

Vogle PEmails

From: Hoellman, Jordan
Sent: Tuesday, September 06, 2016 2:35 PM
To: Vogtle PEmails
Subject: Draft LAR 16-024, "Column Line 7.3 Wall Reinforcement Area Change"
Attachments: 2016-09-08 draft LAR 16-024 Column Line 7.3 Wall Reinforcement Area Change.pdf

Jordan Hoellman
Project Manager
NRO / DNRL / LB4
U.S. Nuclear Regulatory Commission
office: TWFN 6-F33
phone: (301) 415-5481
email: Jordan.Hoellman2@nrc.gov

Hearing Identifier: Vogtle_COL_Docs_Public
Email Number: 48

Mail Envelope Properties (c8621b65fbb24073b5c8ce83a05ab6f9)

Subject: Draft LAR 16-024, "Column Line 7.3 Wall Reinforcement Area Change"
Sent Date: 9/6/2016 2:35:13 PM
Received Date: 9/6/2016 2:35:14 PM
From: Hoellman, Jordan

Created By: Jordan.Hoellman2@nrc.gov

Recipients:
"Vogtle PEmails" <Vogtle.PEmails@nrc.gov>
Tracking Status: None

Post Office: HQPWMSMRS01.nrc.gov

Files	Size	Date & Time
MESSAGE	229	9/6/2016 2:35:14 PM
2016-09-08 draft LAR 16-024 Column Line 7.3 Wall Reinforcement Area Change.pdf		
472989		

Options

Priority:	Standard
Return Notification:	No
Reply Requested:	No
Sensitivity:	Normal
Expiration Date:	
Recipients Received:	

Southern Nuclear Operating Company

ND-16-1610

Enclosure 1

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Request for License Amendment:

Column Line 7.3 Wall Reinforcement Area Change

(LAR-16-024)

(This Enclosure consists of 13 pages, including this cover page)

Table of Contents

1. SUMMARY DESCRIPTION
2. DETAILED DESCRIPTION
3. TECHNICAL EVALUATION
4. REGULATORY EVALUATION
 - 4.1. Applicable Regulatory Requirements/Criteria
 - 4.2. Precedent
 - 4.3. Significant Hazards Consideration Determination
 - 4.4. Conclusions
5. ENVIRONMENTAL CONSIDERATIONS
6. REFERENCES

DRAFT

ND-16-1610

Enclosure 1

Request for License Amendment: Column Line 7.3 Wall Reinforcement Area Change
(LAR-16-024)

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC, or the "Licensee") hereby requests an amendment to Combined License (COL) Nos. NPF-91 and NPF-92 for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively.

1. SUMMARY DESCRIPTION

The proposed change reduces the area of steel vertical reinforcement for the auxiliary building wall on column line 7.3 from elevation 82'-6" to 100'-0". The proposed change impacts Updated Final Safety Analysis Report (UFSAR) Tier 2* information in UFSAR Table 3H.5-5.

This enclosure requests approval of the license amendment necessary to implement this change.

2. DETAILED DESCRIPTION

The nuclear island structures consist of the containment vessel, containment internal structures, shield building, and auxiliary building. The primary functions of the nuclear island structures are to provide support, protection, and separation for the seismic Category I mechanical and electrical equipment located in the nuclear island. The nuclear island structures are structurally designed to meet seismic Category I requirements as defined in Regulatory Guide 1.29.

The nuclear island structures provide protection for the safety-related equipment from the consequences of either a postulated internal or external event. The nuclear island structures are designed to withstand the effects of natural phenomena, such as hurricanes, floods, tornados, tsunamis, and earthquakes, without loss of capability to perform safety functions. The nuclear island structures are designed to withstand the effects of postulated internal events, such as fires and flooding, without loss of capability to perform safety functions.

The auxiliary building is a reinforced concrete and structural steel structure with three floors above grade (elevation 100'-0") and two floors below grade. The auxiliary building is a C-shaped section of the nuclear island that wraps around approximately 50 percent of the circumference of the shield building. The floor slabs and the structural walls of the auxiliary building are structurally connected to the cylindrical section of the shield building. The figures in UFSAR Subsection 1.2 show the layout of the auxiliary building and its interface with the other buildings of the nuclear island. UFSAR Figure 3.7.2-12 shows the key structural dimensions of the nuclear island.

The wall at column line 7.3 is a reinforced concrete wall interior to the auxiliary building and is discussed in UFSAR Subsection 3H.5.1.2. The column line 7.3 wall extends from the basemat (elevation 66'-6") to the top of the roof (elevation 160'-6"). The column line 7.3 wall is 3 feet thick below grade and 2 feet thick above grade. Out-of-plane lateral support is provided to the column line 7.3 wall by the floor slabs on either side and by the roof.

This wall connects the reinforced concrete portion of the shield building wall with the reinforced concrete column line I wall and is the boundary between the radiologically and nonradiologically controlled portions of the auxiliary building. At elevation 82'-6", this wall

separates the Liquid Radwaste System (WLS) degasifier column room from the reactor coolant pump trip switchgear equipment, personnel corridors, and stairwell S01. The wall at this elevation is 3 feet thick and provides a radiation safety barrier for personnel in the adjacent rooms, and a flood barrier for equipment in adjacent rooms.

The design of the shield building structural wall modules is described in UFSAR Subsection 3.8.4.5.5. The design and construction of the shield building is not affected by this change. The shield building adjacent to this wall is the reinforced concrete section and its design is not impacted.

For the width of the column line 7.3 wall, the distance between the construction joints is used to determine the number of bars needed to meet the as designed area of steel and spacing requirements. The wall starts at the construction joint east of the shield building reinforced concrete wall, and continues to the face of column line I wall for a total design length of 27'-3 ³/₄". Vertical reinforcement in the column line 7.3 wall consists of 28 #11 sized reinforcement bars anchored to the basemat of the nuclear island at 12" spacing at elevation 66'-6". Continuous reinforcement is lap spliced to bars up to elevation 82'-6" installed between the west face of the column line I wall and the construction joint. At elevation 82'-6", 27 additional #11 continuous dowels at 12" spacing installed in the south face are spaced equally between the primary reinforcement extending up from elevation 66'-6". Therefore, a total of the 28 bars and the 27 additional bars make up the 55 total vertical bars detailed on the design drawings and result in #11 bars at 12" spacing + #11 bars at 12" spacing (equivalent to #11 bars at 6" spacing) above elevation 82'-6" for the design length of 27'-3 ³/₄".

During the development of construction packages, a need was identified to alter bar placement in the column line 7.3 wall to avoid interference with a construction joint. The bars were adjusted to the east and additional bars were to be placed west of the construction joint on the east side of the shield building. The relocated bars would be reduced in spacing from #11 bars @ 12" to 9" spacing and the additional bars added would be placed 6" away from that to meet the #11 bars at 6" spacing described on UFSAR Figure 3H.5-4.

After placement of concrete up to elevation 82'-6" for the column line 7.3 wall, surveys were taken of the reinforcement in the wall segment above the elevation 82'-6" concrete placement. After a bar count was completed, it was discovered there was an omitted dowel bar developing from below elevation 82'-6" on the south face of the column line 7.3 wall. This omission reduced the number of reinforcement bars from 55 bars to 54 bars. The bar was omitted because an interference with the shield building construction joint creates congestion of the last vertical bars. The missing dowel in the south face of the wall cannot be replaced without demolition of the wall to alleviate the congestion below elevation 82'-6"; a deviation from the licensed design was identified, and was evaluated against the design. The site-specific design change which caused this omission is applicable to both VEGP units.

UFSAR Figure 3H.5-4 shows the typical reinforcement in the column line 7.3 wall specifying a design for reinforcement placement of #11 bars at 12" spacing + #11 bars at 12" spacing (equivalent to #11 bars at 6" spacing) in one layer placed between elevation 82'-6" and elevation 100'-0". The bounds of these reinforcing bars extend from the west face of the column line I wall to the east face of the shield building construction joint. UFSAR Table

3H.5-5 describes the required and minimum provided vertical reinforcement for the column line 7.3 wall for wall sections identified by UFSAR Figure 3H.5-2 (Sheet 2). UFSAR Table 3H.5-5 describes the minimum area of steel for vertical reinforcement provided for wall segment of elevation 82'-6" to elevation 100'-0" as 3.12 in²/ft for wall section 11. The 54 fully developed splice bars within the designed wall length provide 3.08 in²/ft area of steel reinforcement across the shear plane for this wall, short of the minimum provided by the design of 3.12 in²/ft.

Licensing Basis Change Descriptions:

The provided minimum steel in UFSAR Table 3H.5-5 for wall section 11 for wall segment of elevations 82'-6" to 100'-0" vertical reinforcement is changed from 3.12 in²/ft to 3.08 in²/ft.

3. TECHNICAL EVALUATION

The wall at column line 7.3 is a shear wall that connects the shield building and the nuclear island exterior wall at column line I. The wall is 3 feet thick below the grade at elevation 100'-0" and 2 feet thick above the grade. Out-of-plane lateral support is provided to the wall by the floor slabs on both sides, and the roof at the top. This wall has the highest height to length ratio of the auxiliary building walls and was selected as the basis with which the determination was made that the walls are controlled by shear.

The auxiliary building design loads are described in UFSAR Subsection 3H.3.3, and the wall is designed for the applicable loads and load combinations and acceptance criteria provided in UFSAR Subsection 3H.3.4. For various segments of the column line 7.3 wall, the results of the corresponding governing load combinations and associated design loads shown in UFSAR Table 3H.5-4 are used to calculate the required reinforcement on each face in UFSAR Table 3H.5-5. Required reinforcement on each face is not affected by this change and the provided reinforcement will continue to be greater than the required reinforcement. The wall sections, (identified by section number in UFSAR Table 3H.5-5) where the required reinforcement are calculated, are shown in UFSAR Figure 3H.5-2 (Sheet 2). Typical wall reinforcement is shown on UFSAR Figure 3H.5-4. This figure is not impacted by this change because the typical reinforcement of this wall segment is still #11 bars at 12" spacing + #11 bars at 12" spacing (equivalent to #11 bars at 6" spacing).

For the south face of column line 7.3 wall, a need was identified to alter bar placement in the column line 7.3 wall to avoid interference with a construction joint. The bar placements were adjusted and additional bars were placed east of the shield building construction joint; however, inserting the additional bar in-between the 9" spacing per the design consideration of the construction joint results in 1 5/8" clear spacing between splicing bars. This tight spacing impacts ACI 349-01 Section 7.6.1 spacing requirements between bars. To maintain compliance with the ACI code, one dowel bar was omitted below elevation 82'-6". After an engineering review, a repair was developed in compliance with ACI 349-01 that would use a U-bar welded to a dowel in the north face of the wall to extend to the south to replace the missing dowel developing from below elevation 82'-6". Though this repair is unit specific to VEGP Unit 3, a site specific design change applicable to VEGP Units 3 & 4 caused the omission of the bar on VEGP Unit 3. Therefore, this Technical Evaluation is used as the basis for reducing the minimum provided reinforcement for both units.

On the north face of the column line 7.3 wall, a U-bar for the south face repair is welded to the #11 vertical dowel protruding out of elevation 82'-6" and functions as a continuous bar. The allowable stress in the complete joint penetration groove weld (direct butt weld), as specified in Table 2.1 of American Weld Society (AWS) D1.4-98 "Structural Welding Code – Reinforcing Steel," per ACI 349-01 "Code Requirements for Nuclear Safety Related Concrete Structures," Section 12.14.3.2, is equal to the allowable stress in the base metal. Therefore, the joint has developed the full strength (125% of specified yield strength of the reinforcement bar per ACI 349-01 Section 12.14.3.3) and will function as one continuous bar. This repair acts as the omitted dowel and allows for continuous development of the reinforcement along the wall with lap splices per ACI 349-01 Chapter 12.

The additional U-bar is welded on the north face and terminates on the south face as a headed reinforcing bar. The headed reinforcing bar develops through bond and bearing along its development length. This bar acts for the missing dowel in the south face of the column line 7.3 wall, but it is not fully developed at elevation 82'-6". The additional headed bar is considered as a straight bar in terms of minimum spacing and splice lengths; however, the headed reinforcing bar is not fully developed until a distance above elevation 82'-6". Therefore, the south face of the column line 7.3 wall cannot be credited for full reinforcement from elevation 82'-6", and the area of steel is reduced along the development length of the U-bar. The reduction of the minimum provided vertical reinforcement was evaluated for the design of the column line 7.3 wall, and because this information is designated as Tier 2*, NRC approval is being requested.

UFSAR Table 3H.5-5, and UFSAR Figures 3H.5-2 and 3H.5-4, show that the provided vertical reinforcement for wall section 11 for the wall segment of elevation 82'-6" to elevation 100'-0" is #11 bars at 12" + #11 bars at 12" spacing (equivalent to #11 bars at 6" spacing). Interaction ratio (IR) is a comparison of the required reinforcement over provided reinforcement where a value less than or equal to one is an acceptable result. The IR for wall section 11 is 0.667 where the required reinforcement per UFSAR Table 3H.5-5 is 2.08 in²/ft and provided reinforcement is 3.12 in²/ft. After the addition of a headed reinforcing bar on the south face, the provided reinforcement is reduced to 3.08 in²/ft along the development length of the bar from elevation 82'-6" on the column line 7.3 wall. The new IR for this section of wall is 0.675, an increase of only 0.008 in IR.

Local stresses in this wall were considered in addition to the overall area of steel reinforcement requirements to verify that there was no impact in the area where the bar is developing. While the missing bar does not have a significant impact across the shear plane of the wall, missing reinforcement could result in not meeting the localized demands by postulated loads. The AP1000 finite element analysis model was reviewed in detail to locate the node elements of concern adjacent to the shield building above elevation 82'-6". The detailed analysis found that the required reinforcement in this region is significantly lower than other areas, only 0.997 in²/ft. The #11 reinforcement provides an area of steel of 1.56 in² per ACI 318-11 "Building Code Requirements for Structural Concrete," Appendix E. Spacing in the area was 9" as modified by the design change for the construction joint. Therefore, the provided minimum reinforcement is the area of #11 steel reinforcement divided by the 9" spacing resulting in 2.08 in²/ft of provided reinforcement area of steel. This results in an IR of 0.479 from the design load, significantly above what is needed in the region.

This increase in IR across the plane and locally does not impact the design analysis of the seismic response of the column line 7.3 wall since the wall still meets design criteria. The change to reinforcement does not adversely impact any numerically combined seismic and normal thermal loads that are discussed in the required area of steel reinforcement for UFSAR Table 3H.5-5, and does not result in a localized stress that may compromise the strength of the wall. The change of reinforcement for column line 7.3 complies with ACI 349-01 Section 7.12 minimum reinforcement requirements and does not have a significant impact on the design function of the wall.

The missing reinforcing bars do not impact the vertical reinforcement wall segment above (wall section 10) and below (wall section 12) wall section 11. Wall section 12 in UFSAR Figure 3H.5-2 from the wall segment of elevation 66'-6" to elevation 82'-6" only requires #11 at 12" spacing, per UFSAR Figure 3H.5-4. The 28 #11 provided vertical bars lap spliced to the basemat anchored bars were installed in this section of the wall in conformance with the design and did not have the congestion as described before. The as-built survey data shows the location with the missing bar is near the shield building construction joint between the 9" spacing. Therefore, the missing bar is the additional vertical bar that dowels out of elevation 82'-6" to develop the #11 at 6" spacing reinforcement for wall section 11. As a result, wall section 12 is not affected by the missing bar as the #11 bars at 12" spacing are fully developed.

Wall section 10 in UFSAR Figure 3H.5-2 from the wall segment of elevation 100'-0" to elevation 117'-6" requires #11 bars at 12" + #11 bars at 12" spacing (equivalent to #11 bars at 6" spacing) per UFSAR Figure 3H.5-4. The vertical bars in wall section 11 terminate as U-bars near elevation 100'-0", and wall section 10 vertical bars are independent of the lower elevation. Therefore they are not related to the reinforcement configuration from elevation 82'-6" to elevation 100'-0" and are not impacted by this change.

The increase in IR across the plane and locally does not impact the design analysis of the seismic response of the column line 7.3 wall, but is still to be evaluated and reconciled as required by plant-specific Tier 1 Table 3.3-6 Item 2.a and COL Appendix C Table 3.3-6 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) 3.3.00.02a.i.c (the column line 7.3 wall is identified in the nonradiologically controlled area of the auxiliary building in plant-specific Tier 1 Table 3.3-1). This deviation from design will be analyzed for the design

basis loads and included in the report referenced in the submitted ITAAC closure notifications for ITAAC 3.3.00.02a.i.c. This report will demonstrate that the as-built condition conforms to the approved design and will withstand the design basis loads specified in the plant-specific Tier 1 Subsection 3.3 "Design Description" without loss of structural integrity or the safety-related functions.

The impact to the wall's effectiveness in providing radiation shielding was also examined, and there are no adverse effects because the placement of reinforcement does not impact the wall's function as a radiation safety barrier since steel is not calculated as part of the shielding analysis. There is no adverse impact to the bounding conclusions of the radiation analysis.

The proposed change does not alter the fire loads found in any adjacent fire zones and areas as no equipment is added or removed by the activity. The proposed change does not affect any function or feature used for the prevention and mitigation of accidents or their safety analyses. The proposed change does not involve nor interface with any structure, system or component (SSC) accident initiator or initiating sequence of events related to the accidents evaluated in the UFSAR. The proposed change does not affect the radiological source terms (i.e., amounts and types of radioactive materials released, their release rates and release durations) used in the accident analyses. The wall's function as a flood barrier is not impacted and continues to separate adjacent sections from flooding events. The reinforcement of the column line 7.3 wall is also not used as an input to the probabilistic risk assessment (PRA), and therefore, there is no PRA impact as a result of the missing reinforcement.

No system or design function or equipment qualification is affected by the proposed change. The change does not result in a new failure mode, malfunction or sequence of events that could affect a radioactive material barrier or safety-related equipment. The proposed change does 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 significant fuel cladding failures.

The proposed change does not affect the containment, control, channeling, monitoring, processing or releasing of radioactive and non-radioactive materials. The types and quantities of expected effluents are not changed, and no effluent release path is affected by the proposed changes. Therefore, radioactive or non-radioactive material effluents are not affected by the proposed change.

Plant radiation zones (as described in UFSAR Section 12.3), controls under 10 CFR Part 20, and expected amounts and types of radioactive materials are not affected by the proposed change. The change to the reinforcement was also examined with respect to the wall's effectiveness in providing radiation shielding, and no adverse impacts were identified. Therefore, individual and cumulative radiation exposures do not change.

Summary

The proposed change reduces the area of steel vertical reinforcement for auxiliary building wall on column line 7.3 from elevation 82'-6" to 100'-0". The proposed change impacts Tier 2* information in UFSAR Table 3H.5-5. This change maintains conformance to the ACI 349-01 code, and has no adverse impact on the seismic response of the column line 7.3 wall. The change does not significantly impact the approved design and the column line 7.3

wall will withstand the design basis loads specified in the plant-specific Tier 1 Subsection 3.3 "Design Description" without loss of structural integrity or the safety-related functions. Therefore, the above proposed changes would not adversely affect any safety-related equipment or function, design function, radioactive material barrier, or safety analysis.

4. REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

10 CFR Part 52, Appendix D, VIII.B.6 requires prior NRC approval for the departure from Tier 2* information. This change, which includes a change to the provided vertical reinforcement for wall section 11 in the column line 7.3 wall, includes a Tier 2* departure and thus requires NRC approval. Therefore, a license amendment request (LAR) (as supplied herein) is required.

10 CFR 50, Appendix A, "General Design Criteria for Nuclear Power Plants," General Design Criterion (GDC) 1, Quality standards and records, requires that structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed. By continuing to follow the guidelines of the NRC Regulatory Guides and industry standards, the requirements of GDC 1 have been maintained.

10 CFR 50, Appendix A, GDC 2, Design bases for protection against natural phenomena, requires that structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunamis, and seiches without loss of capability to perform their safety functions. Because there is no change to the expected responses to natural phenomena, and the wall, even with the change to the reinforcement, continues to be able to respond to the same design basis earthquake, there are no changes to the conformance with GDC 2.

10 CFR 50, Appendix A, GDC 4, Environmental and dynamic effects design bases, requires that structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. The change to the reinforcement does not alter the wall's response to environmental conditions associated with normal operation, and because the same design criteria are used before and after the change, the auxiliary building continues to be able to withstand similar conditions; therefore, there are no changes to the conformance with GDC 4.

4.2 Precedent

No precedent is identified.

4.3 Significant Hazards Consideration Determination

The requested amendment proposes changes to revise the Updated Final Safety Analysis Report (UFSAR) Tier 2* information to change the provided minimum steel of wall section 11 in the column line 7.3 wall from the wall segment of elevation 82'-6" to 100'-0" vertical reinforcement from 3.12 in²/ft to 3.08 in²/ft. This change impacts UFSAR Table 3H.5-5.

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:

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

Response: No

As indicated in the UFSAR Subsection 3H.5.1.2, the wall at column line 7.3 is a shear wall that connects the shield building and the nuclear island exterior wall at column line I. Deviations were identified in the constructed wall from the design requirements. Though this deviation was unit specific to VEGP Unit 3, a site specific design change applicable to VEGP Units 3 & 4 caused the deviation on VEGP Unit 3. Therefore, the technical evaluation provided in the proposed amendment is used as the basis for reducing the minimum provided reinforcement for both units. The wall was repaired in accordance with American Concrete Institute (ACI) 349-01. This change impacts UFSAR Table 3H.5-5. For the south face of column line 7.3 wall, the provided minimum steel for wall section 11 for the vertical reinforcement from the wall segment of elevation 82'-6" to 100'-0 is decreased from 3.12 in²/ft to 3.08 in²/ft. The change of the provided versus required vertical reinforcing steel does not change the performance of the affected portion of the auxiliary building for postulated loads. The criteria and requirements of ACI 349-01 provide a margin of safety to structural failure. The design of the auxiliary building structure conforms to criteria and requirements in ACI 349-01 and therefore maintains the margin of safety. This change does not involve any accident initiating components or events, thus leaving the probabilities of an accident unaltered. The reduced margin does not adversely affect any safety-related structures or equipment nor does the reduced margin reduce the effectiveness of a radioactive material barrier. Thus, the proposed change would not affect any safety-related accident mitigating function served by the containment internal structures.

Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No

The reduction of the provided versus required vertical reinforcing steel does not change the performance of the affected portion of the auxiliary building. As demonstrated by the continued conformance to the applicable codes and

standards governing the design of the structures, the wall withstands the same effects as previously evaluated. There is no change to the design function of the wall, and no new failure mechanisms are identified as the same types of accidents are presented to the wall before and after the change.

Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

4.3.3 Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No

The proposed change of the provided versus required vertical reinforcing steel, identified in UFSAR Table 3H.5-5, is not a significant reduction in the margin of safety. For the south face of the column line 7.3 wall, the provided minimum steel for wall section 11 for the vertical reinforcement from the wall segment of elevation 82'-6" to 100'-0" is decreased from 3.12 in²/ft to 3.08 in²/ft. The change of the provided versus required vertical reinforcing steel does not change the performance of the affected portion of the auxiliary building for postulated loads. The criteria and requirements of ACI 349-01 provide a margin of safety to structural failure. The design of the auxiliary building structure conforms to criteria and requirements in ACI 349-01 and therefore maintains the margin of safety. The reduction in margin does not alter any design function, design analysis, or safety analysis input or result, and sufficient margin exists to justify departure from the Tier 2* requirements for the wall. As such, because the system continues to respond to design basis accidents in the same manner as before without any changes to the expected response of the structure, no safety analysis or design basis acceptance limit/criterion is challenged or exceeded by the proposed changes. Accordingly, no significant safety margin is reduced by the change.

Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

Based on the above, it is concluded that the proposed amendment 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.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. Pursuant to 10 CFR 50.92, the requested change does not involve a Significant Hazards Consideration.

5. ENVIRONMENTAL CONSIDERATIONS

The details of the proposed changes are provided in Sections 2 and 3 of this license amendment request (LAR).

The requested amendment proposes a change to Updated Final Safety Analysis Report (UFSAR) Tier 2* information to change the provided minimum steel of wall section 11 in the column line 7.3 wall for the wall segment of elevation 82'-6" to 100'-0" vertical reinforcement from 3.12 in²/ft to 3.08 in²/ft. This change impacts UFSAR Table 3H.5-5.

A review has determined that the proposed amendment would change how a requirement is met with respect to the installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20, or would change an inspection or surveillance requirement. The Licensee has determined that the anticipated construction and operational effects of the proposed amendment meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), in that:

(i) *There is no significant hazards consideration.*

As documented in Section 4.3, Significant Hazards Consideration Determination, of this license amendment request, an evaluation was completed to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment." The Significant Hazards Consideration determined that (1) the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) the proposed amendment does not involve a significant reduction in a margin of safety.

Therefore, it is concluded that the proposed amendment 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) *There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.*

The proposed change is to the provided minimum steel of wall section 11 in column line 7.3 wall for the wall segment of elevation 82'-6" to 100'-0" vertical reinforcement from 3.12 in²/ft to 3.08 in²/ft. The proposed change is unrelated to any aspect of plant construction or operation that would introduce any change to effluent types (e.g., effluents containing chemicals or biocides, sanitary system effluents, and other effluents), or affect any plant radiological or non-radiological effluent release quantities. Furthermore, the proposed change does not affect any effluent release path or diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation.

Therefore, it is concluded that the proposed amendment does not involve a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite.

(iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed change is to the provided minimum steel of wall section 11 in the column line 7.3 wall for the wall segment of elevation 82'-6" to 100'-0" vertical reinforcement from 3.12 in²/ft to 3.08 in²/ft. Plant radiation zones (addressed in UFSAR Subsection 12.3) are not affected, and controls under 10 CFR Part 20 preclude a significant increase in occupational radiation exposure. The reduced reinforcement was also examined with respect to the wall's effectiveness in providing radiation shielding, and no adverse impacts were identified.

Therefore, the proposed amendment does not involve a significant increase in individual or cumulative occupational radiation exposure.

Based on the above review of the requested amendment, it has been determined that anticipated construction and operational effects of the requested amendment do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure. Accordingly, the requested amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed exemption is not required.

6. REFERENCES

None

Southern Nuclear Operating Company

ND-16-1610

Enclosure 2

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Proposed Change to the Licensing Basis

(LAR-16-024)

Note:

Added text is shown as bold Blue Underline
Deleted text is shown as bold ~~Red Strikethrough~~
Omitted text is identified by three asterisks (* * *)

(This Enclosure consists of 2 pages, including this cover page)

Revise UFSAR Table 3H.5-5 “Interior Wall on Column Line 7.3 Details of Wall Reinforcement” as shown below:

**Table 3H.5-5
 Interior Wall on Column Line 7.3 Details of Wall Reinforcement
 (See Figure 3H.5-2 for Locations of Wall Sections.)**

Wall Segment (See detail in Subsection 3H.5.1.2.)	Location	Wall Section	Reinforcement on Each Face (in ² /ft)	
			Required ⁽¹⁾	[<i>Provided (Min.)</i>]*
* * *				
Elevation 117'-6" to 100'-0"	Horizontal	4	2.29	2.54
	Vertical	10	2.98	3.12
Elevation 100'-0" to 82'-6"	Horizontal	5	1.69	2.54
	Vertical	11	2.08	3.12 <u>3.08</u>
Elevation 82'-6" to 66'-6"	Horizontal	6	0.85	1.27
	Vertical	12	0.98	1.56
* * *				