

## SummerRAIsPEm Resource

---

**From:** Reyes-Maldonado, Ruth  
**Sent:** Thursday, February 23, 2017 1:21 PM  
**To:** SummerRAIsPEm Resource  
**Cc:** Gleaves, Bill  
**Subject:** REQUEST FOR ADDITIONAL INFORMATION: REQUEST FOR LICENSE AMENDMENT  
AND EXEMPTION (LAR 16-10) FOR THE VIRGIL C. SUMMER NUCLEAR STATION UNITS  
2 AND 3: SHIELD BUILDING ROOF CHANGES (CAC NO. RG3022)  
**Attachments:** LAR 16-10 - Request fro Additional Information.docx

**Hearing Identifier:** Summer\_COL\_eRAIs  
**Email Number:** 229

**Mail Envelope Properties** (40c6d0ebf43a4520b73972858377d785)

**Subject:** REQUEST FOR ADDITIONAL INFORMATION: REQUEST FOR LICENSE AMENDMENT AND EXEMPTION (LAR 16-10) FOR THE VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3: SHIELD BUILDING ROOF CHANGES (CAC NO. RG3022)

**Sent Date:** 2/23/2017 1:21:29 PM  
**Received Date:** 2/23/2017 1:21:30 PM  
**From:** Reyes-Maldonado, Ruth

**Created By:** Ruth.Reyes@nrc.gov

**Recipients:**

"Gleaves, Bill" <Bill.Gleaves@nrc.gov>

Tracking Status: None

"SummerRAIsPEm Resource" <SummerRAIsPEm.Resource@nrc.gov>

Tracking Status: None

**Post Office:** HQPWMSMRS03.nrc.gov

Files	Size	Date & Time
MESSAGE	3	2/23/2017 1:21:30 PM
LAR 16-10 - Request fro Additional Information.docx		22738

**Options**

**Priority:** Standard

**Return Notification:** No

**Reply Requested:** No

**Sensitivity:** Normal

**Expiration Date:**

**Recipients Received:**

February 23, 2017

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION: REQUEST FOR LICENSE AMENDMENT AND EXEMPTION (LAR 16-10) FOR THE VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3: SHIELD BUILDING ROOF CHANGES (CAC NO. RG3022)

Ms. Rice,

By letter dated November 21, 2016, (Agencywide Documents Access and Management System Accession No. ML16326A394), the South Carolina Electric & Gas Company (SCE&G) on behalf of itself and the South Carolina Public Service Authority, submitted a request for a license amendment and exemption for the Virgil C. Summer Nuclear Station, Units 2 and 3 (Combined License (COL) Nos. NPF-93 and NPF-94). In the license amendment request, SCE&G proposes changes to depart from plant-specific Design Control Document (DCD) Tier 1 information with corresponding changes to the associated COL Appendix C information and Tier 2\* information in the Updated Final Safety Analysis Report (which includes the plant-specific DCD Tier 2 information). Specifically, the proposed amendment requests to change the Shield Building Roof beam size, material, reinforcement and connection.

The NRC staff has identified that additional information is needed to continue portions of its review. The staff's request for additional information (RAI) is provided below. Also, the staff has requested a meeting to discuss this RAI with the licensee.

If you have any questions or comments concerning this matter, you may contact me at 301-415-3249 or [Ruth.Reyes@nrc.gov](mailto:Ruth.Reyes@nrc.gov).

Sincerely,

Ruth C. Reyes, Project Manager  
Licensing Branch 4  
Division of New Reactor Licensing  
Office of New Reactors

## Questions on LAR 16-10, Shield Building Roof Changes

### 1. Change Activity (CA) #3

- a. The effect of the reinforcement changes on AIA has not been addressed in the LAR.
- b. On Page 13 of 27, Enclosure 1 regarding Figure 3H.5-11, Sheet 3, the LAR indicates that the steel plates forming the lower portion of the air inlet structure are changed from  $\frac{3}{4}$ " to 1", and the change has been evaluated. Please explain if the methodology used for this evaluation is the same as the DCD methodology.
- c. On Page 19 of 27, Enclosure 1, the LAR states that "the proposed design changes reflected in the changes to the figures and tables satisfy the requirements of AISC N690 and ACI 349." Please identify these figures and tables in this statement.
- d. On Page 6 of 27 of Enclosure 1, the LAR indicates that the changes in the demands of the shield building are due to the cumulative impact of changes in the nuclear island structure in other areas, including reinforced concrete (RC) to concrete filled steel plate module construction (SC) connections, auxiliary building roof to shield building wall connections, and auxiliary building wall changes. Page 20 of 27 of Enclosure 1 provides further description of these changes and indicates that these changes have only minor effect on mass and stiffness. Therefore, it is unclear to the staff how these small changes, located away from the shield building roof area, have resulted in significant changes to the seismic responses at the roof level, to a level as high as 25% to 40% as noticed in Table 3H.5-9 in the LAR. Therefore, the licensee is requested to explain how these changes, and "*the changes of the roof and tank wall reinforcement*" as stated on Page 20 of 27, have resulted in the large response changes at the roof level in the analysis.
- e. The licensee is requested to use Figures 1 and 2 on Page 2 of 10, Enclosure 2, to replace the Built-up Beams in Figure 3H.5-11, Sheet 1 of 6 in Page 8 of 22, Enclosure 5 or add Figures 1 and 2 to a new sheet in Figure 3H.5-11. Statements for the code requirements and inspections for welds per AISC N690 Q1.26 and AWS D1.1 should be included in the licensing basis.
- f. A positive statement has not been included in the LAR to explain that the shear spacing adjustment for compliance with ACI 349 was entered into the Corrective Action Process and was evaluated in accordance with the QA program. (This was discussed in one of the pre-submittal meetings)

### 2. CA#4

- a. On page 10 of 10, Enclosure 2, the LAR states that the adequacy of shear connectors with revised length is proven through calculations. The licensee is requested to state code compliance.