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52-026

ND-17-1506
10 CFR 50.90
10 CFR 52.63

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Supplement to Request for License Amendment and Exemption:
Containment Air Filtration Exhaust Rooms West Walls Removal (LAR-17-017S1)

Ladies and Gentlemen:

Pursuant to 10 CFR 52.98(c) and in accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC) requested an amendment to the combined licenses (COLs) for Vogtle Electric Generating Plant (VEGP) Units 3 and 4 (License Numbers NPF-91 and NPF-92, respectively) by SNC letter ND-17-0796, dated May 24, 2017 [ADAMS Accession Number ML17144A413]. The requested amendment proposed changes to COL Appendix C, with corresponding changes to the associated plant-specific Tier 1 information, and involves associated Tier 2 information incorporated into the Updated Final Safety Analysis Report (UFSAR) (which includes the plant-specific DCD Tier 2 information) to remove the west walls of containment filtration exhaust rooms A and B in the annex building to facilitate ease of access to equipment in the room during installation and maintenance. Pursuant to the provisions of 10 CFR 52.63(b)(1), an exemption from elements of the design as certified in the 10 CFR Part 52, Appendix D, design certification rule was also requested for the plant-specific DCD Tier 1 material departures.

During the NRC review of the license amendment request (LAR), LAR-17-017, the NRC determined a need for additional information regarding consideration of temporary or removable shielding and the structural capabilities of walls adjacent to the requested change in an e-mail dated August 2, 2017 [ADAMS Accession Number ML17214A867]. The SNC response is provided in Enclosure 5 of this letter, which supplements the original LAR-17-017.

The supplemental information provided in this LAR supplement does not impact the scope, technical content, or conclusions of the Technical Evaluation, Significant Hazards Consideration Determination, or Environmental Considerations of the original LAR provided in Enclosure 1 of SNC letter ND-17-0796.

This letter contains no regulatory commitments. This letter has been reviewed and determined not to contain security related information.

In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR supplement by transmitting a copy of this letter and its enclosures to the designated State Official.

Should you have any questions, please contact Mr. Ryan Henderson at (205) 992-6426.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 31st of August 2017.

Respectfully submitted,

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

Enclosures 1 – 4) (Previously submitted with the original LAR, LAR-17-017, in SNC letter ND-17-0796)

5) Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Response to NRC Request for Additional Information (RAI) Regarding the LAR-17-017 Review (LAR-17-017S1)

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Southern Nuclear Operating Company

ND-17-1506

Enclosure 5

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

Response to NRC Request for Additional Information (RAI)

Regarding the LAR-17-017 Review

(LAR-17-017S1)

(This Enclosure consists of 6 pages, including this cover page)

The following are questions provided by the NRC Staff regarding the review of Southern Nuclear Operating Company (SNC) License Amendment Request (LAR) 17-017, which was submitted by SNC letter ND-17-0796 (ADAMS Accession Number ML17144A413) on May 24, 2017.

RAI Question 1:

10 CFR 52.47(a)(5) requires applicants to identify the kinds and quantities of radioactive materials expected to be produced in the operation and the means for controlling and limiting radiation exposures.

10 CFR 20.1101(b) requires that licensees use to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).

10 CFR Part 50, Appendix A, General Design Criterion (GDC) 61, requires in part that systems that may contain radioactivity shall be designed with suitable shielding for radiation protection.

In LAR 17-017, the licensee proposes to remove labyrinth shield walls on the west side of the containment air filtration exhaust rooms A and B in the Annex building. The licensee indicates in the LAR that the removal of the walls is necessary to allow skid mounted maintenance equipment to navigate through the area. In addition, the licensee indicates that the removal of the walls is consistent with the requirement to maintain doses ALARA because if the walls were retained custom built equipment would be required or workers would be required to disassemble the equipment to get it inside and outside of the rooms. These options would increase cost or dose. However, the LAR does not discuss the option of using removable or temporary shielding in place of the permanent shield walls. Regulatory Guide (RG) 8.8 specifies that shielding that can be quickly removed and reinstalled can be used as part of the effort to maintain occupational radiation exposures ALARA.

Therefore, consistent with RG 8.8, the staff requests that the applicant provide additional information regarding if removable or temporary shielding is being considered in place of the permanent shield walls that are requested to be removed. If removable or temporary shielding is not going to be used, please discuss why it is not necessary. Update the UFSAR to include removable or temporary shielding or describe why it was not needed.

SNC Response to RAI Question 1:

Removable or temporary shielding is not being considered in place of the permanent shield walls at this time.

Consistent with the current language in Enclosure 1 of SNC letter ND-17-0796, the use of removable or temporary shielding is not being considered because

a) the removal of the walls does not affect the radiation zones;
b) the removal of the walls maintains ALARA by reducing stay time;
c) the hallways outside of these rooms are not likely to be used as significant personnel thoroughfares;
d) personnel are not typically stationed in this area outside of these rooms; and
e) the radiation protection program is not adversely impacted.

As currently described in UFSAR Subsection 12.1.3 and 12AA.5.3.2, temporary shielding is provided as needed, consistent with the radiation protection program. As described in UFSAR Subsection 12.1.3, temporary shielding is used only if the estimated total exposure, which includes exposure received during installation and removal, is reduced. Regarding the use of removable shielding, similar logic applies to its use not being desirable in this application: the activity of removing and installing the shielding could contribute to more exposure by increasing stay time near the radiation field. This is analogous to requiring maintenance to spend more time exposed in the radiation field by making them work around the labyrinth wall with the carbon loading/unloading skid, as discussed in Enclosure 1 of ND-17-0796. During the course of operating the plant, should temporary or removable shielding be deemed prudent per the radiation protection program to reduce dose ALARA, the program provides the means to implement these provisions.

The UFSAR does not describe the use or non-use of removable or temporary shielding in all specific applications; therefore, no change is proposed to the UFSAR. The current level of detail in the UFSAR describing the general design criteria and programmatic controls under which the use of removable or temporary shielding is considered is sufficient.

RAI Question 2:

10 CFR, Part 50, Appendix A, GDC 4, requires that structures, systems, and components important to safety 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. These structures, systems, and components shall be appropriately protected against dynamic effects, including the effects of missiles, pipe whipping, and discharging fluids, that may result from equipment failures and from events and conditions outside the nuclear power units.

10 CFR, Part 50, Appendix A, GDC 2, "Design bases for protection against natural phenomena," requires in part that SSCs shall be designed to withstand the effects of natural phenomena without loss of capability to perform their safety functions and shall reflect, in part, the importance of the safety functions to be performed.

Consistent with Standard Review Plan Section 3.8.4, the staff reviews the descriptive information, including plans and sections of each structure, to establish that there is sufficient information to define the primary structural aspects and elements relied upon for the structure to perform the intended safety function.

Staff reviewed License Amendment Request (LAR) 17-017, submitted by Southern Nuclear Operating Company (SNC). As a result of this review the staff identified the need, for the following additional information.

LAR 17-017, Enclosure 1, Page 8 of 13, first sentence, states: "Structural design and layout are not adversely impacted as the removed walls were not previously considered in structural design calculations".

Please qualify the above statement from the LAR with responses to the questions below:

a) Do the walls proposed to be removed provide structural support for the adjacent East-West walls in each location?
b) Describe the actions that were taken for the removal of walls that are shown in the Updated Final Safety Analysis Report (UFSAR) Figures (Enclosure 4) but not considered in the actual design calculation.
c) Provide the demand and capacity for the East-West wall with the change proposed in the LAR.

RAI Question 2a:

a) Do the walls proposed to be removed provide structural support for the adjacent East-West walls in each location?

SNC Response to RAI Question 2a:

The labyrinth walls being removed do not provide structural support to the adjacent East-West walls because the labyrinth walls were not serving as structural walls, and therefore were not previously considered in structural design calculations. The proposed configuration has been evaluated and is acceptable. For additional information, please see the SNC Response to RAI Question 2c.

RAI Question 2b:

b) Describe the actions that were taken for the removal of walls that are shown in the Updated Final Safety Analysis Report (UFSAR) Figures (Enclosure 4) but not considered in the actual design calculation.

SNC Response to RAI Question 2b:

The difference between the design and the affected UFSAR Figures shown in Enclosure 4 was identified in the Westinghouse corrective action program. The corrective action was to submit a license amendment request (LAR) aligning the licensing basis with the design, which was submitted in SNC letter ND-17-0796. The existing design calculation supports the removal of the wall from the licensing basis. As a result of this issue, and others like it circa 2012, Westinghouse developed a new licensing review process to ensure documents were receiving adequate reviews against the licensing basis prior to final signoff, as discussed in SNC's response to Notice of Violation 05200025/2012-008-001 (Accession Number ML12173A289).

RAI Question 2c:

c) Provide the demand and capacity for the East-West wall with the change proposed in the LAR.

SNC Response to RAI Question 2c:

The demand and capacity values for the southern East-West wall (column line 4) are not affected by the change proposed in the LAR as the removed walls were not included in the structural design calculations. The northern East-West wall (between column lines 4 and 4.1) is not a structural wall, and is not included in the structural design calculations either. The gravity loads in the containment air filtration exhaust rooms are carried by the East-West wall on the south and the steel framings on the north of the room. The structural members supporting the containment air filtration exhaust rooms were designed for the applicable loads and meet the demand requirements required by the codes discussed in UFSAR Subsection 3.7.2 without taking into consideration any structural contribution from the removed walls. This is reflected in the design calculations supporting this LAR.

Additional information in the associated calculations used to support this LAR is available for audit, if needed.