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SOUTHERN COMPANY

APR 18 2014

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

Southern Nuclear Operating Company
Vogtle Electric Generating Plant Units 3 and 4
Request for License Amendment and Exemption Regarding:
Annex and Radwaste Building Changes (LAR-13-019)

Ladies and Gentlemen:

In accordance with 10 CFR 50.90, Southern Nuclear Operating Company (SNC), the licensee for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, requests an amendment to the Combined Licenses (COLs) for VEGP Units 3 and 4, COL Numbers NPF-91 and NPF-92, respectively.

The proposed departures consist of changes to various plant-specific Tier 1 (and COL Appendix C) information and Tier 2 material contained within the Updated Final Safety Analysis Report (UFSAR) to modify the annex and radwaste buildings.

Enclosure 1 contains the description, technical evaluation, regulatory evaluation (including Significant Hazards Consideration), and environmental considerations for the proposed changes in the License Amendment Request (LAR). Enclosure 2 contains further justification for the associated exemption request. Enclosure 3 contains the proposed markups depicting the requested changes to publicly available information. Enclosure 4 contains the proposed markups depicting the requested changes to information classified as security-related, also referred to as sensitive unclassified non-safeguards information (SUNSI), protected and requested to be withheld under the provisions of 10 CFR 2.390(d).

This letter contains no regulatory commitments.

SNC requests staff approval of the license amendment by July 1, 2014, to install the annex building foundations. Delayed approval of this license amendment may result in a delay in the construction of the annex building. SNC expects to implement the proposed amendment within 15 days of approval of the requested changes. SNC also expects to follow this LAR with a preliminary amendment request (PAR) for a no objections letter to allow construction to continue on the annex building until the Staff issues the license amendment associated with this LAR.

The changes proposed in this License Amendment Request are consistent in technical content with License Amendment Request LAR 13-09, submitted by South Carolina Electric & Gas Company (SCE&G) on February 27, 2014, and accepted by the NRC for review on April 3, 2014. In accordance with 10 CFR 50.91, SNC is notifying the State of Georgia of this LAR by transmitting a copy of this letter and enclosures to the designated State Official.

Should you have any questions, please contact Mr. C. Brian Meadors at (205) 992-7331.

Mr. Brian H. Whitley states that: he is the Regulatory Affairs Director of Southern Nuclear Operating Company; he is authorized to execute this oath on behalf of Southern Nuclear Operating Company; and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

B. H. Whitley

BHW/WES/kms

Sworn to and subscribed before me this 18th *day of* April, *2014*

Notary Public: Kristin Marie Seibert

My commission expires: August 16, 2016

Enclosures:

1. Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Request for License Amendment: Annex and Radwaste Building Changes (LAR-13-019)

2. Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Exemption Request: Annex and Radwaste Building Changes (LAR-13-019)

3. Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Licensing Basis Document Proposed Changes (LAR-13-019)

4. Vogtle Electric Generating Plant (VEGP) Units 3 and 4 – Proposed Changes (Protected Information) – **Security-Related Information** (SUNSI) – Withhold from Public Disclosure Under 10 CFR 2.390(d) (LAR-13-019)

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Southern Nuclear Operating Company

Vogtle Electric Generating Plant Units 3 and 4

ND-14-0562

Enclosure 1

Request for License Amendment:

Annex and Radwaste Building Changes

(LAR-13-019)

Table of Contents

1. Summary Description

The proposed changes would revise the COLs in regard to the AP1000 annex building and radwaste building structures and layout by:

1. Updating the annex building column line designations on affected Tier 1 Figures and Tier 2 Figure 3.7.2-19.

2. Revising the radwaste building configuration including the shielding design and radiation area monitoring.

The proposed changes require revision of Updated Final Safety Analysis Report (UFSAR) Tier 2 information (see Section 2 for details), which also involve changes to plant-specific DCD Tier 1 information (see Section 2 for details) and the corresponding material incorporated into Appendix C of the COL. This enclosure requests approval of the license amendment necessary to implement these changes.

2. Detailed Description

2.1 Annex Building Column Line Changes

The annex building column lines on UFSAR Tier 2 Figure 3.7.2-19 (Sheets 2, 3, 5, 6, 7, and 8) sensitive unclassified non-safeguards information (SUNSI) are proposed to be changed from 10 to 10.05 to resolve inconsistencies in the column line designation between the annex building and the auxiliary building figures in the UFSAR. The column line 10 designation for the auxiliary building figures corresponds to North Coordinate 1089′-0″ whereas the column line 10 designation for the annex building figures corresponds to North Coordinate 1092′0″. This update is proposed to align column line 10 between the annex and auxiliary buildings.

The annex building column line on UFSAR Tier 2 Figure 3.7.2-19 (Sheet 8) (SUNSI) is proposed to be changed from 12 to 11.15 for consistency with the column line designations in Figure 3.7.2-19 Sheets 1, 2, 3, 5, 6, and 7 (SUNSI).

Because the column line changes in Tier 2 are also included in Tier 1, plant-specific DCD Tier 1 Figures 3.3-11A (SUNSI) , 3.3-12 (SUNSI) and 3.3-13 (SUNSI) are proposed to be changed to remove column line designations for columns 6, 8, 10, 11.15, 13.2, 13.3, 14.1, 15.1, 15.2, A, B, C and D. The changes to the Tier 1 Annex Building figures are being made because none of the column lines proposed to be removed are referred to in any Tier 1 tables or text.

The proposed changes to the licensing basis are described below. Figures that contain SUNSI, also known as Security-Related Information (SRI), are identified as such and requested to be withheld under 10 CFR 2.390(d).

Tier 2 Changes:

- UFSAR Figure 3.7.2-19 (Sheets 2, 3, 5, 6, 7, and 8) (SUNSI) – Column Line 10 designation is changed to 10.05.

- UFSAR Figure 3.7.2-19 (Sheet 8) (SUNSI) – Column Line 12 designation is changed to 11.15.

Associated Tier 1 Changes:

- Plant-specific DCD Figures 3.3-11A (SUNSI), 3.3-12 (SUNSI), and 3.3-13 (SUNSI) – Column Line designations for Column Lines 6, 8, 10, 11.15, 13.2, 13.3, 14.1, 15.1, 15.2, A, B, C and D are deleted. There are also corresponding changes to COL Appendix C Figures 3.3-11A (SUNSI), 3.3-12 (SUNSI), and 3.3-13 (SUNSI).

2.2 Radwaste Building Configuration Changes

The radwaste building configuration is proposed to be modified to add three bunkers for storage of moderate and high activity waste. A range of potential radiation levels inside the radwaste building was analyzed and the amount of shielding required to maintain adjacent areas at Zone 1 radiation levels was determined. It was identified that a small amount of moderate activity waste would require a concrete slab too thick for the current structural design of the building to maintain adjacent areas at Zone 1 radiation levels. The addition of bunkers allows the moderate or high activity level waste to be segregated from the remainder of the lower activity waste. This separation reduces operational exposure while workers handle low activity waste. Three bunkers with removable steel plates are proposed to be added for maximum flexibility. The shield walls near the three added bunkers are proposed to have a minimum concrete wall thickness of 1′-8″.

In addition to the change to add the three bunkers, the radwaste building configuration is also proposed to be changed to incorporate the Waste Accumulation Room and the Packaged Waste Storage Room into one room called the Waste Accumulation Room. Because waste before and after packaging will contain moderate or high activity, the new bunkers would be required in both the Packaged Waste Storage Room and the Waste Accumulation Room. However, if the two rooms are combined as proposed in this amendment, greater operational flexibility is achieved with the larger bunker size and the number of new bunkers required is reduced. As part of the merging of the two rooms, the minimum shield wall thickness for the walls associated with the original Packaged Waste Room is changed from 2′ to 1′-4″.

Due to the rooms merging, one of the two radiation monitors previously located in the two separate rooms (RMS-JE-RE014B) is proposed to be deleted, and the remaining radiation monitor for the Waste Accumulation Room (RMS-JE-RE014A) is renamed to RMS-JE-RE014 and relocated in the newly incorporated room.

The licensing basis document proposed changes are described below:

Tier 2 Proposed Changes:

- UFSAR Figure 1.2-22 (SUNSI) – Modify to depict the incorporation of the Packaged Waste Storage Room into the Waste Accumulation Room and the addition of the three bunkers.
- UFSAR Section 9.4.8 – Remove the Packaged Waste Storage Room from the list of rooms served by the radwaste building HVAC system.
- UFSAR Figure 9.4.8-1 – Remove the Packaged Waste Storage Room from the list of areas served by the radwaste building HVAC system.
- UFSAR Section 9A.3.5.1 – Remove the fire zone 5031 AF 50352, Packaged Waste Storage Room (two places).
- UFSAR Table 9A-3 – Update the fire protection summary to reflect the incorporation of the Packaged Waste Storage Room (50352) into the Waste Accumulation Room (50351).
- UFSAR Figure 9A-4 (SUNSI) – Modify to depict the incorporation of the Packaged Waste Storage Room into the Waste Accumulation Room and the addition of the three bunkers.

  Note: The Tier 2* information contained in the Section 9A figure is the fire area boundaries. The illustration of fire zones and background detail is not Tier 2* information. Fire area boundaries are not changed by combining the Packaged Waste Storage Room with the Waste Accumulation Room or adding the three new bunkers. The activity modifies fire zones only. Therefore, Tier 2* information is not proposed to be changed as part of this request.
- UFSAR Subsection 11.4.2.1 – Change the room title from Packaged Waste Storage Room to Waste Accumulation Room. Add clarification in several areas that waste is packaged waste.
- UFSAR Subsection 11.4.2.3.2 – Change the room title from Packaged Waste Storage Room to Waste Accumulation Room.
- UFSAR Subsection 11.4.2.3.3 – Change the room title from Packaged Waste Storage Room to Waste Accumulation Room.
- UFSAR Subsection 11.4.2.5.2 – Modify the description of the radwaste building to remove the Packaged Waste Storage Room and to update the description of the Waste Accumulation Room and add a description of the newly added bunkers.
- UFSAR Table 11.5-2 – Delete the radiation monitor RMS-JE-RE014B and renamed RMS-JE-RE014A to RMS-JE-RE014. Renamed “Liquid and Gaseous Radwaste Area 1” to “Liquid and Gaseous Radwaste Area”.
- UFSAR Subsection 12.3.2.2.5 – Update the description to remove the Packaged Waste Storage Room and add the new bunkers.

- UFSAR Figure 12.3-1(SUNSI) – Modify to depict the incorporation of the Packaged Waste Storage Room into the Waste Accumulation Room and the three added bunkers. Added a note regarding zone dose rate limits and a note to state access control requirements and traffic patterns are shown in Figure 12.3-3 sheet 14
- UFSAR Figure 12.3-2 (sheet 14) (SUNSI) – Modify to depict the incorporation of the Packaged Waste Storage Room into the Waste Accumulation Room and the three added bunkers.
- UFSAR Figure 12.3-3 (sheet 14) (SUNSI) – Modify to depict the incorporation of the Packaged Waste Storage Room into the Waste Accumulation Room and the three added bunkers.

Associated Tier 1 Proposed Changes:

- Plant-specific Tier 1 Sections 3.3(4c) and 3.3(6b) – Remove description of the walls used for shielding outside of the Packaged Waste Storage Room. Changed the room title from Packaged Waste Storage Room to Waste Accumulation Room. Changed the minimum waste storage volume from 1293 cubic feet to 1417 cubic feet as a result of the merging of the Packaged Waste Storage and Waste Accumulation Rooms and to be consistent with Tier 2, Subsection 11.4.2.1 and Table 11.4-1.
- Plant-specific Tier 1 Table 3.3-6 (Items 4c and 6b) – Delete item 4c description of the walls used for shielding outside of the Packaged Waste Storage Room. Change item 6b room title from Packaged Waste Storage Room to Waste Accumulation Room. Changed the minimum waste storage volume from 1293 cubic feet to 1417 cubic feet because of the merging of the Packaged Waste Storage and Waste Accumulation Rooms and to be consistent with Tier 2, Subsection 11.4.2.1 and Table 11.4-1.
- Plant-specific Tier 1 Table 3.3-6 (Item 4b) – Revise the Acceptance Criteria by adding the following underlined text: “A report exists and concludes that the shield walls of the Waste Accumulation Room in the radwaste building except for designed openings or penetrations are consistent with the minimum concrete wall thicknesses of 1′-4″*, and a minimum concrete wall thickness of 1'-8" near the radwaste bunkers.*”
- Plant-specific Tier 1 Table 3.5-5 – Remove note regarding the use of multiple detectors for the Liquid and Gaseous Radwaste Area monitor.

(These Tier 1 changes also involve corresponding changes to COL Appendix C Section 3.3, Table 3.3-6, and Table 3.5-5.)

3. Technical Evaluation

3.1 Annex Building column line changes

This activity includes a proposed change for consistency between the annex building and auxiliary building figures in the UFSAR and modifies the description of the facility/design in the plant-specific DCD Tier 1. Plant-specific DCD Tier 1 Section 1.1 identifies that the design function of a column line is to provide a designation on the plant reference grid which is used to define the location of building walls and columns. The lines are used for clarifying the location of specific walls or sections. This proposed change does not adversely affect the design function of the column line because:

- The plant-specific DCD Tier 1 text, tables and figures continue to communicate the structural design of the annex building. The purpose of the column line designations in the aforementioned Tier 1 figures is to indicate the location of building walls and columns previously discussed in Tier 1. The column lines being removed are considered to be background information and therefore not pertinent to the location of any walls or columns previously discussed in Tier 1 text or tables and would be in conflict with Tier 2 if not updated following the proposed changes. Column lines indicating the locations of walls or columns discussed in Tier 1 text or tables will remain in the aforementioned figures.
- The proposed changes to the UFSAR Tier 2 column line designations resolve inconsistencies between the auxiliary building and annex building column lines. With this change, the UFSAR Tier 2 column lines perform their function of accurately locating the annex building column lines.

Because these proposed changes are only being made to the annex building figure to be consistent with the auxiliary building figure, they do not adversely affect any design function described in the UFSAR. The proposed changes do not involve an adverse change to any method of evaluation for establishing design bases or safety analyses. They do not represent any change to a design feature credited in the ex-vessel severe accident assessment. Tests, experiments, and procedures described in the licensing basis are unchanged by this activity. The changes do not affect the aircraft impact assessment, because the column line change is being made only for consistency, and therefore, they do not affect any key design features credited in the Aircraft Impact Assessment, as described in UFSAR Subsection 19F. The activity does not increase the probability or consequences of an accident previously evaluated, because it does not affect the operation of any systems or equipment that could initiate or mitigate an analyzed accident. No accident source term parameter or fission product barrier is impacted by this activity. The activity does not create the possibility of a new or different kind of accident from any accident previously evaluated, because it does not change the design function of the annex building or of any of the systems or equipment contained therein or in any other Nuclear Island structures. The activity does not involve a significant reduction in a margin of safety, because there is no change to the codes and standards and analysis methods applied to the annex building design. The activity has no effect on off-site dose analysis for analyzed accidents.

The proposed activity has no impact on emergency plans or physical security plans. The changes to the column line indicators are being made only for consistency. The proposed changes are 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 changes do 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.

The fire protection analysis is performed for each fire area using the methodology described in UFSAR Tier 2 Section 9A.2. This methodology follows the guidance of Branch Technical Position (BTP) CMEB 9.5-1. The results of the analysis are provided in UFSAR Tier 2 Section 9A.3. This activity does not change the fire protection analysis conclusions.

Because the changes to the annex building column lines are made for consistency with the auxiliary building figures and involve removing column line designations considered to be background information and therefore not pertinent to Tier 1 text or tables, there are no impacts to any regulatory requirements or criteria.

3.2 Radwaste Building configuration changes

These proposed changes to the radwaste building involve the addition of three bunkers for storage of moderate and high activity waste, merging of the Waste Accumulation Room and the Packaged Waste Storage Room into one room, changing the thickness of the shield walls of the newly incorporated room which were associated with the original Packaged Waste Room from 2′ to 1′-4″, and deletion of a radiation monitor due to the merging of the rooms. These proposed changes are made to provide for greater flexibility in handling waste before and after packaging , to minimize the number of shielded bunkers required for storage of moderate and high activity waste to keep radiation doses to As Low As is Reasonably Achievable (ALARA) values, to allow temporary shielding to maintain acceptable radiation levels on the radwaste building roof, and to maintain portions of the radwaste building at radiation Zone I levels as defined in UFSAR Tier 2 Figure 12.3-1 (Sheet 1 of 16).

These proposed changes do not adversely affect the design function of the radwaste building, which is a non-seismic structure whose function is to provide for handling and storage of low and moderate or high activity waste and which contains no safety-related structures, systems or components. These proposed changes do not adversely affect any operations within the radwaste building. The combined Waste Accumulation Room is capable of fulfilling the design functions of the Packaged Waste Storage Room in addition to its own. The radwaste building continues to minimize releases of radioactivity from the solid, liquid, and gaseous material. The solid radwaste system (WSS) continues to collect and store radioactive wastes and provide shielding to maintain radiation exposure to plant operation and maintenance personnel as low as is reasonably achievable (ALARA). The radwaste building continues to support the WSS by functioning to store at least 1417 cubic feet per year dry waste. The useful storage volume in the radwaste building, which accommodates more than one full offsite waste shipment using a tractor-trailer truck, is unchanged by this activity. Liquid radwaste processing areas within the radwaste building continue to function to contain any liquid spills. The radwaste building continues to include facilities for segregated storage of various categories of waste prior to processing, for processing by mobile systems, and for storing processed waste in shipping and disposal containers.

With respect to Packaged Waste Storage Room and Waste Accumulation Room, the original radwaste building design consisted of one area radiation monitor per room, both of which functioned to monitor area radiation levels in each room and to alarm and alert operators in the event of high radiation. With the removal of the separating wall and the combining of those two rooms into one, the function of monitoring and alarming radiation levels can be accomplished by use of a single area radiation monitor. This monitor is of the same type and design requirements as the existing monitors, and will be relocated to a central location in the newly combined room to ensure all areas of the combined room are detectable, as they were with the separate rooms. The criteria for locating this area monitor (as provided in UFSAR Tier 2 Subsection 11.5.6.1) are not changed by this activity and will continue to be applied for this single monitor.

The proposed change in the wall thickness for the walls associated with the original Packaged Waste Storage Room from 2′ to 1′-4″ and the change in wall thickness for the walls associated with the original Waste Accumulation Room in the bunker area from 1′-4″ to 1′-8″, are possible due to the additional shielding provided by the newly added bunkers. The shielding calculations including these revised wall thicknesses demonstrate that all areas external to the radwaste building meet the radiation classification for Zone I.

This proposed activity does not involve a change to procedures or a method of control and does not change any method of evaluation or use an alternate method of evaluation from those described in the UFSAR that is used in establishing design bases or in the safety analysis. The activity does not involve a test or experiment which exceeds the reference bounds of the design basis. The proposed activity does not adversely impact any design feature credited in the severe accident analysis. There is no impact on the aircraft impact assessment, because the number of barriers and the thickness of those barriers, as prescribed by NEI 07-13, Revision 7 are unchanged by this activity. The activity does not increase the probability or consequences of an accident previously evaluated, because it does not affect the operation of any systems or equipment that could initiate or mitigate an analyzed accident. No accident source term parameter or fission product barrier is impacted by this activity. The activity does not create the possibility of a new or different kind of accident from any accident previously evaluated, because it does not change the design function of the radwaste building or of any of the systems or equipment contained therein or in any other Nuclear Island structures. The activity does not involve a significant reduction in a margin of safety, because there is no change to the codes and standards and analysis methods applied to the radwaste building design. The activity has no effect on off-site dose analysis for analyzed accidents.

The proposed changes are 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 changes do 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.

The fire protection analysis is performed for each fire area using the methodology described in UFSAR Tier 2 Section 9A.2. This methodology follows the guidance of Branch Technical Position (BTP) CMEB 9.5-1. The results of the analysis for the radwaste building are provided in UFSAR Tier 2 Subsection 9A.3.5. This activity does not change the fire protection analysis conclusions provided in that subsection of the UFSAR. None of the combustible material loading listed in UFSAR Table 9A-3, nor any fire detection and

suppression features described in UFSAR Subsection 9A.3.5 is affected by these changes. Because the radwaste building, itself, is one Fire Area (5031 AF 01) and the overall radwaste building envelope is not changing, this activity does not change any fire area boundary. The radwaste building fire area is separated from the safety related areas of the nuclear island by a 3-hour fire barrier wall, which is unchanged by this activity.

10 CFR 20.1101(b) states that "the licensee shall 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)." The radwaste building configuration changes to add shielded bunkers for storage of moderate and high activity waste would reduce the exposure of workers in the Waste Accumulation Room when they are working with low activity waste and maintain portions of the radwaste building at radiation Zone I levels in compliance with the ALARA requirement in 10 CFR Part 20.

Subsection 3.7.2.8.2 of NUREG-1793, "Final Safety Evaluation Report Related to Certification of the AP1000 Standard Design," provides the results of the NRC evaluation of the interaction of the radwaste building with Nuclear Island (NI) structures following a seismic event. Based on the clearance between the radwaste building and NI structures, the seismic design criteria for the radwaste building, and the methods used to demonstrate that a potential radwaste building impact on NI structures during a seismic event would not impair the NI structural integrity, it was concluded that the collapse of the radwaste building would not damage NI structures. The changes identified for this activity do not change any of these clearances, design criteria, or methods and consequently, the NRC conclusions identified in Subsection 3.7.2.8.2 are still valid.

Combining the Packaged Waste Storage Room and Waste Accumulation Room does not affect compliance with GDC 3, because it does not change the fire protection analysis conclusions provided in UFSAR Tier 2 Section 9A.2. None of the combustible material loading listed in UFSAR Table 9A-3, nor any fire detection and suppression features described in UFSAR Subsection 9A.3.5 is affected by these changes. Because the radwaste building, itself, is one Fire Area (5031 AF 01) and the overall radwaste building envelope is not changing, this activity does not change any fire area boundary. The radwaste building fire area is separated from the safety related areas of the nuclear island by a 3-hour fire barrier wall, which is unchanged by this activity.

The changes to add three bunkers for storage of moderate and high activity waste, incorporate the Packaged Waste Storage and Waste Accumulation Rooms in the radwaste building, revise shield wall thickness, and eliminate an area radiation monitor that is no longer needed have no effect on environmental releases. The quantities of solid and liquid radioactive material being processed in the radwaste building and the method of control for processes used to treat that material are unchanged by this activity. No potential release paths for radioactive material or holdup capacity are affected by this activity. Consequently, these changes do not affect compliance with GDC 60.

These changes as described above have no adverse impact on radiation monitoring capability. One area radiation monitor is being eliminated following incorporation of the Packaged Waste Storage Room into the Waste Accumulation Room. The eliminated monitor is therefore no longer needed to provide detection in this area. The remaining monitor is being relocated to a central location in the room to provide the necessary detection to the newly combined room. Consequently, all areas within the radwaste

building previously monitored are continuing to be monitored with this activity. Safety actions to be performed in response to excessive radiation levels are not affected by this activity. Consequently, these changes do not affect compliance with GDC 63.

The radwaste building changes do not affect any effluent release path or radiation monitoring capability for effluent releases to the environment. Consequently, these changes do not affect compliance with GDC 64.

Physical Security Evaluation (Annex and Radwaste Building Changes)

A review of the Physical Security Plan and the Physical Security ITAAC was completed regarding the changes identified in this amendment request. (Note that the Physical Security Plan is classified as Safeguards Information (SGI) and is not available to the public.) The review confirmed that the proposed changes do not adversely affect the Physical Security Plan, because:

- The proposed changes have no effect on any pathways or barriers credited by the Physical Security Plan.
- No addition, change or deletion of a security position is requested.
- No lighting change is requested.
- The proposed changes do not involve the responses to the external fighting positions.
- The column line changes have no effect on either response or adversary timelines.

Furthermore, the review confirmed that the proposed changes do not affect any of the existing ITAAC related to physical security.

Summary

The proposed changes would revise the COL in regard to the AP1000 annex building and radwaste building configurations by:

1. Updating the annex building column line designations on affected Tier 1 Figures and Tier 2 Figure 3.7.2-19.
2. Revising the radwaste building configuration including the shielding design and radiation area monitoring.

These proposed changes do not adversely affect any design function. The changes do not involve an adverse change to any method of evaluation for establishing design bases or safety analyses. They do not represent a change to a design feature credited in the ex-vessel severe accident assessment. Tests, experiments, and procedures described in the licensing basis are unchanged by this activity.

4. Regulatory Evaluation

4.1 Applicable Regulatory Requirements/Criteria

10 CFR 52, Appendix D, Section VIII.B.5.a requires that an applicant or licensee who references this appendix may depart from Tier 2 information, without prior NRC approval, unless the proposed departure involves a change to or departure from Tier 1 information, Tier 2* information, or the TS, or requires a license amendment under paragraphs B.5.b or B.5.c of this section. When evaluating the proposed departure, an applicant or licensee shall consider all matters described in the plant-specific DCD. This license amendment requests to depart from UFSAR Tier 2 information and thus, require NRC approval. Compliance for each of the building changes with applicable regulatory requirements is provided below.

10 CFR 52.98(f) requires NRC approval for any modification to, addition to, or deletion from the terms and conditions of a COL. This activity involves departure from plant-specific Tier 1 information, and corresponding changes to COL Appendix C, Inspections, Tests, Analyses and Acceptance Criteria information; therefore, this activity requires a proposed amendment to the COL. Accordingly, NRC approval is required prior to making the plant-specific changes in this license amendment request.

4.1.1 Annex Building column line changes

Because the changes to the annex building column lines are made for consistency with the auxiliary building figures and to remove column line designations considered to be background information and therefore not considered pertinent to the scope of Tier 1 information, there are no impacts to any regulatory requirements or criteria.

4.1.2 Radwaste Building configuration changes

10 CFR 50, Appendix A, General Design Criterion (GDC) 3, *Fire protection*, requires structures, systems, and components important to safety to be designed and located to minimize, consistent with other safety requirements, the probability and effect of fires and explosions. Combining the Packaged Waste Storage Room and Waste Accumulation Room does not affect compliance with GDC 3, because it does not change the fire protection analysis conclusions provided in UFSAR Tier 2 Section 9A.2. None of the combustible material loading listed in UFSAR Table 9A-3, nor any fire detection and suppression features described in UFSAR Subsection 9A.3.5 is affected by these changes. Because the radwaste building, itself, is one Fire Area (5031 AF 01) and the overall radwaste building envelope is not changing, this activity does not change any fire area boundary. The radwaste building fire area is separated from the safety related areas of the nuclear island by a 3-hour fire barrier wall, which is unchanged by this activity.

10 CFR 50, Appendix A, General Design Criterion (GDC) 60, *Control of releases of radioactive materials to the environment*, requires the nuclear power unit design shall include means to control suitably the release of radioactive materials in gaseous and liquid effluents and to handle radioactive solid wastes produced during normal reactor operation, including anticipated operational occurrences. Sufficient holdup capacity shall be provided for retention of gaseous and liquid effluents containing radioactive materials. The changes to add three bunkers for storage of moderate and high activity waste, incorporate the Packaged Waste Storage and Waste

Accumulation rooms in the radwaste building, revise shield wall thicknesses, and eliminate an area radiation monitor that is no longer needed have no effect on environmental releases. The quantities of solid and liquid radioactive material being processed in the radwaste building and the method of control for processes for treating that material are unchanged by this activity. No potential release paths for radioactive material or holdup capacity are affected by this activity. Consequently, these changes do not affect compliance with GDC 60.

10 CFR 50, Appendix A, General Design Criterion (GDC) 63, *Monitoring fuel and waste storage*, requires that appropriate systems shall be provided in fuel storage and radioactive waste systems and associated handling areas (1) to detect conditions that may result in loss of residual heat removal capability and excessive radiation levels and (2) to initiate appropriate safety actions. The changes to add three bunkers, incorporate the Packaged Waste Storage and Waste Accumulation Rooms in the radwaste building, revise shield wall thicknesses, and eliminate an area radiation monitor that is no longer needed have no adverse effect on radiation monitoring capability. One area radiation monitor is being eliminated, because there is now only one room instead of two for processing of waste before and after packaging. The eliminated monitor is therefore no longer needed. The remaining monitor is being relocated to a central location to support the new combined room. Consequently, all areas within the radwaste building previously monitored continue to be monitored with this activity. Safety actions to be performed in response to excessive radiation levels are not affected by this activity. Consequently, these changes do not affect compliance with GDC 63.

10 CFR 50, Appendix A, General Design Criterion (GDC) 64, *Monitoring radioactivity releases*, requires that means shall be provided for monitoring the reactor containment atmosphere, spaces containing components for recirculation of loss-of-coolant accident fluids, effluent discharge paths, and the plant environs for radioactivity that may be released from normal operations, including anticipated operational occurrences, and from postulated accidents. The radwaste building changes do not affect any effluent release path or radiation monitoring capability for effluent releases to the environment. Consequently, these changes do not affect compliance with GDC 64.

4.2 Precedent

No precedent is identified.

4.3 Significant Hazards Consideration Determination

The proposed changes would revise the Combined Licenses (COLs) with regard to Tier 1 information and associated COL Appendix C information by revising the annex and radwaste buildings by:

1. Updating the annex building column line designations on affected Tier 1 Figures and Tier 2 Figure 3.7.2-19.
2. Revising the radwaste building configuration including the shielding design and radiation area monitoring.

This activity involves changes to UFSAR Tier 2 text, tables, and figures and a change from plant-specific Tier 1 information. The Tier 1 change also involves a proposed amendment to corresponding information in Appendix C of the COLs.

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

The proposed annex building changes updating column line designations and the radwaste building change to add three bunkers for storage of moderate and high activity waste, incorporate the Waste Accumulation Room and the Packaged Waste Storage Room, revise shield wall thicknesses, and eliminate a radiation monitor no longer needed do not alter the assumed initiators to any analyzed event. These proposed changes do not affect the operation of any systems or equipment that could initiate an analyzed accident. The proposed changes to the annex building column line designations update the annex building column line designations in the Updated Final Safety Analysis Report (UFSAR) figures to make them consistent with the UFSAR figure for the auxiliary building. The radwaste building proposed changes do not affect any accident initiators, because there is no accident initiator located within that building. Based on the above, the probability of an accident previously evaluated will not be increased by these proposed changes.

The proposed annex and radwaste building configuration changes do not affect any radiological dose consequence analysis for UFSAR Chapter 15. No accident source term parameter or fission product barrier is impacted by these changes. Structures, systems, and components (SSCs) required for mitigation of analyzed accidents are not affected by these changes, and the functions of these buildings are not adversely affected by these changes. Consequently, this activity will not increase the consequences of any analyzed accident, including the main steam line limiting break.

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 proposed annex building changes updating column line designations and the radwaste building change to add three bunkers for storage of moderate and high activity waste, incorporate the Waste Accumulation Room and the Packaged Waste Storage Room, revise shield wall thicknesses, and eliminate a radiation monitor no longer needed do not change the design function of the either of these buildings or any of the systems or equipment contained therein or in any other Nuclear Island structures. These proposed changes do not adversely affect any system design functions or methods of operation. These changes do not introduce any new equipment or components or change the operation of any existing systems or equipment in a manner that would result in a new failure mode, malfunction, or sequence of events that could affect safety-related or non-safety-related equipment or result in a radioactive material release. This activity does not allow for a new radioactive material release path or result in a new radioactive material barrier failure mode.

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 changes do not affect any safety-related equipment, design code compliance, design function, design analysis, safety analysis input or result, or design/safety margin. The margin in the design of the annex and radwaste buildings is determined by the use of the current codes and standards and adherence to the assumptions used in the analyses of this structure and the events associated with this structure. The column line designations for the annex building in UFSAR Tier 2 figures are updated to make them consistent with the UFSAR figures for the auxiliary building. This change has no adverse impact on plant construction or operation. The design of the radwaste building, including the newly added bunkers for moderate and high activity waste, merging of the Waste Accumulation Room and the Packaged Waste Storage Room, will continue to be in accordance with the same codes and standards as stated in the UFSAR. The activity has no effect on off-site dose analysis for analyzed accidents.

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

4.4 Conclusions

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. The above evaluations demonstrate that the proposed changes can be

accommodated without an increase in the probability or consequences of an accident previously evaluated, without creating the possibility of a new or different kind of accident from any accident previously evaluated, and without a significant reduction in a margin of safety. Having arrived at negative declarations with regard to the criteria of 10 CFR 50.92, this assessment determined that the proposed 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 licensing amendment request.

This review supports a request to amend the Combined Licenses (COLs) to allow departure from various elements of the certification information in Tier 1 of the generic AP1000 DCD and the corresponding elements in Appendix C of the COL. The plant-specific Tier 1 elements for which a departure is requested include the Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) and/or ITAAC supporting information referenced in individual ITAAC. The plant-specific Tier 1 changes revise information regarding the annex and radwaste buildings configuration by:

1. Updating the annex building column line designations on affected Tier 1 figures and Tier 2 Figure 3.7.2-19.
2. Revising the radwaste building configuration including the shielding design and radiation area monitoring.

The proposed changes from plant-specific Tier 1 material reflect corresponding changes to UFSAR Tier 2 material.

This review has determined that the proposed change would require an amendment to the COL; however, a review of the anticipated construction and operational effects of the proposed amendment has determined that the proposed amendment meets 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, 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 changes are 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 changes do 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 changes to the annex and radwaste buildings do not adversely affect any plant radiation zones, and controls under 10 CFR Part 20 preclude a significant increase in occupational radiation exposure. Therefore, the proposed amendment does not involve a significant increase in individual or cumulative occupational radiation exposure.

Based on the above review of the proposed amendment, it has been determined that there are no anticipated construction and operational effects of the proposed amendment involving (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 proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed amendment is not required.

6. References

None.

Southern Nuclear Operating Company

Vogtle Electric Generating Plant Units 3 and 4

ND-14-0562

Enclosure 2

Exemption Request: Annex and Radwaste Building Changes

(LAR-13-019)

1.0 PURPOSE

Southern Nuclear Operating Company (the Licensee) requests a permanent exemption from the provisions of 10 CFR 52, Appendix D, Section III.B, "Design Certification Rule for the AP1000 Design, Scope and Contents," to allow a departure from elements of the certification information in Tier 1 of the generic AP1000 Design Control Document (DCD). The regulation, 10 CFR 52, Appendix D, Section III.B, requires an applicant or licensee referencing Appendix D to 10 CFR Part 52 to incorporate by reference and comply with the requirements of Appendix D, including certified information in DCD Tier 1. Tier 1 includes ITAAC that must be satisfactorily performed prior to fuel load. The design details to be verified by these ITAAC are specified in the text, tables, and figures that are referenced in each individual ITAAC. The Tier 1 information for which a plant-specific departure and exemption is being requested includes non-system based design descriptions and other detailed information related to these design descriptions and the associated ITAAC, such as changes to concrete wall thicknesses, column line designations in the annex building, and interior configuration of the radwaste building.

This request for exemption will apply the requirements of 10 CFR 52, Appendix D, Section VIII.A.4 to allow changes to Tier 1 information due to the following proposed changes to the non-system based design descriptions and ITAAC figures and tables:

- Section 3.3, Buildings
    - Paragraph 4c – delete discussion of the packaged waste storage room, which is incorporated into the waste accumulation room
    - Paragraph 6b – update the description and volume of the waste accumulation room per combination with the packaged waste storage room
- Table 3.3-6, Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)
    - Item 4b – update acceptance criteria for concrete thickness in the walls of the waste accumulation room to specify minimum required thickness near the radwaste bunkers
    - Item 4c – delete ITAAC related to the packaged waste storage room, which is incorporated into the waste accumulation room
    - Item 6b - update the design commitment, inspections, tests, analyses and acceptance criteria of the waste accumulation room following incorporation of the packaged waste storage room
- Table 3.5-5, Area Radiation Monitors – update table notes following merging of the rooms such that one monitor will serve the new combined space
- Figure 3.3-11A, Annex Building Plan View at Elevation 100'-0" sensitive unclassified non-safeguards information (SUNSI) – remove column line designations for columns 6, 8, 10, 11.15, 13.2, 13.3, 14.1, 15.1, 15.2, A, B, C and D
- Figure 3.3-12, Annex Building Plan View at Elevation 117'-6″ (SUNSI) – remove column line designations for columns 6, 8, 10, 11.15, 13.2, 13.3, 14.1, 15.1, 15.2, A, B, C and D
- Figure 3.3-13, Annex Building Plan View at Elevation 135'-3″ (SUNSI) – remove column line designations for columns 6, 8, 10, 11.15, 13.2, 13.3, 14.1, 15.1, 15.2, A, B, C and D

This request will apply the requirements for granting exemptions from design certification information, as specified in 10 CFR Part 52, Appendix D, Section VIII.A.4, 10 CFR 52.63, §52.7, and §50.12.

2.0 BACKGROUND

The Licensee is the holder of Combined License Nos. NPF-91 and NPF-92, which authorize construction and operation of two Westinghouse Electric Company AP1000 nuclear plants, named Vogtle Electric Generating Plant (VEGP) Units 3 and 4, respectively. During the detailed design finalization of the annex and radwaste buildings, departures from plant-specific DCD Tier 2 information were determined necessary to finalize the layout of space envelopes, orientations, and/or piping runs that comprise the structure or the systems within this structure. This activity requests exemption from the generic DCD Tier 1 descriptions, tables and figures that are involved with the plant-specific DCD Tier 2 departures, and which support the associated COL Appendix C ITAAC.

This activity requests exemption from elements of the AP1000 (Tier 1) design information to allow a departure from annex building Layout Figures to remove column line details that are not discussed in the design descriptions or associated ITAAC. In addition, this activity requests exemption from elements of the AP1000 (Tier 1) design information to allow a departure from design descriptions, figures and associated ITAAC for the radwaste building. The proposed departure would incorporate the Waste Accumulation Room and the Packaged Waste Storage Room of the radwaste building into one room, change the shield wall thicknesses in the radwaste building, add three bunkers to the radwaste building for storage of moderate and high activity waste and eliminate one radiation monitor due to the combination of the Waste Accumulation Room and the Packaged Waste Storage Room.

As discussed above, an exemption from elements of the AP1000 certified (Tier 1) design information is requested to allow plant-specific departures to be taken from non-system based design description and ITAAC Figures and Tables.

3.0 TECHNICAL JUSTIFICATION OF ACCEPTABILITY

An exemption is requested to depart from AP1000 generic Design Control Document (DCD) Tier 1 material by removing column line detail that is not discussed in the design descriptions or associated ITAAC from annex building Layout Figures. As discussed in Tier 1, Section 1.1, the design function of a column line is to provide a designation on the plant reference grid which is used to define the location of building walls and columns. The Tier 1 text, tables, and figures continue to communicate the structural design of the annex building. The proposed changes neither adversely impacts the ability to meet the design functions of the structures nor involve a significant decrease in the level of safety provided by the structure. Because the proposed changes are consistent with plant-specific DCD Tier 2 information and the design, the changes do not affect a structure, system or component. The proposed changes to the column line detail continue to provide the detail necessary to implement the corresponding ITAAC.

Additionally, the requested exemption would depart from the description of the radwaste building layout by merging the Packaged Waste Storage Room into the Waste Accumulation Room. The radwaste building is a non-seismic structure that has the non-safety-related design function of handling and storage of low and moderate or high activity wastes. The proposed modification of the radwaste building will continue to support that design function, while

providing for greater flexibility in handling these wastes and maintaining dose rates as low as reasonably achievable (ALARA). The proposed layout changes and associated changes to add shielded bunkers and reconfigure radiation monitors will not adversely impact the design functions or significantly reduce the level of safety. The proposed changes to the radwaste building Structure and contained equipment continue to meet their required functionality.

Detailed technical justification supporting this request for exemption is provided in Section 3 of the associated License Amendment Request in Enclosure 1 of this letter.

4.0 JUSTIFICATION OF EXEMPTION

10 CFR 52, Appendix D, Section VIII.A.4 and 10 CFR 52.63(b)(1) govern the issuance of exemptions from elements of the certified design information for AP1000 nuclear power plants. Because the Licensee has identified changes to the Tier 1 information related to the annex and radwaste buildings' layout and structures as a result of design finalization activities, an exemption to the certified design information in Tier 1 is needed.

10 CFR 52, Appendix D, and 10 CFR 50.12, §52.7, and §52.63 state that the NRC may grant exemptions from the requirements of the regulations provided six conditions are met: 1) the exemption is authorized by law [§50.12(a)(1)]; 2) the exemption will not present an undue risk to the health and safety of the public [§50.12(a)(1)]; 3) the exemption is consistent with the common defense and security [§50.12(a)(1)]; 4) special circumstances are present [§50.12(a)(2)(ii)]; 5) the special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption [§52.63(b)(1)]; and 6) the design change will not result in a significant decrease in the level of safety [Part 52, App. D, VIII.A.1].

The requested exemption to change the configuration and layout of the annex and radwaste buildings satisfies the criteria for granting specific exemptions, as described below.

1. **This exemption is authorized by law**

   The NRC has authority under 10 CFR 52.63, §52.7, and §50.12 to grant exemptions from the requirements of NRC regulations. Specifically, 10 CFR 50.12 and §52.7 state that the NRC may grant exemptions from the requirements of 10 CFR Part 52 upon a proper showing. No law exists that would preclude the changes covered by this exemption request. Additionally, granting of the proposed exemption does not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations.

   Accordingly, this requested exemption is "authorized by law," as required by 10 CFR 50.12(a)(1).

2. **This exemption will not present an undue risk to the health and safety of the public**

   The proposed exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow changes to elements of the plant-specific DCD Tier 1, to depart from the AP1000 certified (Tier 1) design information. The plant-specific DCD Tier 1 will continue to reflect the approved licensing basis for VEGP Units 3 and 4, and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the DCD. Therefore, the affected plant-specific DCD Tier 1 ITAAC will continue to serve its required purpose.

The changes to annex and radwaste buildings do not represent any adverse impact to their design functions or the systems, structures and components therein and will continue to protect the health and safety of the public in the same manner. The annex and radwaste building changes do not introduce any new industrial, chemical, or radiological hazards that would represent a public health or safety risk, nor do they modify or remove any design or operational controls or safeguards intended to mitigate any existing on-site hazards. Furthermore, the proposed changes would 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. Accordingly, these changes do not present an undue risk from any existing or proposed equipment or systems.

Therefore, the requested exemption from 10 CFR 52, Appendix D, Section III.B would not present an undue risk to the health and safety of the public.

3. The exemption is consistent with the common defense and security

The exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would change elements of the annex and radwaste building layout and structures as presented in the non-system based design descriptions and ITAAC figures and tables in the plant-specific DCD Tier 1, thereby departing from the AP1000 certified (Tier 1) design information. The proposed exemption will enable performance of the ITAAC associated with these changed elements, by reflecting the current design information in the text, tables, and figures that are referenced in these ITAAC. The exemption does not alter or impede the design, function, or operation of any plant SSCs associated with the facility's physical or cyber security, and therefore does not adversely affect any plant equipment that is necessary to maintain a safe and secure plant status. The proposed exemption has no adverse impact on plant security or safeguards.

Therefore, the requested exemption is consistent with the common defense and security.

4. Special circumstances are present

10 CFR 50.12(a)(2) lists six "special circumstances" for which an exemption may be granted. Pursuant to the regulation, it is necessary for one of these special circumstances to be present in order for the NRC to consider granting an exemption request. The requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii). That subsection defines special circumstances as when "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule."

The rule under consideration in this request for exemption is 10 CFR 52, Appendix D, Section III.B, which requires that a licensee referencing the AP1000 Design Certification Rule (10 CFR Part 52, Appendix D) shall incorporate by reference and comply with the requirements of Appendix D, including Tier 1 information. The VEGP Units 3 and 4 COLs reference the AP1000 Design Certification Rule and incorporate by reference the requirements of 10 CFR Part 52, Appendix D, including Tier 1 information. The underlying purpose of Appendix D, Section III.B is to describe and define the scope and contents of the AP1000 design certification, and to require compliance with the design certification information in Appendix D.

Changes are being made to resolve inconsistencies in the column line designation between the annex building and the auxiliary building figures in the UFSAR. The proposed changes to the annex building column line designations will facilitate plant layout and construction by improving the accuracy of the plant layout figures, with no impact on the ability of these structures to perform as designed.

Additional changes are being because the analysis of the radwaste building identified that a small amount of moderate activity waste would require a concrete slab too thick for the current structural design of the building to maintain adjacent areas at Zone 1 radiation levels. The proposed changes to the radwaste building are made to provide for greater operator flexibility in handling of waste before and after packaging, to minimize the quantity of shielded bunkers required for storage of moderate and high activity waste to keep radiation doses to As Low As is Reasonably Achievable (ALARA) values, to allow temporary shielding to maintain acceptable radiation levels on the radwaste building roof, and to maintain portions of the radwaste building at radiation Zone I levels.

Based on the above, each of the requested changes will facilitate plant construction and maintain or enhance future safe plant operation and maintenance, while providing greater operator flexibility and maintaining radiation doses as low as reasonably achievable. Accordingly, this change to the certified information will enable the licensee to safely construct, maintain, and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR Part 52, Appendix D.

Therefore, special circumstances are present, because application of the current generic certified design information in Tier 1 as required by 10 CFR Part 52, Appendix D, Section III.B, in the particular circumstances discussed in this request would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule.

5. The special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption

The exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would change elements of the plant-specific DCD Tier 1 by departing from standard AP1000 certified (Tier 1) design information. This exemption would allow a change to a non-system based design description and ITAAC figures and tables. Based on the nature of the proposed changes to the generic Tier 1 information and the understanding that these changes were identified during the design finalization process for the AP1000, it is expected that this exemption will be requested by other AP1000 licensees and applicants. However, a review of the reduction in standardization resulting the departure from the standard DCD determined that even if other AP1000 licensees and applicants do not request this same departure, the special circumstances will continue to outweigh any decrease in safety from the reduction in standardization because the key design functions of the annex and radwaste building structures associated with this request will continue to be maintained. Furthermore, the justification provided in the license amendment request and this exemption request and the associated mark-ups demonstrate that there is a limited change from the standard information provided in the generic AP1000 DCD, which is offset by the special circumstances identified above.

Therefore, the special circumstances associated with the requested exemption outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.

6. The design change will not result in a significant decrease in the level of safety.

The proposed exemption would allow changes to the annex and radwaste building structure and layouts as presented in non-system based design description and ITAAC figures and tables. The level of safety presented by plant structures is defined by the ability of the structures to protect the SSCs contained within these structures from hazards and to minimize the propagation of damage resulting from postulated events to the degree practical.

As a result of the limited-scope and nature of the proposed changes associated with this exemption request, no systems or equipment will be adversely impacted such that there are new failure modes introduced by these changes and the level of safety provided by the current annex and radwaste buildings and the systems and equipment contained therein will be maintained.

Because the proposed changes to the annex and radwaste building structure and layout will not adversely affect the ability of the buildings to perform their design functions and the level of safety provided by the annex and radwaste buildings and the systems and equipment contained therein is unchanged, it is concluded that the design change associated with proposed exemption will not result in a significant decrease in the level of safety.

5.0 RISK ASSESSMENT

A risk assessment was not determined to be applicable to address the acceptability of this proposal.

6.0 PRECEDENT EXEMPTIONS

None identified.

7.0 ENVIRONMENTAL CONSIDERATION

The Licensee requests a departure from elements of the certified information in Tier 1 of the generic AP1000 DCD. The Licensee has determined that the proposed departure would require a permanent exemption from the requirements of 10 CFR 52, Appendix D, Section III.B, “Design Certification Rule for the AP1000 Design, Scope and Contents” with respect to installation or use of facility components located within the restricted area, as defined in 10 CFR Part 20, or which changes an inspection or a surveillance requirement; however, the Licensee evaluation of the proposed exemption has determined that the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.25(c)(9).

Based on the above review of the proposed exemption, the Licensee has determined that the proposed activity does 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 proposed exemption 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.

Specific details of the environmental considerations supporting this request for exemption are provided in Section 5 of the associated License Amendment Request provided in Enclosure 1 of this letter.

8.0 CONCLUSION

The Licensee requests a permanent exemption for elements of AP1000 design certification information reflected in Tier 1. The proposed changes to Tier 1 are necessary to revise a non-system based design description and ITAAC figure and table in the plant-specific DCD Tier 1 to reflect proposed plant-specific design. The proposed exemption would allow departure from AP1000 generic Tier 1 DCD information by removing column line designations from Tier 1 figures to allow updated column line designations in the corresponding more-detailed Tier 2 figures of the annex building, revise the radwaste building layout to increase operator flexibility in handling waste before and after packaging, and modify the building structures and area radiation monitors of the affected area per the new layout. The exemption request meets the requirements of 10 CFR 52.63, “Finality of design certifications,” 10 CFR 52.7, “Specific exemptions,” 10 CFR 50.12, “Specific exemptions,” and 10 CFR 52 Appendix D, “Design Certification Rule for the AP1000.” Specifically, the exemption request meets the criteria of 10 CFR 50.12(a)(1) in that the request is authorized by law, presents no undue risk to public health and safety, and is consistent with the common defense and security. Furthermore, approval of this request does not result in a significant decrease in the level of safety, satisfies the underlying purpose of the AP1000 Design Certification Rule, and does not present a significant decrease in safety as a result of a reduction in standardization.

9.0 REFERENCES

1.) Westinghouse Electric Company, “AP1000 Design Control Document,” Revision 19, June 2011.

Southern Nuclear Operating Company

Vogtle Electric Generating Plant Units 3 and 4

ND-14-0562

Enclosure 3

Licensing Basis Documents-Proposed Changes

(LAR-13-019)

Insertions are denoted by Blue Underline and Deletions by Red Strikethrough

(Note that the sheet numbers and the total number of sheets for the marked-up Tables provided in this Enclosure may be changed by the incorporation of this and other departures. These changes are considered editorial and do not require evaluation in this submittal.)

Tier 1, Section 3.3, *Buildings*

[VEGP Tier 1, page 3.3-3]

[VEGP Unit 3 COL, Appendix C, page C-410]

[VEGP Unit 4 COL, Appendix C, page C-410]

Paragraph (4c) is deleted.

~~c) The walls on the outside of the packaged waste storage room in the radwaste building provide shielding from stored waste.~~

Paragraph (6b) is modified as shown below.

b) The radwaste building ~~packaged~~ waste ~~storage~~ accumulation room has a volume greater than or equal to ~~1293~~ 1417 cubic feet.

Tier 1, Table 3.3-6, *Inspections, Tests, Analyses, and Acceptance Criteria*

[VEGP Tier 1, pages 3.3-22 & 3.3-23]

[VEGP Unit 3 COL, Appendix C, pages C-428 & C-429]

[VEGP Unit 5 COL, Appendix C, pages C-428 & C-429]

(Excerpts from) Table 3.3-6 Inspections, Tests, Analyses, and Acceptance Criteria		
4.b) Walls of the waste accumulation room in the radwaste building except for designed openings or penetrations provide shielding during normal operations.	Inspection of the as-built radwaste building wall thicknesses will be performed.	A report exists and concludes that the shield walls of the waste accumulation room in the radwaste building except for designed openings or penetrations are consistent with the minimum concrete wall thicknesses of 1′-4″, *and a minimum concrete wall thickness of 1'-8" near the radwaste bunkers.*
~~4.c) Walls of the packaged waste storage room in the radwaste building except for designed openings or penetrations provide shielding during normal operations.~~	~~Inspection of the as-built radwaste building wall thicknesses will be performed.~~	~~A report exists and concludes that the shield walls of the packaged waste storage room in the radwaste building except for the wall shared with the waste accumulation room and designed openings or penetrations are consistent with the minimum concrete wall thicknesses of 2'.~~
↕	↕	↕
6.b) The radwaste building ~~package~~ waste ~~storage~~ accumulation room has a volume greater than or equal to ~~1293~~ 1417 cubic feet.	An inspection of the radwaste building ~~packaged~~ waste ~~storage~~ accumulation room (~~50352~~50351) is performed.	The volume of the radwaste building ~~packaged~~ waste ~~storage~~ accumulation room (~~50352~~50351) is greater than or equal to ~~1293~~ 1417 cubic feet.

Tier 1, Table 3.5-5, *Area Radiation Monitors*

[VEGP Tier 1, page 3.5-4]

[VEGP Unit 3 COL, Appendix C, page C-445]

[VEGP Unit 4 COL, Appendix C, page C-445]

Table 3.5-5 **Area Radiation Monitors**	
Primary Sampling Room	RMS-RE008
Containment Area – Personnel Hatch Operating Deck (135'-3" Elevation)	RMS-RE009
Main Control Room	RMS-RE010
Chemistry Laboratory	RMS-RE011
Fuel Handling Area 1	RMS-RE012
Rail Car Bay/Filter Storage Area (Auxiliary Building Loading Bay)	RMS-RE013
Liquid and Gaseous Radwaste Area~~(1)~~	RMS-RY014
Control Support Area	RMS-RE016
Radwaste Building Mobile Systems Facility	RMS-RE017
Hot Machine Shop	RMS-RE018
Annex Staging and Storage Area	RMS-RE019
Fuel Handling Area 2	RMS-RE020
Containment Area – Personnel Hatch Maintenance Level (100'-0" Elevation)	RMS-RE021

~~**Note:**~~

~~1. This monitor includes multiple detectors to monitor the areas of interest.~~

UFSAR, Subsection 9.4.8, *Radwaste Building HVAC System*

9.4.8 Radwaste Building HVAC System

The radwaste building HVAC system serves the radwaste building which includes the clean electrical/mechanical equipment room and the potentially contaminated HVAC equipment room~~, the packaged waste storage room,~~ the waste accumulation room, and the mobile systems facility.

UFSAR Figure 9.4.8-1, *Radwaste Building HVAC System*

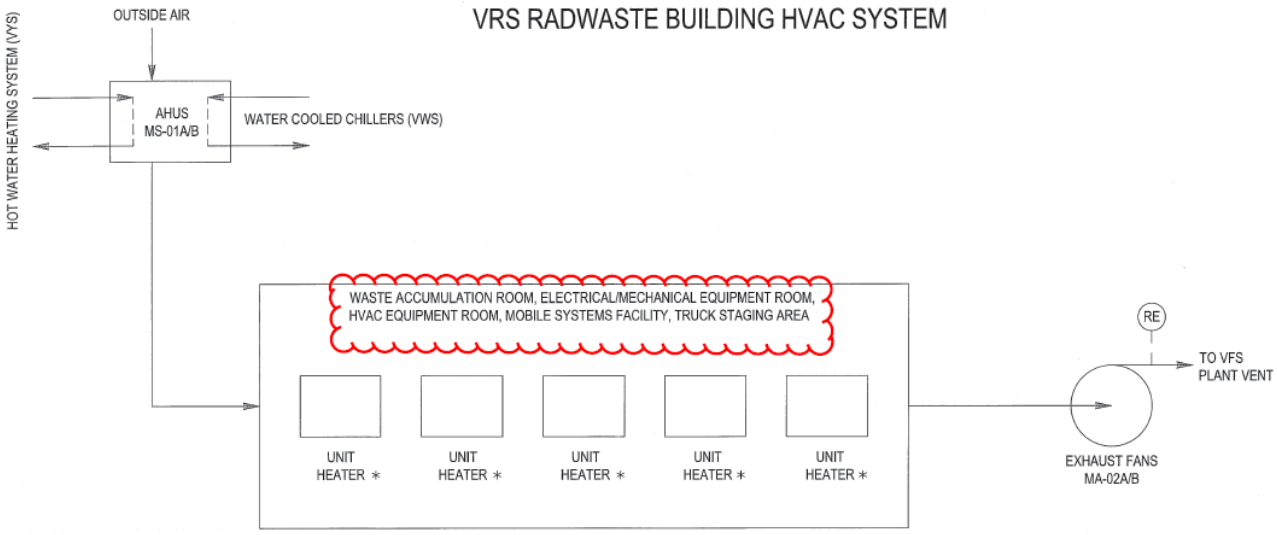

Figure 9.4.8-1

Radwaste Building HVAC System
(REF) VRS 001, 002, 003

UFSAR, Subsection 9A.3.5.1, *Fire Area 5031 AF 01*

9A.3.5.1 Fire Area 5031 AF 01

The fire area is subdivided into the following fire zones:

Fire Zone	Room No.	
• 5031 AF 50300	50300	Electrical/mechanical equipment room
• 5031 AF 50350	50350	Mobile systems facility
• 5031 AF 50351	50351	Waste accumulation room
~~• 5031 AF 50352~~	~~50352~~	~~Packaged waste storage room~~
• 5031 AF 50353	50353	HVAC equipment room
• 5031 AF 50354	50354	Truck staging area
• 5031 AF 50355	50355	Monitor tanks room

Various radwaste processing and packaging operations are performed utilizing the mobile system facilities. Moderate quantities of radioactive materials are present in the fire area during all modes of plant operation.

Fire Detection and Suppression Features

- Fire detectors
- Preaction sprinklers (fire zones 5031 AF 50350, and -50351~~, and 50352~~)
- Hose station(s)
- Portable fire extinguishers

UFSAR, Table 9A-3, *Fire Protection Summary*

(Excerpt from)

Table 9A-3

FIRE PROTECTION SUMMARY

Fire Area/ Zone [1]	Safety Area ? [2]	Floor Area Sq Ft	Combust. Material [3]	Fire Sev. Cat.	Amount	Heat Value (Btu)	Comb. Load, Btu/Sq Ft	Equiv. Dur. (Min)	Boundary Fire Res [4] (Hours)	Detect. Cap.	Fixed Suppression Capability [5]
5031 AF 50351 WASTE ACCUMULATION ROOM			LUBE OIL	E	300	4.5E+07				HEAT	PREACTION SPRINKLERS HOSE STATION
			CABLE INS	C	~~1500~~ *2000*	~~1.5E+07~~ *2.0E+07*					
			CLOTH	B	10000	8.0E+07					
			PAPER	C	2500	1.9E+07					
			TRASH	B	31000	2.4E+08					
			PLASTIC	D	~~500~~ 550	~~6.6E+06~~ 7.3E+07					
			WOOD	C	~~400~~ 800	~~3.4E+06~~ 6.7E+06					
			RUBBER	D	500	6.1E+06					
			VOLATILES	E	10	1.4E+06					
		~~1500~~ 2310	NET CAT.	E	TOTAL:	~~4.2E+08~~ 4.3+08	~~277000~~ 184000	~~208~~ 138			
~~5031 AF 50352 PACKAGED WASTE STORAGE~~			~~CABLE INS~~	~~C~~	~~500~~	~~5.1E+06~~				~~HEAT~~	~~PREACTION SPRINKLERS HOSE STATION~~
			~~PLASTIC~~	~~D~~	~~50~~	~~6.6E+05~~					
			~~WOOD~~	~~C~~	~~400~~	~~3.4E+06~~					
		~~810~~	~~NET CAT.~~	~~D~~	~~TOTAL:~~	~~9.1E+06~~	~~11000~~	~~8~~			
5031 AF 50353 HVAC EQUIPMENT ROOM			CABLE INS	C	1100	1.1E+07				HEAT	HOSE STATION
			PLASTIC	D	20	2.6E+05					
			LUBE OIL	E	2	3.0E+05					
			VOLATILES	E	10	1.4E+06					
		840	NET CAT.	D	TOTAL:	1.3E+07	16000	11			
5031 AF 50354 TRUCK STAGING AREA			CABLE INS	C	400	4.1E+06				HEAT	PREACTION SPRINKLERS HOSE STATION
			PLASTIC	D	20	2.6E+05					
			LUBE OIL	E	2	3.0E+05					
			VOLATILES	E	10	1.4E+06					
			FUEL OIL	E	100	1.4E+07					
		792	NET CAT.	E	TOTAL:	2.0E+07	26000	19			
5031 AF 50355 MONITOR TANK ROOM			CABLE INS	C	1600	1.6E+07				NONE	HOSE STATION
			VOLATILES	E	40	5.4E+06					
			LUBE OIL	E	5	7.6E+05					
		1210	NET CAT.	E	TOTAL:	2.3E+07					
FIRE AREA TOTAL:		12483	NET CAT.	E	TOTAL:	6.0E+08	~~47805~~ 48065	36			

UFSAR, Subsection 11.4.2.1, *General Description*, seventh paragraph

11.4.2.1 General Description

The expected disposal volumes of wet and dry wastes are approximately 547 and 1417 cubic feet per year, respectively as shown in Table 11.4-1. The wet wastes shipping volumes include 510 cubic feet per year of spent ion exchange resins and deep bed filter activated carbon, 20 cubic feet of volume reduced liquid chemical wastes and 17 cubic feet of mixed liquid wastes. The spent resins and activated carbon are initially stored in the spent resin storage tanks located in the rail car bay of the auxiliary building. When a sufficient quantity has accumulated, the resin is sluiced into two 158 cubic feet high-integrity containers in anticipation of transport for offsite disposal. Liquid chemical wastes are reduced in volume and packaged into three 55-gallon drums per year (about 20 cubic feet) and are stored in the ~~packaged~~ waste ~~storage~~ accumulation room of the radwaste building. The mixed liquid wastes fill less than three drums per year (about 17 cubic feet per year) and are stored on containment pallets in the waste accumulation room of the radwaste building until shipped offsite for processing.

UFSAR, Subsection 11.4.2.1, *General Description,* tenth and eleventh paragraphs

The dry solid radwaste includes 1383 cubic feet per year of compactible and non-compactible waste packed into about 14 boxes (90 cubic feet each) and ten drums per year. Drums are used for higher activity compactible and non-compactible wastes. Compactible waste includes HVAC exhaust filter, ground sheets, boot covers, hair nets, etc. Non-compactible waste includes about 60 cubic feet per year of dry activated carbon and other solids such as broken tools and wood. Solid mixed wastes will occupy 7.5 cubic feet per year (one drum). The low activity spent filter cartridges may be compacted to fill about 0.40 drums per year (3 ft^3/year) and are stored in the ~~packaged~~ waste ~~storage~~ accumulation room. Compaction is performed by mobile equipment or is performed offsite. High activity filter cartridges fill three drums per year (22.5 cubic feet per year) and are stored in portable processing or storage casks in the rail car of the auxiliary building.

The total volume of packaged radwaste to be stored in the radwaste building ~~packaged~~ waste ~~storage~~ accumulation room is 1417 cubic feet per year at the expected rate and 2544 cubic feet per year at the maximum rate. The compactible and non-compactible dry wastes, packaged in drums or steel boxes, are stored with the mixed liquid and mixed solid, volume reduced liquid chemical wastes, and the lower activity filter cartridges. The quantities of packaged liquid radwaste stored in the ~~packaged~~ waste ~~storage~~ accumulation room of the radwaste building consist of 20 cubic feet of chemical waste and 17 cubic feet of mixed liquid waste. The available minimum useful storage volume for packaged waste in the ~~packaged~~ waste ~~storage~~ accumulation room is ~~approximately~~ 3900 cubic feet (10 feet deep, 30 feet long, and 13 feet high), which accommodates more than one full offsite waste shipment using a tractor-trailer truck. The ~~packaged~~ waste ~~storage~~ accumulation room provides storage for more than two years at the expected rate of generation and more than a year at the maximum rate of generation. One four-drum containment pallet provides more than 8 months of storage capacity for the liquid mixed wastes and the volume reduced liquid chemical wastes at the expected rate of generation and more than 4 months at the maximum rate.

UFSAR, Subsection 11.4.2.3.2, *Spent Filter Processing Operations*, seventh paragraph

The drum covers are manually installed, and the drums are smear surveyed, decontaminated by wiping, if required, weighed, stacked on pallets, and placed in the ~~packaged~~ waste ~~storage~~ accumulation room.

UFSAR, Subsection 11.4.2.3.3, *Dry Waste Processing Operations*, fifth paragraph

Moderate-activity wastes (5 mR/hr to 100 mR/hr) are expected to be sorted in a mobile system to remove reusable items such as protective clothing articles and tools, hazardous wastes, and larger noncompressible items. The remaining wastes are normally compacted by mobile equipment. The packaged wastes may be loaded directly onto a truck for shipment or may be stored in the ~~packaged~~ waste ~~storage~~ accumulation room until a truck load quantity accumulates.

UFSAR, Subsection 11.4.2.5.2, *Radwaste Building*

The radwaste building, described in Section 1.2, houses the mobile systems facility~~. It also includes~~ and the waste accumulation room ~~and the packaged waste storage room~~. These rooms are serviced by the mobile systems facility crane.

In the mobile systems facility, three truck bays provide for mobile or portable processing systems and for waste disposal container shipping and receiving. A shielded pipe trench to each of the truck bays is used to route liquid radwaste supply and return lines from the connections in the shielded pipe pit at the auxiliary building wall. Separate areas are reserved for empty (new) waste disposal container storage, container laydown, and forklift charging. An area is available near the door to the annex building for protective clothing dropoff and frisking.

The waste accumulation room ~~(pre-processing)~~ is divided as needed, using partitions and portable shielding to adjust the storage areas for different waste categories as needed to complement the radioactivity levels and volumes of generated wastes. The accumulation room also contains three 1000 cubic feet (10 feet x 10 feet x 10 feet) bunkers with removable shielding for moderate activity waste. High activity waste will be stored in these bunkers with additional temporary shielding. The accumulation room has lockable doors to minimize unauthorized entry and inadvertent exposure.

~~The packaged waste storage room may be separated into high- and low-activity areas, using portable shielding to minimize exposure while providing operational flexibility. A lockable door is provided to minimize unauthorized entry and radiation exposure.~~

The heating and ventilating system for the radwaste building is described in Subsection 9.4.8.

UFSAR, Table 11.5-2, *Area Radiation Monitor Detector Parameters*

Table 11.5-2

AREA RADIATION MONITOR DETECTOR PARAMETERS

Detector	Type	Service	Nominal Range
PXS-JE-RE160	γ	Containment High Range (Note 3)	1.0E-0 to 1.0E+7 R/hr
PXS-JE-RE161	γ	Containment High Range (Note 3)	1.0E-0 to 1.0E+7 R/hr
PXS-JE-RE162	γ	Containment High Range (Note 3)	1.0E-0 to 1.0E+7 R/hr
PXS-JE-RE163	γ	Containment High Range (Note 3)	1.0E-0 to 1.0E+7 R/hr
RMS-JE-RE008	γ	Primary Sampling Room	1.0E-1 to 1.0E+7 mR/hr
RMS-JE-RE009	γ	Containment Area Personnel Hatch – Operating Deck – 135'-3" Elevation	1.0E-1 to 1.0E+4 mR/hr (Note 1)
RMS-JE-RE010	γ	Main Control Room	1.0E-1 to 1.0E+4 mR/hr
RMS-JE-RE011	γ	Chemistry Laboratory Area	1.0E-1 to 1.0E+4 mR/hr
RMS-JE-RE012	γ	Fuel Handling Area	1.0E-1 to 1.0E+4 mR/hr (Note 2)
RMS-JE-RE013	γ	Rail Car Bay/Filter Storage Area (Note 4)	1.0E-1 to 1.0E+4 mR/hr
RMS-JE-RE014~~A~~	γ	Liquid and Gaseous Radwaste Area~~-1~~	1.0E-1 to 1.0E+4 mR/hr
~~RMS-JE-RE014B~~	~~γ~~	~~Liquid and Gaseous Radwaste Area-2~~	~~1.0E-1 to 1.0E+4 mR/hr~~
RMS-JE-RE016	γ	CSA Area	1.0E-1 to 1.0E+4 mR/hr
RMS-JE-RE017	γ	Radwaste Bldg. Mobile Systems Facility (Note 4)	1.0E-1 to 1.0E+4 mR/hr
RMS-JE-RE018	γ	Hot Machine Shop	1.0E-1 to 1.0E+4 mR/hr
RMS-JE-RE019	γ	Annex Staging & Storage Area	1.0E-1 to 1.0E+4 mR/hr
RMS-JE-RE020	γ	Fuel Handling Area	1.0E-1 to 1.0E+4 mR/hr (Note 2)
RMS-JE-RE021	γ	Containment Area Personnel Hatch – Maintenance Level – 100'-0" Elevation	1.0E-1 to 1.0E+04 mR/hr (Note 1)

Notes:

1. Radiation levels are monitored by the permanent containment area radiation monitor and by a portable bridge monitor during refueling operations. The containment area radiation monitor is located to best measure the increase in exposure rates for this area and to provide an alarm locally and in the main control room.
2. Radiation levels are monitored by the permanent fuel handling area radiation monitors and by a portable bridge monitor during fuel handling operations. The fuel handling area radiation monitors are located to best measure the increase in exposure rates for this area and to provide an alarm locally and in the main control room.
3. Safety-related
4. Monitors areas used for storage of wet wastes (including processed and packaged spent resins) and dry wastes.

UFSAR Subsection 12.3.2.2.5, *Radwaste Building Shielding Design*

Shielding is provided as necessary for the waste storage areas in the radwaste building to meet the radiation zone and access requirements. Depending on the equipment in the compartments, the radiation zoning varies from Zone I through IV as shown on the radiation zone drawing of Figure 12.3-1. Temporary partitions and shield walls will be provided, as required, to supplement the three bunkers that have removable shielding, and the permanent shield walls surrounding the waste accumulation ~~and packaged waste storage~~ room~~s~~ inside the radwaste building.