

FEB 14 2012



Docket No.: 52-025

ND-12-0191

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Southern Nuclear Operating Company  
Vogtle Electric Generating Plant Unit 3  
Preliminary Amendment Request (PAR): Containment Internal Structural Module  
Shear Stud Size and Spacing (PAR-12-001)

Ladies and Gentlemen:

The U.S. Nuclear Regulatory Commission (NRC) issued the Vogtle Electric Generating Plant (VEGP) Unit 3 combined license (COL) (License No. NPF-91) to Southern Nuclear Operating Company (SNC) on February 10, 2012. By letter ND-12-0101, dated February 14, 2012 (LAR-12-001), SNC requested an amendment to the COLs for VEGP Units 3 and 4 to revise the structural module shear stud size and spacing requirements presented in plant-specific Design Control Document (DCD) Figure 3.8.3-8, Sheet 1, Note 2.

VEGP Unit 3 construction activities associated with the containment internal structural modules affected by the proposed license amendment are expected to commence in October 2012. To allow construction activities to proceed in accordance with the current integrated schedule, SNC hereby submits a Preliminary Amendment Request (PAR), PAR-12-001. In order to avoid unnecessary construction delays during the NRC's evaluation of the related license amendment request (LAR), the determination of whether the NRC has any objection to SNC proceeding with the installation and testing of the proposed plant change or modification identified in the PAR/LAR is requested to be provided by July 31, 2012. Delayed determination regarding this PAR would result in a delay in the construction of containment internal structural module CA-20 and subsequent construction activities that are dependent upon the completion of this module.

The requested change is necessary to implement changes identified during design finalization of the structural modules, including the containment internal structures. The background, description, Technical Analysis, Regulatory Analysis, and marked-up and revised licensing document pages for the proposed changes are contained in enclosures to the License Amendment Request letter. To facilitate the staff's review of this activity, the proposed markups depicting the requested changes to Note 2 in plant-specific DCD Tier 2\* Figure 3.8.3-8, Sheet 1 is contained in Enclosure 2 to this letter. This PAR has been developed in accordance with guidance provided in Interim Staff Guidance on Changes during Construction Under 10 CFR Part 52, COL-ISG-25 [ML111530026], and corresponds accurately and technically with the

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URO

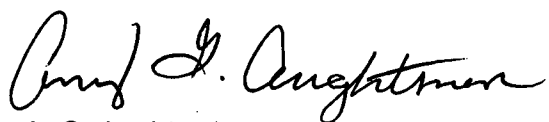
above-mentioned LAR-12-001. The technical scope of this PAR is consistent with the technical scope of the LAR.

This letter does not contain any NRC commitments. Should you have any questions, please contact Mr. Wesley A. Sparkman at (205) 992-5061.

Ms. Amy G. Aughtman states that she is a Licensing Manager of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of her knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



A. G. Aughtman

AGA/NH/dmw

Sworn to and subscribed before me this 14<sup>th</sup> day of February, 2012

Notary Public: Dana M. Williams

My commission expires: 12/1/2014

NOTARY PUBLIC STATE OF ALABAMA AT LARGE  
MY COMMISSION EXPIRES: Dec 1, 2014  
BONDED THRU NOTARY PUBLIC UNDERWRITERS

- Enclosure 1: Vogtle Electric Generating Plant (VEGP) Unit 3 – Preliminary Amendment Request Regarding Containment Internal Structural Module Shear Stud Size and Spacing
- Enclosure 2: Vogtle Electric Generating Plant (VEGP) Unit 3 – Licensing Document Pages – Proposed Markups

cc: Southern Nuclear Operating Company

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Mr. J. R. Johnson, VP, Operational Readiness, Vogtle 3 & 4  
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File AR.01.02.06

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**Southern Nuclear Operating Company**

**ND-12-0191**

**Enclosure 1**

**Vogtle Electric Generating Plant (VEGP) Unit 3**

**Preliminary Amendment Request**

**Regarding**

**Containment Internal Structural Module Shear Stud Size and Spacing**

## Preliminary Amendment Request (PAR-12-001): Shear Stud Size and Spacing

Pursuant to 10 CFR 50.90, Southern Nuclear Operating Company (SNC) has requested an amendment to Combined License Nos. NPF-91 and NPF-92 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively. VEGP Unit 3 construction activities associated with the License Amendment Request (LAR) are expected to commence in October 2012. To allow construction activities to proceed in accordance with the current integrated schedule, SNC hereby submits a Preliminary Amendment Request (PAR), PAR-12-001.

SNC requests the determination of whether the NRC has any objection to proceeding with the installation and testing of the proposed plant change or modification identified in the PAR/LAR to be provided by July 31, 2012.

PAR Request Number: <b><u>PAR - 12-001</u></b>	Station Name: <b>VEGP</b>	Unit Number(s): <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4	PAR Request Date: <b><u>February 14, 2012</u></b>
<b>1. NRC PAR Notification Requested Date (see Block 9 for basis):</b> <u>July 31, 2012</u>			
<b>2. License Amendment Request References (as applicable):</b> <input checked="" type="checkbox"/> <b>LAR submittal date and SNC Correspondence Number:</b> <u>February 14, 2012 / ND-12-0101</u> <input type="checkbox"/> <b>Expected LAR submittal date:</b> _____			
<b>3. Brief Description of Proposed Change:</b> Revise the structural module shear stud size and spacing requirements presented in plant-specific Design Control Document (DCD) Figure 3.8.3-8, Sheet 1, Note 2.			
<b>4. Reason for License Amendment Request:</b> Design finalization of the containment internal structural modules identified that for procurement and fabrication reasons, the type of stainless steel material used for certain structural modules needed to be revised. Also, development and testing for the shear stud welding to the stainless steel plate identified the need to use a smaller stud diameter to provide a weld that would reliably satisfy inspection requirements. The combined impact of these two changes also required a change in the spacing of the shear studs. In addition, the spacing of the shear studs for the carbon steel plates was changed to be consistent with the design basis calculations. This change to the size and spacing of the shear studs is identified in Note 2 on plant-specific DCD Figure 3.8.3-8, Sheet 1. The minimum size and maximum design spacing of the shear studs on Figure 3.8.3-8 is designated as Tier 2* information; therefore, NRC approval is required in order to change it.			
<b>5. Is Exemption Request Required?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, Briefly Describe the Reason for the Exemption. _____			

**6. Identify Applicable Precedents:**

None identified.

**7. Preliminary Assessment of Significant Hazards Consideration [10 CFR 50.92(c)]:**

The proposed changes would amend Combined Licenses Nos. NPF-91 and NPF-92 for Vogtle Electric Generating Plant Units 3 and 4, respectively, in regard to the containment internal structural module stud size and spacing by increasing the carbon steel vertical stud spacing, decreasing the stainless steel stud diameter, and decreasing the stainless steel vertical and horizontal stud spacing in accordance with the design basis.

The departure from Tier 2\* information involves changes to Sheet 1 of plant-specific DCD Figure 3.8.3-8. An evaluation to determine whether or not a significant hazards consideration is involved with the proposed amendment was completed by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

**1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?**

Response: No

The design function of the containment modules is to support the reactor coolant system components and related piping systems and equipment. The design function of the shear studs is to transfer loads into the concrete of the containment modules. The proposed change corrects a drawing note regarding shear stud size and spacing for structural wall modules to be consistent with the underlying design basis calculations, which are more conservative. The thickness, geometry, and strength of the structures are not altered. The material and thickness of the steel plates are not altered. The properties of the concrete included in the containment internal structures are not altered. As a result, the design function of the containment modules is not adversely affected by the proposed change. There is no change to plant systems or the response of systems to postulated accident conditions. There is no change to the predicted radioactive releases due to normal operation or postulated accident conditions. The plant response to previously evaluated accidents or external events is not adversely affected, nor does the change described create any new accident precursors. Therefore, there is no significant increase in the probability or consequences of an accident previously evaluated.

**2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?**

Response: No

The proposed change corrects a drawing note regarding shear stud size and spacing for structural wall modules to be consistent with the underlying design basis calculations. Stud spacing and sizing are updated such that stud loadings are within acceptable limits and that the structural module acts in a composite manner. The thickness, geometry, and strength of the structures are not altered. The material and thickness of the steel plates are not altered. The

properties of the concrete included in the containment internal structures are not altered. The change to the internal design of the structural modules does not create any new accident precursors. As a result, the design function of the modules is not adversely affected by the proposed change. Therefore, the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

**3. Does the proposed amendment involve a significant reduction in a margin of safety?**

Response: No

The criteria and requirements of AISC N-690 provide a margin of safety to structural failure. The design of the shear studs for the structural wall modules conforms to criteria and requirements in AISC N-690 and therefore maintain the margin of safety. The proposed change corrects a drawing note regarding shear stud size and spacing for the structural wall modules so as to be consistent with the underlying design basis calculations. There was no change to the method of evaluation from that used in the design basis calculations. Therefore, the proposed change will not result in a significant reduction in a margin of safety in the design and analysis of the structural modules including the containment internal structures.

Based on the above, Southern Nuclear Operating Company concludes that the proposed changes present no 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.

**8. Preliminary Assessment of Categorical Exclusion from Environmental Review [10 CFR 51.22]:**

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

**9. Impact of Change on Installation and Testing Schedules:**

Seismic Category 1 structural wall modules, fabricated as steel plate concrete filled composite, are used for the primary shield wall around the reactor vessel, the wall between the vertical access and the chemical volume control system (CVS) room, and the secondary shield walls around the steam generators and pressurizer; for the east side of the in-containment refueling water storage tank (IRWST); for the spent fuel pool, fuel transfer canal, cask loading pit, and the cask washdown pit; and for the refueling cavity.



Construction of these structural wall modules, which commences with the placement of an assembled structural module, is scheduled to commence in October 2012. Delayed approval of this license amendment would result in a delay in the construction of structural module CA-20 and subsequent construction activities that are dependent upon the completion of this module.

No testing is impacted by the change to these structural modules.

**10. Impact of Change on ITAAC:**

The ITAAC related to Nuclear Island (NI) structures are specified in Section 3.3 of Appendix C to the VEGP Unit 3 COL. Completion of these ITAAC provide verification of selected characteristics of NI structures construction, including:

- Physical arrangement of NI structures (3.3.00.01)
- As-built condition of NI structures, including critical sections, for conformance with approved design (3.3.00.02a.i)
- Concrete thickness of walls and floors of NI structures (3.3.00.02a.ii)
- Key dimensions of as-built NI structures (3.3.00.2f)

The change proposed by this PAR has no impact on the ITAAC specified in Section 3.3.

**11. Additional Information:**

None.

**Southern Nuclear Operating Company**

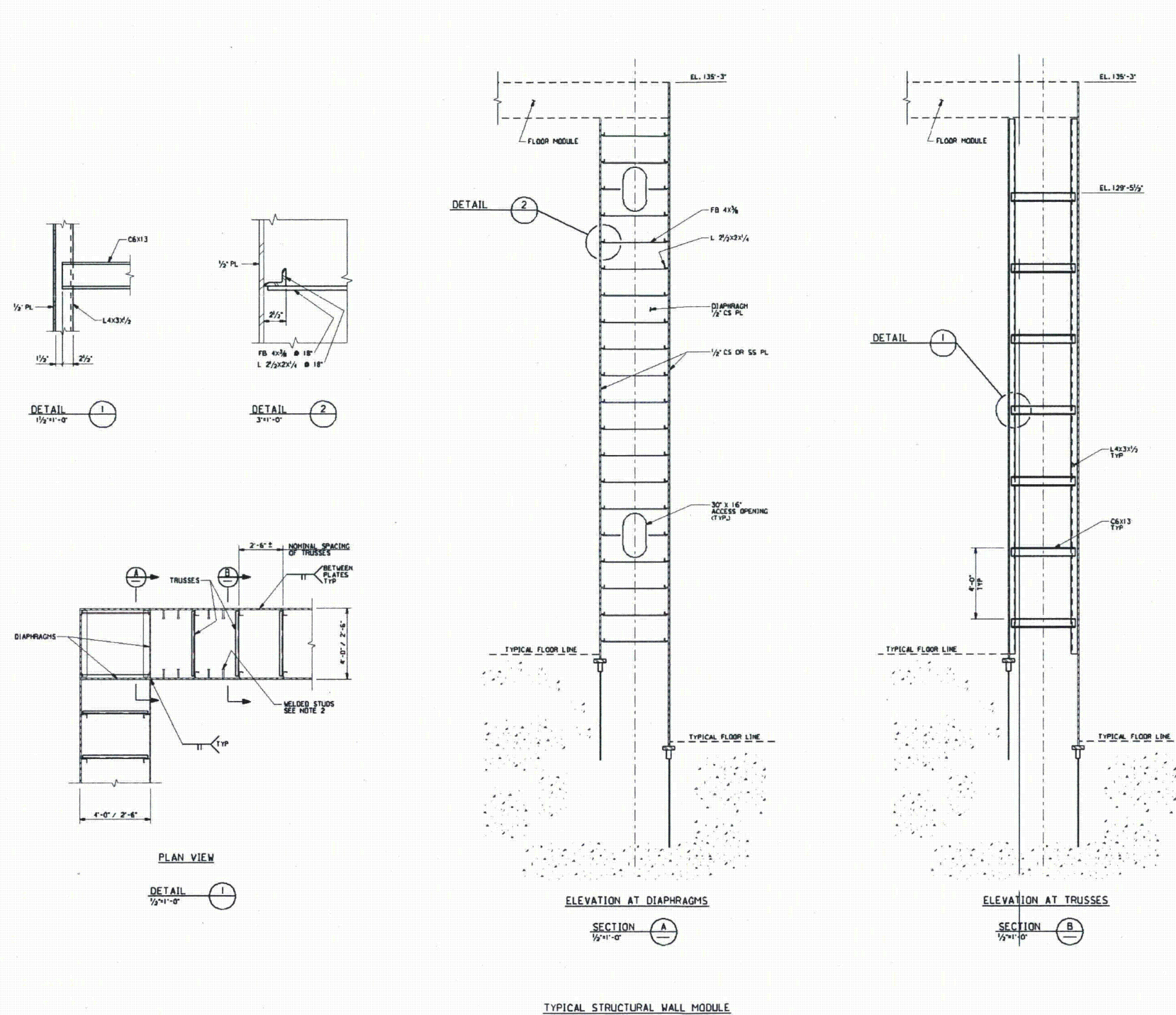
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**Enclosure 2**

**Vogtle Electric Generating Plant (VEGP) Unit 3**

**Licensing Document Pages - Proposed Markups**

**This enclosure includes this cover page and 1 marked-up licensing document page.**



See subsection 3.8.3.1.3 for information that is designated as Tier 2\*.

Figure 3.8.3-8 (Sheet 1 of 3)

[Structural Modules – Typical Design Details]\*

\*NRC Staff approval is required prior to implementing a change in this information