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Docket Nos.: 52-025
52-026

ND-15-1257
10 CFR 50.90
10 CFR 52.63

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:
Radiologically Controlled Area Ventilation System (VAS)
Design Changes (LAR-15-011)

Ladies and Gentlemen:

Pursuant to 10 CFR 52.98(c) and 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 Combined License (COL) Numbers NPF-91 and NPF-92, for VEGP Units 3 and 4, respectively. The requested amendment requires changes to the Updated Final Safety Analysis Report (UFSAR) in the form of departures from the incorporated plant-specific Design Control Document (PS-DCD) Tier 2 information, and involves changes to related Tier 1 information, with corresponding changes to the associated COL Appendix C information. 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 is also requested for the plant-specific DCD Tier 1 material departures.

The requested amendment proposes changes to the Radiologically Controlled Area Ventilation System (VAS) configuration and equipment list by relocating one radiation monitor and adding one radiation monitor. Enclosure 1 provides the description, technical evaluation, regulatory evaluation (including the Significant Hazards Consideration determination), and environmental considerations for the proposed changes in the License Amendment Request (LAR). Enclosure 2 provides the background and supporting basis for the requested exemption. Enclosure 3 identifies the requested changes and provides markups depicting the requested changes to the plant-specific Tier 1 and PS-DCD Tier 2 text and tables.

This letter contains no regulatory commitments.

SNC requests staff approval of this license amendment and exemption by October 10, 2016 to support installation of the VAS radiation monitoring equipment. Delayed approval of this licensing request could result in delay of the associated construction activity and subsequent dependent construction activities. SNC expects to implement the proposed amendment (through incorporation into the licensing basis documents; e.g., the UFSAR and COL Appendix C) within 30 days of the approval of the requested changes.


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.

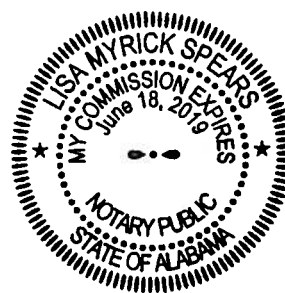
Should you have any questions, please contact Mr. Jason Redd at (205) 992-6435.

Mr. Wesley A. Sparkman states that: he is the Regulatory Affairs Licensing Manager, Nuclear Development, 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


Wesley A. Sparkman



WAS/WES/ljs

Sworn to and subscribed before me this 24th day of November, 2015

Notary Public: Lisa Myrick Spears

My commission expires: June 18, 2019

- Enclosures:
- 1) License Amendment Request; Radiologically Controlled Area Ventilation System (VAS) Design Changes (LAR-15-011)
 - 2) Exemption Request for Radiologically Controlled Area Ventilation System (VAS) Design Changes (LAR-15-011)
 - 3) Proposed Changes to Licensing Basis Documents (LAR-15-011)

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Southern Nuclear Operating Company

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

ND-15-1257

Enclosure 1

License Amendment Request

Radiologically Controlled Area Ventilation System (VAS) Design Changes

(LAR-15-011)

(This Enclosure contains 18 pages, including this cover)

ND-15-1257

Enclosure 1

License Amendment Request: Radiologically Controlled Area Ventilation System (VAS) Design Changes
(LAR-15-011)

Table of Contents

1. Summary Description
2. Detailed Description
3. Technical Evaluation
4. Regulatory Evaluation
 - 4.1 Applicable Regulatory Requirements/Criteria
 - 4.2 Precedent
 - 4.3 Significant Hazards Consideration Determination
 - 4.4 Conclusions
5. Environmental Considerations
6. References

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

1. Summary Description

The proposed changes revise the Combined Licenses (COLs) concerning the design details of the radiologically controlled area ventilation system (VAS). These proposed changes include the following:

1. Annex building exhaust radiation detector VAS-JE-RE003 is renamed as auxiliary building exhaust radiation detector VAS-JE-RE003, and relocated from the current location which services both annex building and auxiliary building radiologically controlled areas into an upstream branch exhaust duct servicing auxiliary building radiologically controlled areas only. This allows sufficient space for the radiation detector.
2. Descriptions of the auxiliary building areas monitored by auxiliary building exhaust radiation detector VAS-JE-RE002 and renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003 are separated and updated in the Updated Final Safety Analysis Report (UFSAR) to be consistent with the exhaust radiation detector changes, to reflect current plant nomenclature and to correct any editorial discrepancies in the names of the monitored rooms and corridors.
3. Annex building exhaust radiation detector VAS-JE-RE008 is added to provide radiation monitoring of the annex building exhaust that auxiliary building exhaust radiation detector VAS-JE-RE003 is not able to provide in its new location.
4. Descriptions of the annex building areas monitored by new annex building exhaust radiation detector VAS-JE-RE008 are updated in the UFSAR to be consistent with the exhaust radiation detector changes, to reflect current plant nomenclature and to correct any editorial discrepancies in the names of the monitored rooms and corridors.

The proposed amendment requires changes to the UFSAR in the form of departures from the incorporated plant-specific Design Control Document (PS-DCD) Tier 2 information (as detailed in Section 2), and involves changes to related plant-specific DCD Tier 1 information, with corresponding changes to the associated COL Appendix C information. This enclosure requests approval of the license amendment necessary to implement the PS-DCD Tier 2 and COL changes. Enclosure 2 of this letter includes a request for the exemption necessary to implement the involved changes to the plant-specific DCD Tier 1 information.

2. Detailed Description

The VAS serves the fuel handling area of the auxiliary building, and the radiologically controlled portions of the auxiliary building and annex building, except for the health physics and hot machine shop areas, which are provided with a separate ventilation system (UFSAR Subsection 9.4.3). The VAS consists of two subsystems, the auxiliary/annex building ventilation subsystem and the fuel handling area ventilation subsystem (UFSAR Subsection 9.4.3.2). The subsystems provide ventilation to maintain occupied areas and access and equipment areas within their design temperature range. Additionally, they provide outside air for plant personnel and prevent the unmonitored releases of airborne radioactivity to the atmosphere or adjacent plant areas.

The auxiliary/annex building ventilation subsystem supply air handling units discharge into a ducted supply distribution system, which is routed through the radiologically controlled areas of the auxiliary building and

annex building. The supply and exhaust ducts have isolation dampers that close to isolate the auxiliary building and annex building from the outside environment when high airborne radioactivity is detected in the exhaust air ducts. The supply and exhaust ducts are configured so that two building zones may be independently isolated. The first zone includes the annex building staging and storage area, containment air filtration exhaust rooms, and containment access corridor, and the adjacent auxiliary building staging, equipment areas, middle annulus, middle annulus access room, and security rooms. This zone is monitored by annex building exhaust radiation detector VAS-JE-RE003. The second zone includes the remaining auxiliary building areas, including but not limited to the radiation chemistry laboratory, primary sample room, spent fuel pool cooling water pump and heat exchanger rooms, chemical and volume control system (CVS) makeup pump room, lower annulus, and various radwaste equipment rooms, pipe chases and access corridors. This zone is monitored by auxiliary building exhaust radiation detector VAS-JE-RE002. These radiation detectors are located in the exhaust air duct from each zone (UFSAR Subsection 9.4.3.2.1.1).

One of the functions of the VAS is to automatically isolate each of the zones identified above independently by closing the respective zone supply and exhaust duct isolation dampers and starting the containment air filtration system when high airborne radioactivity in the exhaust air duct is detected (UFSAR Subsection 9.4.3.1.2).

The auxiliary building exhaust radiation detector VAS-JE-RE002 and annex building exhaust radiation detector VAS-JE-RE003 measure the concentration of radioactive materials in the VAS exhaust air from each zone. The radiation detectors are upstream of the respective zone exhaust air isolation damper. When a predetermined setpoint is exceeded, indicating abnormal airborne radiation, each associated zone exhaust radiation monitor provides signals to alarm in the main control room, to initiate closure of the zone supply and exhaust air isolation dampers, to open the zone exhaust air isolation damper to the containment air filtration exhaust units, and to start a containment air filtration exhaust unit. These actions provide a filtered air path from each zone to the plant vent. The zone exhaust radiation monitors are inline monitors that use a beta-sensitive scintillation detector. Each radiation detector is located with the sensitive volume inside the exhaust duct (UFSAR Subsection 11.5.2.3.2).

Note: VAS-JE-RE003 and VAS-JE-RE002 are identified as VAS-RE003 and VAS-RE002 respectively in plant-specific Tier 1 information and COL Appendix C. Similarly, VAS-JE-RE008 will be identified as VAS-RE008 in plant-specific Tier 1 information and COL Appendix C.

2.1. Renaming and Relocating VAS Radiation Detector VAS-JE-RE003

Due to space constraints in auxiliary building room 12651, inadequate space currently exists in this room for annex building exhaust radiation detector VAS-JE-RE003 at the original duct location. Nonsafety-related annex building exhaust radiation detector VAS-JE-RE003 currently monitors one of the two auxiliary building exhaust ducts and the single annex building exhaust duct together as a combined exhaust duct flow. Because of the crossover arrangement of the VAS duct and available space, radiation detector VAS-JE-RE003 can only be moved from the current location which services both annex building and auxiliary building radiologically controlled areas into an upstream branch exhaust duct to monitor auxiliary building radiologically controlled areas only. Therefore, annex building exhaust radiation detector VAS-JE-RE003 is proposed to be renamed as auxiliary building exhaust radiation detector VAS-JE-RE003, and relocated to monitor the one duct of the two auxiliary building exhaust ducts that auxiliary building exhaust radiation detector VAS-JE-RE002 does not monitor. Monitoring of the annex building is to be

performed as described in Section 2.2.

In the current configuration, radiation detector VAS-JE-RE003 is located in auxiliary building room 12651 (i.e., the VAS equipment room at elevation 145'-9"). In the proposed configuration, radiation detector VAS-JE-RE003 is relocated a few feet north of its current location in the same room 12651. Room 12651 is classified as radiation zone II, and continues to be classified as radiation zone II. In the proposed configuration, the radiation detector VAS-JE-RE003 parameters, sensitivity, and range do not change from the current configuration (UFSAR Table 11.5-1). The proposed auxiliary building exhaust radiation detector VAS-JE-RE003 monitors the same auxiliary building areas, and retains its current functions to alarm in the control room, to isolate the zone (UFSAR Subsection 9.4.3.2.1.1), and to start the containment air filtration system when high airborne radioactivity in the exhaust air duct is detected (UFSAR Subsection 9.4.3.2.3.1). Auxiliary building exhaust radiation detector VAS-JE-RE003 remains subject to COL Appendix C and plant-specific DCD Tier 1 Section 3.5 and Table 3.5-6 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 7, which reference ITAAC Tables 3.5-7 and 3.5-4, respectively.

In the current UFSAR Figure 9.4.3-1 (Sheet 2 of 3), the radiologically controlled areas in the auxiliary building in both zones are shown as monitored by auxiliary building exhaust radiation detector VAS-JE-RE002, and the radiologically controlled areas in the annex building are shown as monitored by annex building exhaust radiation detector VAS-JE-RE003. This is incorrect, as annex building exhaust radiation detector VAS-JE-RE003 monitors both the annex building and portions of the auxiliary building in the first zone, while auxiliary building exhaust radiation detector VAS-JE-RE002 monitors the remainder of the auxiliary building in the second zone, as described in UFSAR Subsection 9.4.3.2.1.1. Therefore, the areas in the auxiliary building monitored by auxiliary building exhaust radiation detector VAS-JE-RE002 and renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003 are separated and updated in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) to be consistent with the exhaust radiation detector changes, to reflect current plant nomenclature, and to correct any editorial discrepancies in the names of the monitored rooms and corridors.

Table 2.1-1 below lists the radiologically controlled areas currently shown in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) monitored by auxiliary building exhaust radiation detector VAS-JE-RE002, and the changes made to clearly define the areas monitored by either auxiliary building exhaust radiation detector VAS-JE-RE002 or renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003. The names of the rooms and corridors are revised in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) as necessary to reflect current plant nomenclature and to correct any editorial discrepancies, as shown in Table 2.1-1. Rooms and corridors to be monitored by new annex building detector VAS-JE-RE008 are shown in Table 2.2-1.

Table 2.1-1

<u>Rooms and Corridors Shown on UFSAR Figure 9.4.3-1</u>	<u>Rooms and Corridors Shown on Proposed UFSAR Figure 9.4.3-1 Markup</u>	<u>Room No.</u>	<u>Updated Radiation Detector</u>
N/A ¹	Stairwell	S03	VAS-JE-RE003
Stairwell	Stairwell	S04	VAS-JE-RE002
Demineralizer/Filter Room	Demineralizer/Filter Room	12151	VAS-JE-RE002
Primary Sample Room	Primary Sample Room	12152	VAS-JE-RE002
N/A ²	Delay Bed/Guard Bed Compartment	12153	VAS-JE-RE002
Aux Building Sump Room	Auxiliary Building Sump Room ³	12154	VAS-JE-RE002
WSG Equipment Room	WSG Equipment Room ³	12155	VAS-JE-RE002
WLS Equipment Room	WLS Equipment Room	12156	VAS-JE-RE002

<u>Rooms and Corridors Shown on UFSAR Figure 9.4.3-1</u>	<u>Rooms and Corridors Shown on Proposed UFSAR Figure 9.4.3-1 Markup</u>	<u>Room No.</u>	<u>Updated Radiation Detector</u>
Degasifier Discharge Pump Room	Degasifier Discharge Pump Room	12158	VAS-JE-RE002
Corridor El. 66' – 6"	East Corridor El. 66' – 6" ³	12161	VAS-JE-RE002
RNS Pump Rooms	RNS Pump Room A ³	12162	VAS-JE-RE002
	RNS Pump Room B ³	12163	VAS-JE-RE002
N/A ¹	Waste Holdup Tank Room A	12166	VAS-JE-RE002
N/A ¹	Waste Holdup Tank Room B	12167	VAS-JE-RE002
N/A ¹	Vestibule El. 66' – 6"	12168	VAS-JE-RE002
N/A ¹	West Corridor El. 66' – 6"	12169	VAS-JE-RE002
Effluent Holdup Tank Rooms	Effluent Holdup Tank Room A ³	12171	VAS-JE-RE002
	Effluent Holdup Tank Room B ³	12172	VAS-JE-RE002
Lower Annulus East	Lower Annulus East	12241	VAS-JE-RE002
Lower Annulus South-East	Lower Annulus Southeast ³	12242	VAS-JE-RE002
Lower Annulus South-West	N/A ⁴	N/A ⁴	N/A ⁴
Lower Annulus Valve Area	Lower Annulus Valve Area	12244	VAS-JE-RE002
Deminerlizer/Filter Access Area	Deminerlizer/Filter Access Area	12251	VAS-JE-RE002
Rad Chem Lab	Radiochemistry Laboratory ³	12252	VAS-JE-RE002
Pipe Chase	Deminerlizer/Filter Pipe Chase ³	12253	VAS-JE-RE002
SFS Penetration Room	SFS Penetration Room	12254	VAS-JE-RE002
CVS Makeup Pump Room	CVS Makeup Pump Room	12255	VAS-JE-RE002
Containment Isolation Valve Room	Containment Isolation Valve Room	12256	VAS-JE-RE002
Degasifier Column Room	Degasifier Column Room	12258	VAS-JE-RE002
Pipe Chase	Degasifier Column Pipe Chase ³	12259	VAS-JE-RE002
Corridor El. 82' – 6"	East Corridor El. 82' – 6" ³	12261	VAS-JE-RE002
Piping/Valve Room	Piping/Valve Room	12262	VAS-JE-RE002
Chemical Waste Tank Room	Chemical Waste Tank Room	12264	VAS-JE-RE002
Monitor Tank Room C	Waste Monitor Tank Room C ³	12265	VAS-JE-RE002
WLS Pump Rooms	WLS Pump Room	12268	VAS-JE-RE002
Pipe Chase	Containment Isolation Valve Pipe Chase ³	12269	VAS-JE-RE002
WLS Pump Rooms	WLS Pump Room ³	12271	VAS-JE-RE002
SFS Pump Rooms	SFS Pump Room A ³	12272	VAS-JE-RE002
SFS Hx Rooms	SFS Heat Exchanger A ³	12273	VAS-JE-RE002
SFS Pump Rooms	SFS Pump Room B ³	12274	VAS-JE-RE002
SFS Hx Rooms	SFS Heat Exchanger B ³	12275	VAS-JE-RE002
Middle Annulus	Middle Annulus	12341	VAS-JE-RE003
Maintenance Floor Staging Area	Maintenance Floor Staging Area	12351	VAS-JE-RE003
Personnel Hatch	Personnel Hatch	12352	VAS-JE-RE003
Middle Annulus Access Room	Middle Annulus Access Room	12354	VAS-JE-RE003
Corridor El. 100' – 0"	East Corridor El. 100' – 0" ³	12361	VAS-JE-RE002
RNS Heat Exchanger Room	RNS Heat Exchanger Room	12362	VAS-JE-RE002
Waste Monitor Rooms A & B	Waste Monitor Tank Room A ³	12363	VAS-JE-RE003
	Waste Monitor Tank Room B ³	12365	VAS-JE-RE003
Security Room	Security Room	12451	VAS-JE-RE003

<u>Rooms and Corridors Shown on UFSAR Figure 9.4.3-1</u>	<u>Rooms and Corridors Shown on Proposed UFSAR Figure 9.4.3-1 Markup</u>	<u>Room No.</u>	<u>Updated Radiation Detector</u>
VFS Penetration Room	VFS Penetration Room	12452	VAS-JE-RE003
VFS/SFS/PSS Penetration Room	VFS/SFS/PSS Penetration Room	12454	VAS-JE-RE003
Corridor El. 117' - 6"	East Corridor El. 117' - 6" ³	12461	VAS-JE-RE002
Personnel Access Area	Personnel Access Area	12553	VAS-JE-RE003
Security Room	Security Room	12554	VAS-JE-RE003
VES Air Storage Area	VES Air Storage Area	12555	VAS-JE-RE003
Operating Deck/Staging Area	Operating Deck Staging Area ³	12556	VAS-JE-RE003
CCS Valve Room	CCS Valve Room	12561	VAS-JE-RE002
VAS Equipment Room	VAS Equipment Room	12651	VAS-JE-RE003

¹ These areas were originally not included in UFSAR Figure 9.4.3-1 (Sheet 2 of 3), and are added for completeness.

² These areas are ventilated by the VAS through another room or corridor that contains a VAS exhaust duct register. These areas were originally not included in UFSAR Figure 9.4.3-1 (Sheet 2 of 3), and are added for completeness.

³ Name of the room or corridor is revised in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) to reflect current plant nomenclature and to correct any editorial discrepancies.

⁴ This area does not exist.

Table 2.1-2 below details the UFSAR proposed changes, and the associated COL Appendix C and plant-specific DCD Tier 1 proposed changes, related to the renaming and relocation of auxiliary building exhaust radiation detector VAS-JE-RE003. Additional changes to some of the same current licensing basis documents are shown in Table 2.2-2 related to the addition of VAS-JE-RE008.

Table 2.1-2

<u>Plant Specific Licensing Basis Document Changes</u>	<u>Description of Proposed Change(s)</u>
COL Appendix C and plant-specific DCD Tier 1 Table 3.5-4	Rename VAS-RE003 (shorthand for VAS-JE-RE003) to 'Auxiliary Building Exhaust Radiation Monitor.'
COL Appendix C and plant-specific DCD Tier 1 Table 3.5-7	Rename VAS-RE003 to 'Auxiliary Building Exhaust Radiation Monitor.'
UFSAR Figure 9.4.3-1 (Sheet 2 of 3)	Relocate auxiliary building exhaust radiation detector VAS-JE-RE003 and reconfigure flow paths to connect applicable auxiliary building radiologically controlled areas to supply fans, exhaust fans, and to filtered exhaust.
UFSAR Figure 9.4.3-1 (Sheet 2 of 3)	Separate and update the descriptions of auxiliary building areas that are part of each zone monitored by auxiliary building exhaust radiation detector VAS-JE-RE002 and renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003, as shown in Table 2.1-1. These changes are consistent with UFSAR Subsection 9.4.3.2.1.1.

<u>Plant Specific Licensing Basis Document Changes</u>	<u>Description of Proposed Change(s)</u>
UFSAR Figure 9.4.3-1 (Sheet 2 of 3)	Revise names of the rooms and corridors as necessary to reflect current plant nomenclature and to correct any editorial discrepancies, as shown in Table 2.1-1.
UFSAR Subsection 11.5.2.3.2	<p>Under the subtitle ‘Auxiliary Building Exhaust Radiation Monitor,’:</p> <ul style="list-style-type: none"> • 1st paragraph is revised to ‘... radiation monitors (VAS-JE-RE002 and VAS-JE-RE003) measure the concentration ...’ • 2nd paragraph is revised to ‘...initiate closure of the affected radiologically controlled area ventilation system zone supply and exhaust air isolation dampers, to open the radiologically controlled area ventilation system zone exhaust air isolation damper to the containment air ventilation exhaust units...These actions provide a filtered air path from the affected radiologically controlled area ventilation system zone to the plant vent.’ • 3rd paragraph is revised to ‘... radiation monitors are inline monitors that use a beta-sensitive scintillation detector. The detectors are located ...’ • 4th paragraph is revised to ‘... exhaust radiation monitors are shown in Figure 11.5-5.’
UFSAR Table 11.5-1	Rename VAS-JE-RE003 to ‘Auxiliary Building Exhaust.’

2.2 Addition of VAS Radiation Detector VAS-JE-RE008

In the proposed change, annex building exhaust radiation detector VAS-JE-RE008 is added to monitor the annex building exhaust duct. This new radiation detector is nonsafety-related and meets the same equipment specification as the original annex building exhaust radiation detector VAS-JE-RE003. The radiation monitoring function of the annex building exhaust is retained by monitoring the same parameters with the same sensitivity and range as the original annex building exhaust radiation detector VAS-JE-RE003 (UFSAR Table 11.5-1). In the proposed design, the zone monitored by auxiliary building exhaust radiation detector VAS-JE-RE002 is not changed, and is still isolated and filtered independently of the second zone, which includes both the remaining auxiliary building radiologically controlled areas and the annex building radiologically controlled areas. The signal to isolate and filter the second zone is provided from either the renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003, or the new annex building exhaust radiation detector VAS-JE-RE008. Therefore, this zone continues to include both the remaining auxiliary building areas not monitored by auxiliary building exhaust radiation detector VAS-JE-RE002, and the annex building areas.

The proposed configuration results in the new annex building exhaust radiation detector VAS-JE-RE008 being located in exhaust ducting in annex building room 40550 (i.e., the staging and storage area at

elevation 135'-3"), a few feet from the wall that separates room 40550 and auxiliary building room 12651. Renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003 is located in exhaust ducting in auxiliary building room 12651 (i.e., the VAS equipment room at elevation 145'-9"). Annex building room 40550 is classified, and continues to be classified, as radiation zone II like auxiliary building room 12651. In the proposed change, new annex building exhaust radiation detector VAS-JE-RE008 retains the sensitivity and range of the original annex building exhaust radiation detector VAS-JE-RE003 (UFSAR Table 11.5-1). New annex building exhaust radiation detector VAS-JE-RE008 acquires the function formerly provided by radiation detector VAS-JE-RE003 to alarm in the control room, to isolate the associated zone (UFSAR Subsection 9.4.3.2.1.1), and to start the containment air filtration system when high airborne radioactivity in the exhaust air duct is detected (UFSAR Subsection 9.4.3.2.3.1). In the proposed change, new annex building exhaust radiation detector VAS-JE-RE008 is subject to COL Appendix C and plant-specific DCD Tier 1 Section 3.5 and Table 3.5-6 ITAAC Item 7, which reference ITAAC Tables 3.5-7 and 3.5-4, respectively.

In UFSAR Figure 9.4.3-1 (Sheet 2 of 3), all of the radiologically controlled areas in the annex building are not shown as monitored by the current annex building exhaust radiation detector VAS-JE-RE003. The areas in the annex building monitored by the new annex building exhaust radiation detector VAS-JE-RE008 are updated in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) to be consistent with the exhaust radiation detector change, to reflect current plant nomenclature, and to correct any editorial discrepancies in the names of the monitored rooms and corridors. Table 2.2-1 below lists the radiologically controlled areas currently shown in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) monitored by annex building exhaust radiation detector VAS-JE-RE003, and the changes made to clearly define the areas monitored by the new annex building exhaust radiation detector VAS-JE-RE008. The names of the updated rooms and corridors are revised in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) as necessary to reflect current plant nomenclature and to correct any editorial discrepancies, as shown in Table 2.2-1.

Table 2.2-1

Rooms and Corridors Shown on UFSAR Figure 9.4.3-1	Rooms and Corridors Shown on Proposed UFSAR Figure 9.4.3-1 Markup	Rm No.	Updated Radiation Detector
Containment Access Corridor	Containment Access Corridor El. 107' - 2" ¹	40357	VAS-JE-RE008
N/A ²	Radwaste Building Access Corridor	40362	VAS-JE-RE008
N/A ²	Corridor	40415	VAS-JE-RE008
Staging And Storage Area	Staging And Storage Area	40550	VAS-JE-RE008
Containment Air Filtration Exhaust Rooms	Containment Air Filtration Exhaust Room A ¹	40551	VAS-JE-RE008
	Containment Air Filtration Exhaust Room B ¹	40552	VAS-JE-RE008

¹ Name of the room or corridor is revised in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) to reflect current plant nomenclature and to correct any editorial discrepancies.

² These areas are ventilated by the VAS through another room or corridor that contains a VAS exhaust duct register. These areas are not currently included in UFSAR Figure 9.4.3-1 (Sheet 2 of 3), and are added for completeness.

Table 2.2-2 below details the UFSAR proposed changes, and the associated COL Appendix C and plant-specific DCD Tier 1 proposed changes, related to the addition of annex building radiation detector VAS-JE-RE008.

Table 2.2-2

<u>Plant Specific Licensing Basis Document Changes</u>	<u>Description of Proposed Change(s)</u>
COL Appendix C and plant-specific DCD Tier 1 Table 3.5-4	Add line item VAS-RE008 (shorthand for VAS-JE-RE008) as 'Annex Building Exhaust Radiation Monitor.'
COL Appendix C and plant-specific DCD Tier 1 Table 3.5-7	Add line item VAS-RE008 as 'Annex Building Exhaust Radiation Monitor,' with component location as 'Annex Building.'
UFSAR Figure 9.4.3-1 (Sheet 2 of 3)	Add annex building exhaust radiation detector VAS-JE-RE008 and show resulting flow paths to connect annex building radiologically controlled areas to supply fans, exhaust fans, and filtered exhaust.
UFSAR Figure 9.4.3-1 (Sheet 2 of 3)	Update the descriptions of annex building areas that are part of the zone monitored by new annex building exhaust radiation detector VAS-JE-RE008, as shown in Table 2.2-1. These changes are consistent with UFSAR Subsection 9.4.3.2.1.1.
UFSAR Figure 9.4.3-1 (Sheet 2 of 3)	Revise names of the rooms and corridors as necessary to reflect current plant nomenclature and to correct any editorial discrepancies, as shown in Table 2.2-1.
UFSAR Subsection 11.5.2.3.2	Under Subtitle 'Annex Building Exhaust Radiation Monitor,' : <ul style="list-style-type: none"> • 1st paragraph to read '... exhaust radiation monitor (VAS-JE-RE008) measures the' • 2nd paragraph is revised to '...initiate closure of the affected radiologically controlled area ventilation system zone supply and exhaust air isolation dampers, to open the radiologically controlled area ventilation system zone exhaust air isolation damper to the containment air ventilation exhaust units...These actions provide a filtered air path from the affected radiologically controlled area ventilation system zone to the plant vent.'
UFSAR Table 11.5-1	Add line item for detector 'VAS-JE-RE008,' with type as 'β,' with service as 'Annex Building Exhaust (Note 5),' with isotopes as 'Kr-85 Xe-133,' and with nominal range as '1.0E-7 to 1.0E-2 μCi/cc.'

3. Technical Evaluation

The proposed changes rename and relocate auxiliary building exhaust radiation detector VAS-JE-RE003, add new annex building exhaust radiation detector VAS-JE-RE008, and separate and update the description of the auxiliary building and annex building areas monitored by each radiation exhaust detector in each zone. The proposed changes maintain the existing design functions of radiation monitoring to alarm in the control room, to automatically isolate the selected building areas by closing the supply and exhaust duct isolation dampers for each associated zone, and to start the containment air filtration system when high airborne radioactivity in the exhaust air duct is detected. The building exhaust radiation detectors measure the concentration of radioactive materials in the VAS exhaust air from the buildings. The radiation detectors are upstream of the associated exhaust air isolation damper. When a predetermined setpoint is exceeded, indicating abnormal airborne radiation, each associated zone exhaust radiation monitor provides signals to alarm in the main control room, to initiate closure of the zone supply and exhaust air isolation dampers, to open the building exhaust air isolation damper for the associated zone to the containment air filtration exhaust units, and to start a containment air filtration exhaust unit. These actions provide a filtered air path from the buildings to the plant vent. The zone exhaust radiation monitors are inline monitors that use a beta-sensitive scintillation detector. Each radiation detector is located with the sensitive volume inside the exhaust duct (UFSAR Subsection 11.5.2.3.2).

The building exhaust radiation monitoring is accomplished in the proposed design by monitoring the same parameters with the same sensitivity and range instrumentation of the current design. The new design uses two separate radiation detectors (new annex building exhaust radiation detector VAS-JE-RE008 dedicated to the annex building areas, and renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003 dedicated to a portion of the auxiliary building areas not serviced by auxiliary building exhaust radiation detector VAS-JE-RE002 [UFSAR Table 11.5-1]), instead of the single annex building exhaust radiation detector VAS-JE-RE003 servicing those annex building and portion of the auxiliary building areas in the current design.

In the proposed change, UFSAR Figure 9.4.3-1 (Sheet 2 of 3) is updated to be consistent with the two zones as described in UFSAR Subsection 9.4.3.2.1.1, to be consistent with the exhaust radiation detector changes, and to revise the names of the rooms and corridors as necessary to reflect current plant nomenclature and to correct any editorial discrepancies. Auxiliary building exhaust radiation detector VAS-JE-RE002 continues to monitor the auxiliary building areas in the first zone as in the original design, and renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003 monitors the remaining auxiliary building areas in the second zone. Additionally, annex building exhaust radiation detector VAS-JE-RE008 is added to provide radiation monitoring in the same zone containing the relocated auxiliary building exhaust radiation detector VAS-JE-RE003. Either auxiliary building exhaust radiation detector VAS-JE-RE003 or annex building exhaust radiation detector VAS-JE-RE008 can separately provide signals to alarm in the main control room, to initiate closure of the zone supply and exhaust air isolation dampers, to open the building exhaust air isolation damper for the associated zone to the containment air filtration exhaust units, and to start a containment air filtration exhaust unit. The individual exhaust ducting comprising each zone is not changed. The auxiliary building and annex building areas comprising each of the two zones are not changed. While the supply and exhaust ducting systems, and the auxiliary building and annex building areas comprising each of the two zones, are not changed, descriptions of auxiliary building and annex building areas that are part of each zone as shown in UFSAR Figure 9.4.3-1 (Sheet 2 of 3) require revision to be consistent with the UFSAR Subsection 9.4.3.2.1.1 text description.

The proposed VAS changes do not affect the containment, control, channeling, monitoring, processing or releasing of radioactive and non-radioactive materials. The auxiliary building and annex building areas

comprising each of the two zones are not changed. The relocated and added exhaust radiation detectors measure the same radioactive isotopes in the building exhaust ducts, with the same sensitivity and range, as in the current design. Therefore, there is no change to the containment, control, channeling, monitoring, processing or releasing of radioactive materials from the auxiliary building and annex building. The proposed changes are unrelated to any aspects of plant construction or operation that would introduce any changes 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, these proposed changes do not diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. Therefore, radioactive or non-radioactive material effluents should not be affected.

Plant radiation zones, controls under 10 CFR 20, and expected amounts and types of radioactive materials are not affected by the proposed changes. Therefore, individual and cumulative radiation exposures should not change.

The proposed VAS changes do not involve nor interface with any structures, systems, and components (SSCs) accident initiator or initiating sequence of events, and thus, the probabilities of the accidents evaluated in the UFSAR are not affected. Because the proposed changes do not involve any safety-related SSC or function used to mitigate an accident, the consequences of the accidents evaluated in the UFSAR are not affected.

The proposed changes do not result in a new failure mode, malfunction, or sequence of events that could affect safety or safety-related equipment. This requested activity to change the VAS design will 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. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident.

The proposed VAS changes do not change the codes or standards for the exhaust radiation detectors or functionality of the auxiliary building and annex building supply and exhaust ductwork. The proposed changes do not affect safety-related equipment or equipment whose failure could initiate an accident. The proposed nonsafety-related VAS equipment changes do not adversely interface with safety-related equipment or fission product barriers. Therefore, the proposed changes will not affect any safety-related equipment, design code, function, design analysis, safety analysis input or result, or design/safety margin. No safety analysis or design basis acceptance limit/criterion is challenged or exceeded by the requested changes, thus, no margin of safety is reduced. Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

The VAS serves no safety-related function. System ductwork and components located in the nuclear island whose failure could affect the operability of safety-related systems or components are designed to Seismic Category II requirements. The remaining portions of the system are nonseismic. The VAS consists of a fuel handling area ventilation subsystem and an auxiliary/annex building ventilation subsystem. The proposed change does not affect the fuel handling area ventilation subsystem or the spent fuel design, which continue to comply with the requirements of 10 CFR 50 Appendix A, General Design Criteria (GDC) 2 as they relate to the ability of the facility and the structures housing it to withstand the effects of natural phenomena, such as earthquakes, tornados, and hurricanes. The VAS radiation monitoring detection and the isolation function described in Section 2 is unchanged. Therefore, the VAS also complies with the requirements of GDC 60, as they relate to the capability of the system to suitably control the release of gaseous radioactive effluents to the environment. The containment air filtration system (VFS) filtration units, which also filter the VAS radioactive exhaust, provide the spent fuel pool (SFP) area with an

appropriate ventilation and filtering system to limit the potential release of radioactive iodine and other radioactive materials. This system is not affected by the proposed changes to the VAS. Therefore, the system continues to comply with the requirements of GDC 61, as they relate to the system capability to provide appropriate containment, confinement and filtering to limit releases of airborne radioactivity to the environment.

4. Regulatory Evaluation

4.1. Applicable Regulatory Requirements/Criteria

10 CFR 52, Appendix D, Section VIII and 10 CFR 52.63(b)(1) require NRC approval for Tier 1 information departures. This departure involves a departure from Tier 1 information: therefore, NRC approval is required prior to making the plant-specific Tier 1 changes addressed in this departure.

10 CFR 52.98(f) requires NRC approval for any modification to, addition to, or deletion from the terms and conditions of a COL. The proposed changes involve a departure from COL Appendix C and plant-specific DCD Tier 1 information. Therefore, NRC approval is required prior to making the plant-specific proposed changes in this license amendment request.

10 CFR 52, Appendix D, Section VIII. B.5.a allows an applicant or licensee who references this appendix to 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 Technical Specifications, or requires a license amendment under paragraphs B.5.b or B.5.c of the section. The proposed changes for the VAS, which include changes to UFSAR Figure 9.4.3-1 (Sheet 2 of 3), UFSAR Subsection 11.5.2.3.2, and UFSAR Table 11.5-1, involve a revision to COL Appendix C and plant-specific DCD Tier 1 Table 3.5-4 and Table 3.5-7 information. Therefore, NRC approval is required for the Tier 1 and Tier 2 departures.

10 CFR Part 50, Appendix A, GDC 2 requires that structures, systems and components important to safety be designed to withstand the effects of natural phenomena. The proposed changes to the VAS to relocate and add radiation detectors to provide monitoring of the VAS exhaust from the radiologically controlled portions of the auxiliary building and annex building, are designed to the existing requirements to withstand natural phenomena. The VAS serves no safety-related function and therefore has no safety design basis. The ductwork and components located in the nuclear island whose failure could affect the operability of safety-related systems or components are designed to Seismic Category II requirements. Therefore, the VAS is not required to be designed to withstand natural phenomena, such as earthquakes, tornados and hurricanes. The proposed changes do not change the design requirements for the Seismic Category II ductwork and components in the auxiliary building. Therefore, the proposed changes comply with the requirements of GDC 2.

10 CFR 50 Part Appendix A, GDC 60 requires that the nuclear power unit design include means to control suitably the release of radioactive materials in gaseous effluents during normal reactor operation, including anticipated operational occurrences. Sufficient holdup capacity shall be provided for retention of gaseous effluents containing radioactive materials. The proposed changes to the VAS relocate and add radiation detectors to provide monitoring of the VAS exhaust from the radiologically controlled portions of the auxiliary building and annex building, to prevent the unmonitored release of airborne radioactivity to the atmosphere or adjacent plant areas. The VAS normal exhaust from the auxiliary building and annex building is unfiltered and routed to the plant vent during normal operation. However, if high radioactivity is detected by the existing and new radiation detectors, the containment air filtration system (VFS) filters the VAS exhaust, which is then routed to the plant vent. Therefore, the proposed changes comply with the

requirements of GDC 60.

10 CFR Part 50, Appendix A, GDC 61 requires that fuel storage and handling, radioactive waste, and other systems which may contain radioactivity be designed to assure adequate safety under normal and postulated accident conditions, with appropriate containment, confinement, and filtering systems. The proposed changes to the VAS relocate and add radiation detectors to provide monitoring of the VAS exhaust from radiologically controlled areas of the auxiliary building and annex building. The proposed changes do not affect the in-plant radiation exposures for personnel inside the auxiliary building and annex building, and do not affect the consequences of any postulated accident. The proposed changes to the VAS result in maintaining in-plant radiation exposures ALARA consistent with the recommendations of Regulatory Guide 8.8 for personnel in the spent fuel pool and fuel transfer canal areas, and do not affect the consequences of any postulated accident. The proposed changes to the VAS prevent the unmonitored release of airborne radioactivity to the atmosphere or adjacent plant areas by detecting high radioactivity from the auxiliary building and annex building, and to start the VFS upon detection of high radioactivity. Therefore, the proposed changes comply with the requirements of GDC 61.

4.2. Precedent

None.

4.3. Significant Hazards Consideration Determination

The proposed changes would revise the Combined Licenses (COLs) in regards to detailed design of the radiologically controlled area ventilation system (VAS). The proposed changes to the VAS rename, relocate, and add radiation detectors to provide monitoring of the VAS exhaust from the radiologically controlled areas of the auxiliary building and annex building. The proposed amendment requires changes to Updated Final Safety Analysis Report (UFSAR) Tier 2 information, which involve changes to COL Appendix C and plant-specific DCD Tier 1 information.

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 design functions of the VAS include prevention of the unmonitored release of airborne radioactivity to the atmosphere or adjacent plant areas by providing monitoring of the VAS exhaust from radiologically controlled areas of the auxiliary building and annex building, and to automatically isolate the selected building areas and start the containment air filtration system (VFS) upon detection of high radioactivity. The proposed changes to the VAS to relocate and add radiation detectors are acceptable as they maintain these design functions.

These proposed changes to the VAS design as described in the current licensing basis do not have an adverse effect on any of the design functions of the systems. The proposed changes do not affect the support, design, or operation of mechanical and fluid systems required to mitigate the consequences of an accident. There is no change to plant systems or the response of systems to postulated accident conditions. There is no change to the predicted radioactive releases due to postulated accident conditions. The plant response to previously evaluated accidents or external events is not adversely affected, nor do the proposed changes described create any new accident precursors.

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 changes revise the VAS design as described in the current licensing basis to enable the system to perform required design functions, and are consistent with other UFSAR information. The proposed changes do not change the design requirements for the system. The relocated and new VAS radiation detectors are designed to the same equipment specifications, including required sensitivity and range, as the existing radiation detectors. The relocated and new VAS radiation detectors monitor the same parameters, as well as perform the same design functions, as the existing radiation detectors. The proposed changes to the system do not result in a new failure mechanism or introduce any new accident precursors. No design function described in the UFSAR is adversely affected by the proposed changes. The proposed changes do not result in a new failure mode, malfunction or sequence of events that could affect safety or safety-related equipment. The proposed changes do 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.

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 change the codes or standards for the radiation detectors, or functionality of the ductwork in the auxiliary building and annex building. The proposed changes have no adverse effect on the nonsafety-related system design functions of the VAS for the prevention of the unmonitored release of airborne radioactivity to the atmosphere or adjacent plant areas by providing monitoring of the VAS exhaust from radiologically controlled areas of the auxiliary building and annex building, and to automatically isolate the selected building areas and start the VFS upon detection of high radioactivity. The proposed changes do not affect safety-related equipment or equipment whose failure could initiate an accident. The proposed changes to relocate and add radiation detectors do not adversely interface with safety-related equipment or fission product barriers. Therefore, the proposed changes do not affect any safety-related equipment, design code, function, design analysis, safety analysis input or result, or design/safety margin. No safety analysis or design basis acceptance limit/criterion is challenged

or exceeded by the requested changes, thus, no margin of safety is reduced.

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

Based on the above, it is concluded that the requested amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

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

Sections 2 and 3 of this license amendment request provide the details of the proposed changes.

This review supports a request to amend the Combined License (COL) for the Licensee and to allow departure from various elements of the certification information in the Updated Final Safety Analysis Report (UFSAR) Tier 2 of the plant-specific Design Control Document (DCD), and involve changes to COL Appendix C and departures from plant-specific DCD Tier 1. The proposed amendment revises the design of the radiologically controlled area ventilation system (VAS) as described in the UFSAR and related COL Appendix C and plant-specific DCD Tier 1 information. The proposed amendment includes the following changes:

1. Annex building exhaust radiation detector VAS-JE-RE003 is renamed as auxiliary building exhaust radiation detector VAS-JE-RE003, and relocated from the current location which services both annex building and auxiliary building radiologically controlled areas into an upstream exhaust duct servicing auxiliary building radiologically controlled areas only. This allows sufficient space for the radiation detector.
2. Descriptions of the auxiliary building areas monitored by auxiliary building exhaust radiation detector VAS-JE-RE002 and renamed and relocated auxiliary building exhaust radiation detector VAS-JE-RE003 are separated and updated in the UFSAR to be consistent with the exhaust radiation detector changes, to reflect current plant nomenclature, and to correct any editorial discrepancies in the names of the monitored rooms and corridors.

3. Annex building exhaust radiation detector VAS-JE-RE008 is added to provide radiation monitoring of the annex building exhaust that auxiliary building exhaust radiation detector VAS-JE-RE003 is not able to provide in its new location.
4. Descriptions of the annex building areas monitored by new annex building exhaust radiation detector VAS-JE-RE008 are updated in the UFSAR to be consistent with the exhaust radiation detector changes, to reflect current plant nomenclature, and to correct any editorial discrepancies in the names of the monitored rooms and corridors.

These design and licensing basis changes are collectively called "proposed changes."

The Licensee has determined that the anticipated construction and operational effects of the proposed amendment meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), in that:

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

As documented in Section 4.3, Significant Hazards Consideration Determination, of this license amendment request, an evaluation was completed to determine whether or not a significant hazards consideration is involved by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment." The Significant Hazards Consideration determined that (1) the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated; and (3) the proposed amendment does not involve a significant reduction in a margin of safety. Therefore, it is concluded that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

- (ii) *There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.*

The proposed changes include the addition of a VAS radiation detector to provide annex building exhaust duct monitoring and relocation of an existing radiation detector to monitor a portion of the auxiliary building areas, while another existing radiation detector monitors the other portion of auxiliary building areas. These VAS changes are unrelated to any aspects of plant construction or operation that would introduce any changes 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, these changes do not diminish the functionality of any design or operational features that are credited with controlling the release of effluents during plant operation. The VAS automatically isolates selected building areas by closing the supply and exhaust duct isolation dampers and starting the containment air filtration system (VFS) when high airborne radioactivity in the exhaust air duct is detected. 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 include the addition of a VAS radiation detector to provide annex building exhaust duct monitoring and relocation of an existing radiation detector to monitor a portion of the

auxiliary building areas, while another existing radiation detector continues to monitor the other portion of the auxiliary building areas. Consequently, these proposed changes have no effect on individual or cumulative occupational radiation exposure during plant operation. Plant radiation zones are not affected, and controls under 10 CFR 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 anticipated construction and operational effects of the proposed amendment do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure.

Accordingly, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment of the proposed exemption and proposed amendment is not required.

6. References

None

Southern Nuclear Operating Company

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

ND-15-1257

Enclosure 2

Exemption Request for

Radiologically Controlled Area Ventilation System (VAS) Design Changes

(LAR-15-011)

(This Enclosure contains 6 pages, including this cover)

ND-15-1257

Enclosure 2

Exemption Request: Radiologically Controlled Area Ventilation System (VAS) Design Changes (LAR-15-011)

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 plant-specific 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 the Appendix, 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 departure and permanent exemption is being requested includes information specified in plant-specific Tier 1 Table 3.5-4 Airborne Radiation Monitors and Table 3.5-7 radiation monitor component locations relating to the radiation monitors of the Radiologically Controlled Area Ventilation System (VAS).

This request for permanent exemption applies the requirements of 10 CFR 52, Appendix D, Section VIII.A.4 to allow changes to information found in plant-specific Tier 1 Tables 3.5-4 and 3.5-7 as follows:

- Change the name of the Annex Building Exhaust Radiation Monitor (VAS-RE003) to Auxiliary Building Exhaust Radiation Monitor, and
- Add new equipment with a component name Annex Building Exhaust Radiation Monitor (VAS-RE008) and component location as Annex Building.

This request will apply the requirements for granting exemptions from design certification information, as specified in 10 CFR 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 (COL) 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 & 4, respectively.

Plant-specific Tier 1 Table 3.5-4 identifies an equipment list of airborne radiation monitors and Table 3.5-7 identifies radiation monitor component names and locations, including VAS radiation monitors. The VAS serves the fuel handling area of the Auxiliary Building and the radiologically controlled portions of the Auxiliary and Annex Buildings, except for the health physics and hot machine shop areas which are provided with a separate ventilation system. The VAS consists of two subsystems: the Auxiliary/Annex Building ventilation subsystem and the fuel handling area ventilation subsystem. This exemption request is related to the Auxiliary/Annex Building subsystem.

ND-15-1257

Enclosure 2

Exemption Request: Radiologically Controlled Area Ventilation System (VAS) Design Changes (LAR-15-011)

The VAS radiation detectors measure the concentration of radioactive materials in the VAS exhaust air. Radiation detection is located in the exhaust air duct from defined zones of the Auxiliary/Annex building. The VAS design changes are required as a result of plant layout and the need to relocate one radiation monitor and add another radiation monitor to provide zone coverage. The radiation detector being added meets the same design specifications as the existing radiation detectors.

A permanent exemption from elements of the AP1000 certified design information is requested to allow the Licensee to depart from the design details contained in these Tier 1 tables.

3.0 Technical Justification of Acceptability

The proposed change to the VAS design is due to space constraints in the Auxiliary Building that prevent one building zone radiation detector from monitoring the combined exhaust duct for both the Auxiliary and Annex Buildings. A new radiation detector is added to monitor the Annex Building exhaust duct. The radiation detector being relocated will monitor one of the two Auxiliary Building zones. The new radiation detector will meet the same equipment specification as the current VAS radiation detector. These changes result in the need to change the information in plant-specific Tier 1 Tables 3.5-4 and 3.5-7. The purpose of providing the information in these plant-specific Tier 1 tables is to assist in identifying the radiation monitors provided for monitoring those plant areas where there is a significant potential for airborne radiation in accessible areas and provide indication of unusual radiological events. The radiation monitoring component locations are shown in Table 3.5-7.

Monitoring the same parameters with the same sensitivity range and the new equipment meeting the same equipment specification will retain the radiation monitoring function of the Auxiliary Building Exhaust and Annex Building Exhaust. Additional detail for supporting the Technical Justification of this exemption is provided in Enclosure 1, Section 3, of the accompanying License Amendment Request.

4.0 Justification of Exemption

10 CFR Part 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. The Licensee has identified necessary changes to plant-specific Tier 1 information during VAS design finalization activities. As a result, the Licensee requests a permanent exemption from the certified design information in plant-specific Tier 1, pursuant to the above regulations, to allow the implementation of a departure.

10 CFR Part 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 allow the licensee to change the design of VAS satisfies the six criteria for granting specific exemptions, as described below.

1. This exemption is authorized by law

The NRC has authority under 10 CFR §§ 50.12, 52.7, and 52.63 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 the Licensee to depart from elements of the plant-specific DCD Tier 1 design information. The plant-specific Tier 1 material will continue to reflect the approved licensing basis, and will maintain a consistent level of detail with that which is currently provided elsewhere in Tier 1 of the plant-specific DCD. Therefore, no adverse safety impact which would present any additional risk to the health and safety of the public is present. The affected design description in the plant-specific Tier 1 material will also continue to provide the detail necessary to support the performance of the associated ITAAC.

This proposed change will not impact the ability of the SSCs to perform their design functions. Because the changes will not alter the intended operation of any plant equipment or systems, they do not present any undue risk from existing equipment or systems. The proposed 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 that are 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 fuel cladding failures. Accordingly, these changes do not present an undue risk from any new 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 requested exemption from the requirements of 10 CFR 52, Appendix D, Section III.B would allow the Licensee to depart from elements of the plant-specific DCD Tier 1 design information. The proposed exemption does not alter the design, function, or operation of any structures or plant equipment that are necessary to maintain a safe and secure status of the plant. The proposed exemption has no impact on plant security or safeguards procedures.

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 & 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.

The proposed change to a VAS radiation monitor location and addition of an equivalent radiation monitor maintains the function of the VAS. The changes do not impact the ability of any structures, systems, or components to perform their functions or negatively impact safety. Additionally, no new design functions are added and no current function is deleted.

Accordingly, this exemption from the plant-specific certification information will allow the Licensee to safely construct and operate the AP1000 facility consistent with the design certified by the NRC in 10 CFR 52, Appendix D.

Therefore, special circumstances are present, because application of the current Tier 1 certified design information as required by 10 CFR Part 52, Appendix D, Section III.B, in the particular circumstances discussed in this request, 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

Based on the nature of the proposed departure from the plant-specific DCD Tier 1 information, it is likely that other AP1000 licensees will request this exemption. However, if this is not the case, the special circumstances continue to outweigh any decrease in safety from the reduction in standardization. The proposed change implements changes to the VAS radiation monitor information related to component name and the addition of a equivalent radiation monitor. This exemption request and the associated marked-ups to Table 3.5-4 and Table 3.5-7 demonstrate that the applicable regulatory requirements will continue to be met. Consequently, the safety impact that may result from any reduction in standardization is minimized, since the proposed design change does not result in a reduction in the level of safety.

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.

This exemption request proposes to allow the Licensee to revise the plant-specific DCD Tier 1 information by departing from the certified design by revising nonsafety-related VAS radiation monitor information related to component name and the addition of a equivalent radiation monitor. The design change associated with this exemption request does not introduce any new failure mode and the level of safety provided by SSCs remains unchanged.

Because the proposed changes involve nonsafety-related components, and the SSCs ability to perform their design functions will not be adversely affected, it is concluded that the changes associated with the proposed exemption will not result in a significant decrease in the level of safety.

5.0 Risk Assessment

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

6.0 Precedent

None.

7.0 Environmental Consideration

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

8.0 Conclusion

The Licensee requests a permanent exemption from elements of the AP1000 design certification information within plant-specific Tier 1 material. The proposed changes to Tier 1 are necessary to update information identified in VAS tables, which would continue to provide building exhaust radiation monitoring to measure the concentration of radioactive materials in exhaust from the buildings monitored. The exemption request meets the requirements of 10 CFR 52.63, "*Finality of Design Certifications*," 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 decrease in the level of safety, does not present a significant decrease in safety as a result of a reduction in standardization, and meets the eligibility requirements for categorical exclusion.

9.0 References

None.

Southern Nuclear Operating Company

Vogtle Electric Generating Plant (VEGP) Units 3 and 4

ND-15-1257

Enclosure 3

Proposed Changes to Licensing Basis Documents

(LAR-15-011)

Insertions Denoted by Blue Text 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.)

(This Enclosure contains 6 pages, including this cover)

COL Appendix C Table 3.5-4 and corresponding Plant-Specific Tier 1 Table 3.5-4, Airborne Radiation Monitors

Revise table as shown below:

Table 3.5-4 Airborne Radiation Monitors	
Equipment List	Equipment No.
...	...
Auxiliary Building Exhaust Radiation Monitor	VAS-RE002
Auxiliary-Annex Building Exhaust Radiation Monitor	VAS-RE003
Annex Building Exhaust Radiation Monitor	VAS-RE008
Health Physics and Hot Machine Shop Exhaust Radiation Monitor	VHS-RE001
...	...

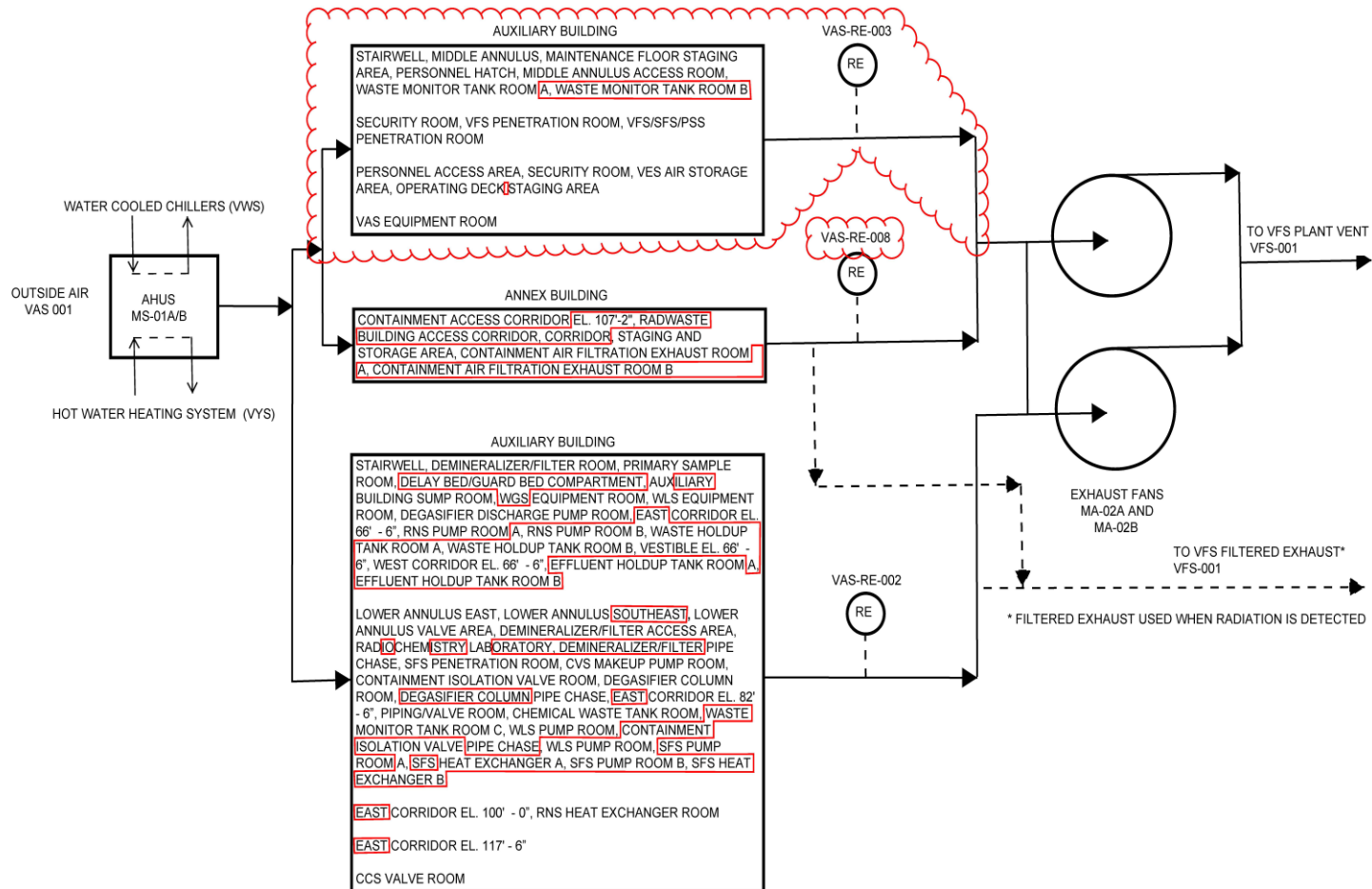
COL Appendix C Table 3.5-7 and corresponding Plant-Specific Tier 1 Table 3.5-7, Airborne Radiation Monitors

Revise table as shown below:

Table 3.5-7		
Component Name	Tag No.	Component Location
...
Auxiliary Building Exhaust Radiation Monitor	VAS-RE002	Auxiliary Building
Auxiliary-Annex Building Exhaust Radiation Monitor	VAS-RE003	Auxiliary Building
Annex Building Exhaust Radiation Monitor	VAS-RE008	Annex Building
Health Physics and Hot Machine Shop Exhaust Radiation Monitor	VHS-RE001	Annex Building
...

UFSAR Figure 9.4.3-1 (Sheet 2 of 3) Radiologically Controlled Area Ventilation System Piping and Instrumentation Diagram (REF) VAS 003 & 010

Revise Figure as shown below:



UFSAR Subsection 11.5.2.3.2 Airborne Monitors paragraphs under heading Auxiliary Building Exhaust Radiation Monitor and first two paragraphs under heading Annex Building Exhaust Radiation Monitor

Revise text as shown below:

Auxiliary Building Exhaust Radiation Monitor

The auxiliary building exhaust radiation monitors (VAS-JE-RE002 and VAS-JE-RE003) measure the concentration of radioactive materials in the radiologically controlled area ventilation system exhaust air from the auxiliary building. The auxiliary building radiation monitor detectors are is upstream of the exhaust air isolation damper.

When a predetermined setpoint is exceeded, indicating abnormal airborne radiation, the auxiliary building exhaust radiation monitors provides signals to alarm in the main control room, to initiate closure of the affected radiologically controlled area ventilation system zone auxiliary-building supply and exhaust air isolation dampers, to open the auxiliary-building radiologically controlled area ventilation system zone exhaust air isolation damper to the containment air filtration exhaust units, and to start a containment air filtration exhaust unit. These actions provide a filtered air path from the auxiliary-building affected radiologically controlled area ventilation system zone to the plant vent. Refer to Subsection 9.4.3 for system details.

The auxiliary building exhaust radiation monitors are is-an inline monitors that uses a beta-sensitive scintillation detector. It-is The detectors are located with the sensitive volume inside the exhaust duct. The range and principal isotopes are listed in Table 11.5-1.

The arrangement for the auxiliary building exhaust radiation monitors are is shown in Figure 11.5-5.

Annex Building Exhaust Radiation Monitor

The annex building exhaust radiation monitor (VAS-JE-RE003RE008) measures the concentration of radioactive materials in the radiologically controlled area ventilation system exhaust air from the annex building. The annex building exhaust radiation monitor is located upstream of the annex building exhaust air isolation damper.

When a predetermined setpoint is exceeded, indicating abnormal airborne radiation, the annex building exhaust radiation monitor provides signals to alarm in the main control room, to initiate closure of the annex-building affected radiologically controlled area ventilation system zone supply and exhaust air isolation dampers, to open the annex-building-radiologically controlled area ventilation system zone exhaust air isolation damper to the containment air filtration units, and to start a containment air filtration exhaust unit. These actions provide a filtered air path from the annex-building affected radiologically controlled area ventilation system zone to the plant vent. Refer to Subsection 9.4.3 for system details.

UFSAR Table 11.5-1, (Sheet 1 of 2 and 2 of 2), Radiation Monitor Detector Parameters

Revise table as shown below:

**Table 11.5-1 (Sheet 1 of 2)
 Radiation Monitor Detector Parameters**

Detector	Type	Service	Isotopes	Nominal Range
...
VAS-JE-RE003	β	Auxiliary Annex Building Exhaust (Note 5)	Kr-85 Xe-133	1.0E-7 to 1.0E-2 μ Ci/cc

**Table 11.5-1 (Sheet 2 of 2)
 Radiation Monitor Detector Parameters**

Detector	Type	Service	Isotopes	Nominal Range
VAS-JE-RE008	β	Annex Building Exhaust (Note 5)	Kr-85 Xe-133	1.0E-7 to 1.0E-2 μ Ci/cc
VBS-JE-RE001A	β	Main Control Room Supply Air Duct (Particulate) (Note 1) (Note 5)	Sr-90 Cs-137	1.0E-12 to 1.0E-7 μ Ci/cc
...