.2.</p> <p>In order to facilitate the construction of the nuclear island and adjacent buildings and to maintain the seismic gap in compliance with the licensing basis, it is proposed to modify the seismic gap requirement above grade between the nuclear island and adjacent buildings in the licensing basis to accommodate construction tolerances. The proposed changes relax the minimum gap requirement above grade between the nuclear island and the annex building/turbine building from a 4 inch gap to a 3 inch gap and delete the gap requirement for the radwaste building from COL Appendix C ITAAC No. 3.3.00.13. The proposed changes delete "minimum" from the gap requirement for the radwaste building in UFSAR Subsection 3.7.2.8.2 to allow the gap between the radwaste building and the nuclear island to be considered a nominal gap.</p> <p>These changes impact COL Appendix C (and associated plant-specific Tier 1) Subsection 3.3 and Table 3.3-6 and UFSAR Appendix 2.5E and Subsections 3.7.2.8 and 3.8.5.1.</p>			

4. Reason for License Amendment Request:

The purpose of the change is to facilitate the construction of the nuclear island and adjacent buildings by aligning the licensing basis with the underlying design documents and construction tolerances for the seismic gap.

The proposed change reduces the minimum gap requirement between the nuclear island and the annex building/turbine building to 3 inches, which leaves at least a 1 inch gap between the nuclear island and the annex building/turbine building during a seismic event. The Soil-Structure Interaction (SASSI) analyses and the settlement evaluation results support the requirement that the maximum relative seismic displacement between the roof of the nuclear island and any adjoining buildings is less than 2 inches. Therefore, the proposed change to the gap requirement between the nuclear island and the annex building/turbine building does not reduce the 1 inch gap margin during a seismic event, as specified in UFSAR Subsection 3.8.5.1. The seismic gap requirement between the nuclear island and the annex building/turbine building in the underlying design documents is described as a nominal 4 inch gap above grade. The proposed change to the minimum seismic gap between the nuclear island and the annex building/turbine building are only to the minimum seismic gap requirement in the licensing basis and does not affect the 4 inch nominal design gap above grade presented in the underlying design documents. The proposed change does not affect the gap below grade between the nuclear island and the annex building/turbine building, as defined in the licensing basis and in the underlying design documents.

The non-seismic radwaste building is evaluated based on the assumption that it impacts the nuclear island or collapses during an SSE event. The minimum gap between the nuclear island and the radwaste building is not used to prevent interactions between the two, and is not used as an input to the analysis. Therefore, the size of the gap above grade between the nuclear island and the radwaste building does not affect the licensing requirement that the radwaste building will not impair the structural integrity of the nuclear island if it impacts the nuclear island. Since the minimum gap between the radwaste building and the nuclear island above grade is not used as an input to the radwaste building analysis, it is not meaningful to perform the ITAAC inspection on this gap for Vogtle Units 3&4. The minimum gap requirement for the radwaste building is proposed to be deleted from Subsection 3.3, item 13 and COL Appendix C ITAAC No. 3.3.00.13. It is proposed to delete "minimum" and modify "clearance" to "gap" in the first paragraph of UFSAR Subsection 3.7.2.8.2 to define a nominal gap requirement for the radwaste building which allows accounting for the construction tolerances defined in American Concrete Institute (ACI) 117 and American Institute of Steel Construction (AISC) 303. The proposed change does not affect the gap below grade between the nuclear island and the radwaste building, as defined in the licensing basis and in the underlying design documents.

Additional details are provided in the referenced LAR (LAR-18-002).

5. Is Exemption Request Required? Yes No**If Yes, Briefly Describe the Reason for the Exemption.**

An exemption is requested to depart from AP1000 generic Tier 1 material related to changing the gap requirements between the nuclear island and the annex building/turbine building and removing the minimum gap requirement between the nuclear island and radwaste building from the ITAAC.

An exemption is requested because LAR-18-002 requests a departure from generic DCD Tier 1 information incorporated by reference into plant-specific Tier 1 Subsection 3.3 and Table 3.3-6. Specifically, the plant-specific departure would reduce the minimum gap requirement between the nuclear island and the annex building/turbine building from a 4 inch gap to a 3 inch gap and remove the minimum gap requirement between the nuclear island and the radwaste building from the ITAAC.

6. Identify Applicable Precedents:

No precedent identified.

7. Impact of Change on Installation and Testing Schedules:

A delayed determination regarding this PAR will result in delay of the concrete pours for the associated column line 11 and I walls, described below.

As such, this PAR requests a “no objection” finding related to the changes described in LAR-18-002 by the date identified in Block 1 above (or sooner if reasonably achievable) to allow for appropriate notifications and release of further activities dependent on construction of the walls, specifically as noted in the locations below.

- Vogtle Unit 3:
 - Elevation 117'-6":
 - Place concrete at column line I (from column lines 1 to 4)
 - Place concrete at column line I (from column lines 4 to 7)
 - Place concrete at column line I (from column lines 10 to 11) and column line 11 (from column lines I to L)
 - Place concrete at column line 11 (from column lines L to Q)
- Vogtle Unit 4:
 - Elevation 100'-0":
 - Place concrete at column line I (from column lines 1 to 4)
 - Place concrete at column line I (from column lines 4 to 7)
 - Place concrete at column line I (from column lines 7 to 10)
 - Place concrete at column line 11 (from column lines L to Q)
 - Place concrete at column line I (from column lines 10 to 11) and column line 11 (from column lines I to L)
 - Elevation 107'-2":
 - Place concrete at column line I (from column lines 4 to 7)

A “no objection” finding for the above activities would allow for VEGP Units 3 and 4 construction activities to proceed.

8. Impact of Change on ITAAC:

The proposed changes in LAR 18-002 would relax the minimum gap requirement above grade between the nuclear island and the annex building/turbine building and remove the minimum gap requirement for the radwaste building from the Inspections, Tests, Analyses and Acceptance Criteria (ITAAC). The change to the minimum gap requirement above grade between the nuclear island and the annex building/turbine building from 4 inch to 3 inch is made to accommodate construction tolerances. Since the minimum gap between the radwaste building and the nuclear island above grade is not used as an input to the radwaste building analysis, it is not meaningful to perform the ITAAC inspection on this gap for Vogtle Units 3&4. Therefore, COL Appendix C Table 3.3-6, Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) No. 3.3.00.13 is revised.

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Enclosure

PAR-18-002: Changes to the Building Gap between the Nuclear Island and Adjacent Buildings

9. Additional Information:

None